

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

CHRONICLES

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From the Desk of the Editor

It is my great pleasure to bring forth the 3rd edition of the PS Chronicles.

This edition features 67 articles from mentors about 1008 from students and about 131 from PS faculty sharing their experience from the I Semester of 2016-2017. This huge increase in numbers is a testimony to the usefulness of the PS- II Chronicles and its increasing popularity.

I would like to thank everyone who has participated in this activity- the students, the industry mentors and the faculty for sharing their experience. Thanks for making the 3rd edition an even more bigger and better experience.

I would also like to thank and congratulate my editorial team for a task well done. This time the editorial team was composed mainly of students of Goa Campus. I would also like to thank by co-editor Dr.Narayan Suresh Manjarekar without whom this edition could not have come out.

I would be happy to receive any feedback regarding the Chronicles. Please feel free to email me at psd@goa.bits-pilani.ac.in or at anupkr@goa.bits-pilani.ac.in

K.R. Anupama

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Name: Prasna Pinnika 1028

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PS-II Station: Vitacloud, Bangalore 1030

Student 1030

Name: Roshan Kumar 1030

Name: Geetanjali Kumar 1030

Name: Sanath Shetty 1032

Name: Saksham Agrawal..... 1032

Domain: Core Engineering

PS-II Station: Aditya Birla Science & Technology Company Ltd , Mumbai

Faculty

Name: Mukundhan Chakravarthy

Comments: Aditya Birla Science & Technology Company is an important PS II Stations which allows the interns to work on their ongoing research & development, innovation projects

Student

Name: Samrudhi Bokade (2013A1PS910G)

Student Write-up

Short Summary of work done during PS-II: This project shows a detailed study the drying process of a fiber. Different factors affecting the drying process have been analyzed and their relation to the dryer efficiency is studied in order to increase the efficiency of a convective dryer.

Objectives of the project: To increase the efficiency of convective dryer

Outcomes of the project: Lab scale dryer designed and factors were analyzed on a plant basis

Major Learning Outcomes: 1. How to design a dryer. 2. Mass transfer and heat transfer operations in Drying

Brief Description of working environment, expectations from the company: Working environment is not that good. People who are not interested in chemical shouldn't be allotted this PS station. An expectation from company is to increase the stipend of the interns.

Name: Adit Mishra (2013A1PS051P)

Student Write-up

Short Summary of work done during PS-II: Studied about Bayer Process.

Tools used (Development tools - H/w, S/w): Autoclave, Vacuum filtration, XRD, XRF, ICP, Wet Chemical Analysis

Objectives of the project: To reduce the amount of Soda Losses in Bayer Process.

Outcomes of the project: Verified that addition of lime does reduce the soda losses in red mud.

Major Learning Outcomes: learnt about Bayer Process, properties of Lime, Red mud, Scandium recovery from red mud.

Brief Description of working environment, expectations from the company: Mentor was very good and guided me very efficiently throughout the project. The working environment of the office was ok. Only students interested in core should apply for this PS station.

Name: Utkarsh Srivastava (2013A1PS546G)

Student Write-up

Short Summary of work done during PS-II: Researched and experimented on development of new molecule for enhancement of cement properties.

Tools used (Development tools - H/w, S/w): Chemical Lab

Objectives of the project: Synthesizing an admixture molecule for enhancement of cement properties and match the results with industry standard at a cheaper or same cost of production.

Outcomes of the project: We were able to obtain 80% of the desired result.

Major Learning Outcomes: How to work in a corporate environment and assist in lab work.

Brief Description of working environment, expectations from the company: The work environment is good with not much of a work load and initial months are mainly research based. The mentors are encouraging and help in the work.

PS-II Station: Apollo Tyres Ltd, Bangalore

Faculty

Name: Raghuraman S

Comments: Core manufacturing, Design, Application development through various tools is needed by these stations.



Student

Name: Kritika Singh (2012B2A8627G)

Student Write-up

Short Summary of work done during PS-II: Project1-Involves in Making a Dashboard which caters to the need of different users in visualizing the test. Results conducted on different product in the field.

Project2- Derived a regression model for predicting physical properties (hardness, density etc.) of tire parts using Minitab.

Tools used (Development tools - H/w, S/w): HTML5, CSS3, Bootstrap, JavaScript, and Minitab.

Objectives of the project: Project 1:- Development of web portal for handling the field testing requirements and also report generation based on the data. It would be a dash board which will cater to the needs of different users in visualizing the test results from different tests conducted on different product in the field.

Project2:-To derive a model for deriving the physical properties (Like hardness, density etc.) for the mixed compounds. The models may be based on logic, field data based or experimental data. The data is available for the experimental results and also from the tested mixture of different compounds.

Outcomes of the project: Both the projects were successfully completed.

Major Learning Outcomes: Learned about HTML, CSS, Database Management System and Minitab software.

Brief Description of working environment, expectations from the company: Working environment was utterly depressing. No proper guidance was given about any of the two projects. Also, there was no one in the company who was working on similar kind of project. So, we were never told exactly what we were supposed to do next. But, during every meeting with our mentor we were questioned about our every hour of work. Sometimes we were given tasks were well above our capabilities logically and we were expected to finish them anyhow. There was not a single paid leave.

Name: Saiteja Pasula (2013A8PS234H)

Student Write-up

Short Summary of work done during PS-II: Project-1: Developed a web application which facilitates the functionalities which are able to Add, Modify and View Molds and Users without having to store the data in excel files and update all of them whenever a change takes place in the Mold Shop division of Apollo's Plants. Project-2: Designed a Graph Database of the Data set which is provided by Apollo , which is a way to display all the relations and properties of a part when a specific property of that part with a particular value is chosen.

Tools used (Development tools - H/w, S/w): HTML5, CSS3, JS6, BOOTSTRAP, SPRING, MYSQL, NEO4J, TOMCAT SERVER, and CQL.

Objectives of the project: Project-1: To develop a robust application this facilitates the functionalities to the users to store the data categorically. Project-2: Graph Database used to display all the relations and properties of a Part.

Outcomes of the project: Project-1: A robust application is built and there is also scope for further Development. Project-2: Graph Database is made to display all the relations and properties of a selected Part.

Major Learning Outcomes: In depth knowledge about web-development processes and web-services. New things like graph databases and local server management are learnt.

Brief Description of working environment, expectations from the company: It is more of a conventional work-environment where people concentrate only on their work and go home by 6:00 P.M. No office parties or team outings (we never expected though). Yes they were good people and treated us well. But they do not have a separate IT or Analytics division and we are the only people working here on those projects. We had to learn almost everything on ourselves and we had a training program which we felt a bit rushed through all the topics. And the Graph Database is a new thing to my mentor also. So, I couldn't find any flaws (till date) in the portal which I made. Overall, the experience was not like an intern working here, rather it was more like an employee working for the company on a contract basis for 5.5 months.

Name: Akash Goel (2013A3PS196G)

Student Write-up

Short Summary of work done during PS-II: Develop a web application for the company from scratch. I developed the UI (along with other interns) and made the whole middle layer for the web app (using Spring Framework).

Tools used (Development tools - H/w, S/w): HTML5, CSS3, JavaScript, jQuery, Bootstrap, Spring Framework, Hibernate, MySQL Workbench, Apache Tomcat and RESTful API.

Objectives of the project: To create an application so that it is accessible to everyone on all the plants and with the required authorization, people are able to view, edit, remove and add data. The goal was to provide a simple UI so that it is easy to use and no technical knowledge needs to be there but at the same time the application had to be robust.

Outcomes of the project: We created the working web application from scratch using all the tools and it will be integrated in their company in the near future.

Major Learning Outcomes: Learn about the whole web development process (from UI to DB) and how to use various tools and the advantages/disadvantages of using certain technologies over others.

Brief Description of working environment, expectations from the company: The working environment was decent. The project was explained to us in good manner and the people at the company themselves weren't clear about their requirements. Every few days they wanted to add/remove something which caused a lot of trouble and made the process a lot slower. Also, our mentor wasn't proficient in Web Dev. so he wasn't able to help us and we had to completely rely on internet (especially Stack Overflow) for our problems which also made the process a lot slower.

PS-II Station: B.G.Shirke Construction Technology Pvt. Ltd, Pune

Faculty

Name: K HAMIRWASIA

Comments: BGSTPL pioneered and patented the system in India. A system using partial pre-cast structural components, such as dense concrete hollow core columns, dense concrete partially pre-cast beams, lintels, staircases, etc., and Siporex blocks and slabs to achieve strength, safety and speed. Over the years, BGSTPL have acquired the expertise in the field of construction in the following areas using Conventional as well as prefab technology and resources. 1. Mass Housing Projects, 2. Residential, 3. Multistoried Buildings, 4.Commercial Buildings, 5.Industrial Buildings / Sheds, 6.IT Parks, 7.Roads, 8. Bridges, Flyovers and Underpasses 9.Sports Facilities / Complexes 10.Hotels, Auditoriums 11.Airports. The students should be familiar with structural design, AutoCAD, ETABS, and VBA Macros etc.

Student

Name: Swapnil Khandelwal (2013A2PS689P)

Student Write-up

Short Summary of work done during PS-II: Worked on an ongoing project at Mumbai, designed its structural elements based on structural analysis using ETABS. Also, I prepared its foundation drawing, column and beam schedule and design basis report.

Objectives of the project: To learn structural analysis and design of building.

Outcomes of the project: Prepared structural blueprint for the building.

Major Learning Outcomes: Learnt Etabs, and designing of structural elements, Pile and pile cap design.

Brief Description of working environment, expectations from the company: Working environment is good. And company expects you to be punctual.

Name: Aishwarya Chopra (2013A2PS750P)

Student Write-up

Short Summary of work done during PS-II: Design and structural analysis of the proposed building.

Tools used (Development tools - H/w, S/w): ETABS, Excel

Objectives of the project: Design structural members and foundation of proposed building

Outcomes of the project: Structural analysis and design.

Major Learning Outcomes: Structural analysis and design

Brief Description of working environment, expectations from the company: The working environment lacks integrity and doesn't compel to pursue core industrial experience. The organization did not have basic facilities like canteen, hand wash, etc. and Saturdays are working days.

PS-II Station: Bharat Forge Ltd, Pune

Faculty

Name: M K Hamirwasia

Student

Name: Kilaru Naga Lohit (2013ABPS705H)

Student Write-up

Short Summary of work done during PS-II: I have done a project on lean manufacturing, observed various

Objectives of the project: Lean manufacturing, working of machines, value stream mapping.

Outcomes of the project: Working of a multi-national organization. Interaction with the higher levels of management. Value stream mapping.

Major Learning Outcomes: Understanding of the working of an organization, value stream mapping, practices of lean manufacturing.

Brief Description of working environment, expectations from the company: The Company has a very friendly atmosphere and the interaction with the officials is good. The amount of experience obtained can be valuable.

Name: Anumula Sai Venkata Reddy (2012B5AB596P)

Student Write-up

Short Summary of work done during PS-II: Modeled Bharat 52 artillery truck's components in SolidWorks and made necessary drawings in the same.

Tools used (Development tools - H/w, S/w): SolidWorks

Objectives of the project: To model Bharat 52 components in SolidWorks and develop required drawings.

Outcomes of the project: Modeled Bharat 52 components in SolidWorks and developed required drawings.

Major Learning Outcomes: Learnt SolidWorks and its application at an industrial level. Learnt GDnT.

Brief Description of working environment, expectations from the company: Relatively new team and hence has a young and enthusiastic team. Helpful at all times and very skilled in their respective domains. The company could provide accommodation of at least decent standard or increase the stipend so that interns can sustain themselves.

PS-II Station: Central Road Research Institute, New Delhi

Faculty

Name: M K HAMIRWASIA

Student

Name: Animesh Kumar Maity (2012B1A2825P)

Student Write-up

Short Summary of work done during PS-II: In September 2016, the World Health Organization released a study suggesting that globally 92% people are breathing unhealthy air. Cities, especially those in developing nations like India have particularly bad air quality. Among major cities, Delhi has the worst air quality with respect to particulate matter. Most of Delhi's air pollution is a product of vehicular emissions. The air quality becomes measurably worse in the winters owing to various meteorological conditions that make dispersion of pollutants more difficult. The study focuses on assessment of PM_{2.5} during winter along a highway corridor under mixed traffic conditions using CALINE4 model. The model performance under the circumstances has been evaluated using various statistical parameters. Further, vehicular traffic along the selected highway corridor for the year 2020 has been predicted using One-click forecasting in MS-Excel 2016. Using the forecasted traffic, the air quality for the year 2020 along the highway corridor has been modeled in CALINE4 using prevailing as well as worst-case conditions. Based on the findings, an Air Quality Management Plan has been developed to curb the increasing levels of particulate pollution and meet the National Ambient Air Quality Standards.

Tools used (Development tools - H/w, S/w): Caltrans CALINE4 model, MS-Office.

Objectives of the project: 1. To establish relationship between vehicular traffic and observed ambient PM_{2.5} concentrations.

Outcomes of the project: Spatial and Temporal distribution of PM_{2.5} was modeled and based on the results Air Quality Management Plan was designed.

Major Learning Outcomes: How to work with a team of people who are much more experienced than you and also how to find solutions to a problem when you hit a roadblock.

Details of papers/patents: Work on the Research Paper is still on.

Brief Description of working environment, expectations from the company: Stress free working environment, flexible working hours (depending on project supervisor), very kind and helpful people, very experienced scientists who are also extremely humble.

Expectations will vary depending on your project and supervisor but they want you to take an interest in your project and feel that your work matters.

Name: Abhishek Sharma (2012B2A2746P)

Student Write-up

Short Summary of work done during PS-II: Title of the Project- "Transient seepage and slope stability analysis of a rainfall induced landslide in Maithana, Uttarakhand." Rainfall triggered landslides have been a major and widespread geohazard in the state of Uttarakhand. On 2013, the region experienced unprecedented high rainfall in the month of June and July which led to many flash floods and landslides all over the state causing a human tragedy in Uttarakhand. The work done during PS-II was to present the results of the study on influence of rainfall infiltration on stability of a slope in Maithana, Uttarakhand considering the concepts of unsaturated soil mechanics involving coupling of finite element transient seepage analysis in SEEP/W and limit equilibrium slope stability analysis in SLOPE/W to provide a model for the potential instability of the slope under rainfall infiltration. For the investigated slope, the critical time for failure occurred just after the period of continuous torrential rainfall from 10th to 18th June, 2013 due to increase in pore water pressure and decrease in suction within the soil. The results showed that the application of rainfall infiltration in slope stability analysis gives a good prediction of rainfall induced slope failures and can be used to develop an early warning system against landslides.

Tools used (Development tools - H/w, S/w): Widely used Geotechnical Engineering softwares like SEEP/W, SLOPE/W, GEO5 and PLAXIS 2D.

Objectives of the project: Development of a numerical model for the study of rainfall induced instability of slopes, by coupling transient seepage and slope stability analysis.

Outcomes of the project: From the results, the major outcome of the project was that coupling transient seepage analysis and slope stability analysis, a prediction model for rainfall induced slope instability can be developed to estimate the degradation of slope stability condition ultimately leading to failure.

Major Learning Outcomes: 1. Learnt widely used geotechnical engineering softwares- SEEP/W, SLOPE/W, GEO5 and PLAXIS 2D.

2. Worked on a real case study and got to learn how to approach a real problem from the Scientists in CRRI.

Details of papers/patents: Currently working on a research paper with my supervisors.

Brief Description of working environment, expectations from the company: CRRI has 8 R&D divisions.

Training division allots the division and supervisor to the student based on his/her resume and availability of the supervisor. The Director, Scientists and the staff are very supportive and friendly.

Major research work is Master's Level and one will enjoy learning new things during PS-II.

Name: Smarth Kakkar (2012B1A2849P)

Student Write-up

Short Summary of work done during PS-II: 2.Road-wide elevated buses (allow cars to go beneath itself)

3. Cell phone Origin-Destination data (GPS Tracking)
4. Elevated BRT
5. Charging stations for electric vehicles
6. Tesla Model S / Supercharger
7. Smartphone-based buses and stop arrival applications

Under Construction / In Development

8. Phase IV of DMRC
9. Community City Car and related initiatives for last mile connectivity

Proposed

10. Modern Trolleybus with a ring-structure and extended branches
11. Urban Ring (circumferential transit)

Speculative

12. Moving Ways
13. Hyperloop

These mobility options and techniques were fairly out of a layman's knowledge pool and thus helped me expand my mind a lot in this direction.

Tools used (Development tools - H/w, S/w): MATLAB, Excel

Objectives of the project: Mentioned below is the scope of this particular Research Study Futuristic Optimization of Smart City Mobility. This best uses the fact that no one shoe fits all.

Well, to understand the scope of this report better, we need answers for -How does one define a "Smart City"?

Are there any Smart solutions that are a "must" in a Smart City Project?

Is there a "fit-for-all" approach definition to a Smart City Project?

It may sound a bit strange but there is no universally accepted definition of a Smart City. In fact, a Smart City means different things to different people. It all depends of the level of development, the willingness to change and reform, and resources and aspirations of the citizens. Also, the fact that physical, social, economic and institutional infrastructure is different and diverse across cities is a complication and challenge on its own in scope defining efforts for a Smart City Project. Thus, the scope of a Smart City project for each of the cities of Mumbai, Delhi, Chennai and Kolkata will differ within these cities itself and would be vastly different from cities like Pune, Lucknow, Jaipur and Nagpur. Therefore, a need for tailored fits for all these cities on an individual basis arises and they must be prepared after an extensive individualistic approach of research. Based on the Smart City guidelines of the Government of India and the Boston Consulting study, it is possible to draw an illustrative list or rather a "kind of "Should Have" common possible Smart Solutions for inclusion within the scope of a Smart City Project in India –

Traffic Congestion Management (Smart Traffic Management - A Necessity for Smart Cities)

Water Management through use of smart water meters, identification of leakages and preventative maintenance (Smart Water Management - A Need NOW!!)

Energy Management through use of smart electric meters, renewable energy and smart buildings (Smart Metering for Energy Management and Smart Buildings - First Step to Smart City)

Waste Management (Smart Waste Management - Garbage Collection)

Safety & Security of Citizens, particularly, Women, Children and Elderly

Government to Citizen Dialogue Solution

Urban Mobility and Transport Solutions

Please note that this is not an exhaustive list and cities are free to add more applications within the scope of a Smart City Project. Also, a possible source for Smart solutions for a Smart City Project are solutions around the Government of India's schemes - AMRUT, Swachh Bharat Mission, National Heritage City Development and Augmentation Yojana, Digital India, Housing for All, Skill India etc.

Outcomes of the project: The methodology followed in this project was based on a set of parameters which were applied to each of the transport modes and therefore a possible set of solutions and a framework to achieve the same are proposed in the end.

An extensive research was done nationally and internationally to apply the above given parametric set on some of the best ongoing, upcoming under-construction/R&D as well as futuristic models which might just change the face of transportation from as we see it today. From these models, the best possible alternatives/systems were selected on the basis of

Social impact

Technological innovations and

Economic feasibility

These shall aim to optimize the travel time by reducing the time lost on grade-separated interchanges, on traffic signals, due to high personal vehicle usage, during last-mile coverage. A possible framework and timeline were devised and proposed to ensure a realistic as well as holistic approach towards curbing this menace. Hence, the contribution to the organization is immense given that it was only I who was responsible for development of Smart Traffic Management in a team of 15 people, all of whom were responsible for one or other aspect of development of a smart city. This would help CSIR-NISTADS to develop the model even when I am not present with them on this project given the exhaustive nature of the research study.

Major Learning Outcomes: This was a major learning experience in the terms that this is a typical policy-making organization and thus poses as a technological adviser to major Central Ministries and a few private organizations. Therefore, most of the work was of consulting nature with hindrance from many problems that were finally solved as explained in my report. I am satiated with the fact that the work that I have done at NISTADS will be used by the Chief Scientist (NISTADS) during one of the future Smart City Conferences/Conclaves. This has been a different experience for me where only myself was responsible for the work that I was doing in a team of 15 people. Hence, this also helped me enhance my abilities further to work in a team and be accountable for my own work. I believe this experience has helped me grow just as I expected.

Brief Description of working environment, expectations from the company: The working environment, under my mentor and supervisor at NISTADS, was fairly liberal yet firm with freedom to work but strict deadlines. My supervisor provided valuable inputs which were great given her work in the field.

The colleagues appreciated any good work done and posed doubts whenever they faced any. This helped me assure myself that I was working with thinking brains and not just people who just do not

care. Dr. Ritu Arora too allowed us freedom to work as per our convenience and kept mentoring us by keeping in constant contact with all three of us here at NISTADS. She was a great help. The staff was very cooperative but some of the operational work was delayed due to a lagging nature in a few of them. The expectations from this station were not immense but I should mention that working here was a wholly different experience with definitely a lot to learn with different kinds of people in the team. The only drawback, and a major one at that, is the status of stipend. The PS II shall end this week and none of us have received any remuneration from the organization. This was something that let me down. I wish the organization would have recognized the level of services provided by us and acted swiftly in this regard.

PS-II Station: Century Rayon, Mumbai

Faculty

Name: SAMIR RAMDAS KALE

Comments: Industries expect real time solutions for the plant, which can be implemented for cost effective production. The student should have hands on experience of softwares like HTRI, Visimix and ASPEN. Industry wants a Hardworking and sincere attitude of the students to audit and troubleshoot the process

Student

Name: Siddharth RS (2012B4A1707G)

Student Write-up

Short Summary of work done during PS-II: There were three of us and were assigned to three different projects. One of them were to find the root cause of the defects in the products and the other to dispose/reuse the wastage of intermediate products and the last one was to synthesize a novel value added product which could make the organization more profitable.

Objectives of the project: To synthesize pharmaceutical grade Microcrystalline Cellulose in lab scale and scale it up to a plant scale.

Outcomes of the project: Successful synthesis of Microcrystalline Cellulose which met all the criteria for a pharmaceutical excipient. A suggestion, plan for scale up was also put forward.

Major Learning Outcomes: Good exposure to a core chemical company with particular focus on R&D.

Brief Description of working environment, expectations from the company: It's a full on manufacturing unit and the number of workers far exceed the number of officers. Nevertheless, the people inside are very friendly and cooperative. A good place to be in, if one's interest happen to be in Chemical Engineering.

Name: Bhuvsmi (2013A1PS587G)

Student Write-up

Short Summary of work done during PS-II: As a part of the PS II curriculum I worked on two projects in Century Rayon. The first project that I was assigned was a process problem and we were asked to investigate the reason and suggest changes to eliminate the problem. The problem for this project was hairiness observed in yarn. This required extensive data analysis for a conclusive study. The second project was a creative problem wherein it was required to add value to the current product line by

synthesizing pharmaceutical grade Microcrystalline Cellulose. Since this was a novel approach it required creativity backed by previous work done in the field.

Tools used (Development tools - H/w, S/w): MS Office, CHEMCAD

Objectives of the project: 1.To investigate the cause of jet hairiness in yarn.

Outcomes of the project: 1. various factors affecting hairiness in yarn were successfully analyzed and suggestions included. 2. Successfully synthesized and characterized (XRD analysis) Microcrystalline Cellulose from softwood pulp.

Major Learning Outcomes: Extensive data analysis, Application of various on campus courses to solve industrial scale problems

Brief Description of working environment, expectations from the company: The Company provides a decent work environment with extremely supportive staff. The mentors assigned to us were motivating and kept us on the go throughout.

Name: Shomik Mukhopadhyay (2013A1PS579G)

Student Write-up

Short Summary of work done during PS-II: Investigated the causes of hairiness in yarn suggest method of safely dispose solid waste Viscose from plant and synthesize micro crystalline cellulose.

Objectives of the project: To minimize losses due to hairiness, minimize sulphur content in waste Viscose, make industrial grade MCC.

Outcomes of the project: Possible factors causing hairiness identified, achieved 10 times reduction in sulphur content, and synthesized MCC finer than industrial grade.

Major Learning Outcomes: In depth knowledge of how a process plant works, learned to interact with workers, process of rayon filament production.

Brief Description of working environment, expectations from the company: Very good working environment. Officers and worker staff are very helpful and regard BITS Pilani with respect. They allotted dedicated room for our work and assigned us important projects.

PS-II Station: Development Consultants Pvt. Ltd. (DCPL), Mumbai

Faculty

Name: M K HAMIRWASIA

Comments: DCPL has engineered over 1600 grass-root projects in the fields of Power Generation, Transmission & Distribution, Cement & Mining, Chemicals & Petrochemicals, Mineral Processing & Beneficiation, Pulp & Paper, Material Handling, Architecture, Environment, etc. in 60 countries around the globe. DC has been associated as Consultant with a large number of Nuclear Power Projects of India, a fact which speaks of DC standing as Leading Consultants in India. Students coming to DCPL for PS-II should be familiar with structural design, STAAD. Pro and MS-Excel software's.

Student

Name: Kumar Gaurav (2013A2PS410H)

Student Write-up

Short Summary of work done during PS-II: helping engineers in various kind of work like checking reinforcement through Staad.pro

Tools used (Development tools - H/w, S/w): Staad.pro and MS excel

Objectives of the project: how to manage a project.

Outcomes of the project: Project is still going on

Major Learning Outcomes: learnt designing of structures through Staad.pro

Brief Description of working environment, expectations from the company: working environment was very good, every employees was very much helpful. We were given small-small works daily, there was no solid project for us. Every day we were doing different kind of works.

Name: Bajjo Raju (2013A2PS431P)

Student Write-up

Short Summary of work done during PS-II: We made an excel sheet that could calculate the long term deflection for any number of beams by taking the dimensions and loading conditions as inputs. Other works that we had done include reinforcement detailing, analysis of structures on STAAD, quantity estimation, design of brick panel wall and cantilever beam, modeling on STAAD.

Tools used (Development tools - H/w, S/w): STAAD Pro, M.S Excel

Objectives of the project: To get a brief idea about the different jobs involved in the design and analysis of structures.

Outcomes of the project: Check done to verify strength and suitability of designed structures and required design changes made.

Major Learning Outcomes: Got an idea about the work involved in the analysis of structures.

Brief Description of working environment, expectations from the company: The manager, the design engineers and the architects were very helpful. Our work was properly explained to us and our doubts were effectively clarified. We were given the required time and study materials to learn STAAD. There were no specific expectations from the company except to finish the works given within the specified deadline.

Name: Pratyksh Vijay (2012B2A2732P)

Student Write-up

Short Summary of work done during PS-II: Design and Analysis of Steel and Concrete Structures.

Tools used (Development tools - H/w, S/w): Computer aided work (Use of STAAD, Excel and AutoCAD)

Objectives of the project: Running checks over the designed structures in order to comply with the IS code criteria for many revisions of the architectural drawings.

Outcomes of the project: Affirming safety of the structural element.

Major Learning Outcomes: STAAD and VBA (Visual Basics for Applications).

Brief Description of working environment, expectations from the company: The working environment is lame. I was not really given any work for most of the time since we were lacking core knowledge about Civil Engineering. It is a good place for higher degree students (who wants to have a specialization in structural engineering) but not for undergrads. Also learning STAAD and VBA before joining this station will be helpful since you will be attracting more work in these areas while you are here. However the senior general manager (Mr. R.E. Karanjkar) is pretty highly qualified. If someone wants to pursue their career in Structural Engineering, he is the one to look for. He is very helping and a highly experienced person.

Name: Ashutosh Kumar Singh (2013A2PS727P)

Student Write-up

Short Summary of work done during PS-II: Reinforcement detailing of beams and columns for ongoing projects, testing of different components of an industrial structures.

Tools used (Development tools - H/w, S/w): STAAD PRO, MS-OFFICE

Objectives of the project: To carry out the efficient testing of the structures, reinforcement detailing of different components.

Outcomes of the project: Quantity estimation through spreadsheet prepared by PS- II Students, Reinforcement detailing using STAAD PRO, Testing using Spreadsheets prepared.

Major Learning Outcomes: STAAD PRO, MS-OFFICE, AUTODESK- AUTOCAD

Brief Description of working environment, expectations from the company: The working environment of the company is quite good, Company people are quite helping. We were expected to meet the deadlines on-time.

PS-II Station: Edcil India Ltd, Noida

Faculty

Name: M K HAMIRWASIA

Comments: EDCIL offers consultancy and technical services in different areas of Education and Human Resource Development. Students will be able to have insight into the mechanism of consultancy and procurement services besides vetting DPRs of past projects involving construction of educational institutes and empanelment of Architects and Consultants

Student

Name: Ishan Sheikh (2013A2PS540P)

Student Write-up

Short Summary of work done during PS-II: Management trainee work at Civil and Procurement department

Tools used (Development tools - H/w, S/w): MS Word, PowerPoint, excel.

Objectives of the project: Procurement of equipment's in PTU

Outcomes of the project: Assistance to officials in the department.

Major Learning Outcomes: Working atmosphere. Tender creations.

Brief Description of working environment, expectations from the company: Nice and healthy working atmosphere. Nice employees.

PS-II Station: EnSci - A Unit of Weir Minerals India Pvt. Ltd, Bangalore

Faculty

Name: Raghuraman S

Student

Name: Abhinav Sonone (2013A4PS292H)

Student Write-up

Short Summary of work done during PS-II: This place is really good as seen from the perspective of an intern. As someone who chose to be a mechanical engineer I would say this place gives a perfect blend of modern mechanical engineering a part of which includes designing, prototyping and testing. This place has innumerable learning opportunities along with hands on experience in machine handling and assembling, which according to me is a great thing because we do not get such a chance to look into the very small components that are so crucial for a machine to function properly, also this provides a nice opportunity to see theory put into practice. During the period of 6 months as an intern I completed the design of a single vane screw pump impeller which was then 3D printed and assembled with the existing volute for testing. Testing was also done by me for over the period of 20 days and results were documented.

Tools used (Development tools - H/w, S/w): SolidWorks 2013, SolidWorks Flow Simulation, Pumplinx (CFD tool), 3D printer, Pump Assembly

Objectives of the project: Validation of the developed design methodology through redesign, prototyping and testing.

Outcomes of the project: The validation of design procedure and identify its shortcomings.

Major Learning Outcomes: Got a really strong hold on pump systems, designing of impeller, assembling and disassembling of pump system, learnt 3D printing, fine exposure of corporate world, including the functioning at global level.

Details of papers/patents: International Paper yet to be published

Brief Description of working environment, expectations from the company: Really healthy working environment where every employee is striving to deliver their best. The company is really good though the Indian business of this MNC is not prominent in business but it is growing steadily. Expecting better pay scale for its employees and interns (which is at present very limited). Also this part of company is not much into R&D, also interns and new employees are not trusted much with good projects and are provided with tasks such as modeling and drafting

Name: Saurav Tripathy (2013A4PS481H)

Student Write-up

Short Summary of work done during PS-II: My team was required to develop a method of automating an ore sorting machine called compact sand washing plant. Initial two weeks were spent by my team in reading up various papers and textbooks related to ore sorting using compact plant. Later we developed the method in duration of 10 weeks and got it reviewed by the experts in the organization. We documented the whole process plan and related information for the future reference.

Objectives of the project: To develop an automatic sand washing plant for launching in the market

Outcomes of the project: Developed the working model of the plant. I documented the project for the teams that will undertake testing and manufacturing in future.

Major Learning Outcomes: Strengthening of the concepts learnt in fluid mechanics and mechanics of solids.

Brief Description of working environment, expectations from the company: Very friendly employees. Mentor always helped out whenever we asked for. Work given was related to what was taught in college.

PS-II Station: Gabriel India Ltd, Gurgaon

Student

Name: Aditya Shirodkar (2012B1A4655G)

Student Write-up

Short Summary of work done during PS-II: For personal reasons I had to discontinue PS2 for the semester.

Objectives of the project: For personal reasons I had to discontinue PS2 for the semester.

Outcomes of the project: For personal reasons I had to discontinue PS2 for the semester.

Major Learning Outcomes: For personal reasons I had to discontinue PS2 for the semester.

Brief Description of working environment, expectations from the company: For personal reasons I had to discontinue PS2 for the semester.



PS-II Station: Geometric Limited, Mumbai

Faculty

Name: Pavan Kumar Potdar

Comments: It is a company dealing with Modeling and PLM software. Students are expected to work in development of modules for this software. The interns need to conceptualize and develop modules, test and prepare for production. Knowledge of Manufacturing Engg is a MUST and good programming skills in VC++ / Java is essential. Projects have also been offered in the area of 3D modeling - generation of meshes, voxelization, developing algorithms for calculation of minimum stock volume, tool traversals, paths for extraction from dies etc. Those wishing to intern at Geometric Ltd., must come prepared with programming in VC++ / Java and knowledge of geometric modeling techniques. PPOs have been offered in past to deserving candidates. Interns may be required to travel couple of times to their other office in Pune for meetings.

Student

Name: Akshay Chandran (2013A4PS337P)

Student Write-up

Short Summary of work done during PS-II: Implementation of ray tagging- algorithm to find feature volume.

Tools used (Development tools - H/w, S/w): Visual Studio, Geometric Cost.

Objectives of the project: To find the volume of features produced during machining.

Outcomes of the project: Volume to calculate cost of material removed.

Major Learning Outcomes: Learnt new softwares and developed new algorithms for my project.

Brief Description of working environment, expectations from the company: The Company had an amazing work culture and also people help you out with your doubts. They create CAM softwares, add-ons in existing CAD softwares like SolidWorks and other softwares that are CAD related. The projects are mostly about adding new features into their existing softwares or about modifying existing algorithms in current features. A basic coding knowledge is required. Mostly your work would require only C++, occasionally MFC. You would enjoy your time here and would learn. P.S: You would be expected to do a decent amount of work here and also to complete your projects at the end of the term. Please do not take this station, if you think otherwise.

Name: RS Rohan Vishal (2013ABPS633H)

Student Write-up

Short Summary of work done during PS-II: Project was to improve on an existing algorithm for creating 'tight bounding box' of a CAD part. After checking the implemented code, and confirming that it was optimized, focus was shifted to the data structures in which the inputs were stored. Inputs were geometric points, faces and normals of the respective faces. Changing the input data structures decreased the execution time drastically.

Tools used (Development tools - H/w, S/w): Microsoft visual studio.

Objectives of the project: To improve the execution time of the 'tight bounding box' code.

Outcomes of the project: Improvement in execution time of the code from a maximum of 7.5 minutes to maximum of 4 seconds.

Major Learning Outcomes: Importance of structures in which data has to be stored.

Brief Description of working environment, expectations from the company: Employees are friendly, and help solve your doubts, treat you as equals and they also provide training if available for instance the training of new recruits is from august to October and they treat the interns on par with new recruits in the training. It is extensive, objective, and excellent. It was very helpful in understanding the project i was given. Hence i was able to achieve my objective. They will also invite you for recreational activities and competitions.

PS-II Station: Grasim Industries Ltd, Nagda

Faculty

Name: Samir Ramdas Kale

Student

Name: Abhijeet Singh Cr (2013A1PS497P)

Student Write-up

Short Summary of work done during PS-II: My job was to analyze the reasons behind the difference in the first zone temperature of dryer no 8 and 9. Also, to find out ways to reduce steam consumption without reducing production.

Tools used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: To reduce steam consumption without affecting production.

Outcomes of the project: The difference between first zone temperatures was mainly due to difference in kg steam per ton of fiber and difference in retention time of fiber in the dryers. No concrete proposals were made in regard to reducing steam consumption.

Major Learning Outcomes: Learned about various mass transfer and heat transfer phenomenon used in drying. Also, I had a first-hand experience of working in a core chemical industry.

Brief Description of working environment, expectations from the company: The working environment was very pleasant. Everyone was very helpful and guided me through my project. My mentor was very helpful and help me have a grasp of how the fiber is produced. I would expect a very good experience because I wish to join a core chemical industry and all my learnings will be very helpful for me in placement.

PS-II Station: Henkel, Mumbai

Faculty

Name: Mukundhan Chakravarthy

Comments: Henkel PS II Stations allow the interns to work on their ongoing research & development, innovation projects.

Student

Name: Abhishek Prasad (2013A1PS817G)

Student Write-up

Short Summary of work done during PS-II: Project Ganesha aims to set up the largest Adhesives Plant of India in Kurkumbh near Pune. For manufacturing Adhesives at the plant there are existing Standard Operating Procedures which have to be modified to suit the new facility at Kurkumbh. The SOPs have to be modified to include the new Henkel IDs and steps to make it more usable and clear. Some of the Raw Material and Finished Goods at the manufacturing facilities are hazardous. These have to be identified using Material Safety Data Sheets which are a complete summary of Safety and Physical parameters. The most important documents for setting up these new plants are P&IDs which have complete details of all Reactors, Mixing Vessels, and Tanks etc. These P&IDs are to be verified and corrected for further references. Material Movement is also to be discussed to entail all aspects of movement of goods within the plant. A detailed process flow diagram depicting the material movement along with a comprehensive description in words for better understanding and reasoning purposes was prepared after much discussion with people associated with the work area mentioned.

Tools used (Development tools - H/w, S/w): Excel, Outlook

Objectives of the project: Working in different aspects of Project Ganesha including to: Ensure preparedness for starting a new adhesives plant by making sure all calculations are done and documents are in place. Validate all Metal Pre-Treatment product manufacturing sequences and provide summarized process descriptions for the same. Describe the movement of goods within the plant in a chronological manner. This includes the transport of materials within the facility, loading/unloading of materials, staging of goods, manufacturing processes involved and other process operations associated with overall plant performance.

Outcomes of the project: Learnt how the entire process of manufacture of finished goods takes place from the raw materials available in a plant facility at a huge scale. The precautions and the margins needed to be taken and the scope of the entire project to be evaluated beforehand for decreasing the inconsistencies within that may occur in future need to be planned and propagated to the designated staff properly. This is a major area where even today many companies fail due to lack of commitment. My main focus during my entire 6 month tenure as an intern will be this, to gain much needed knowledge when it comes to planning and its subsequent implementation.

Major Learning Outcomes: Knowledge regarding the build-up of an actual plant from scratch and validation of processes and products along with data monitoring and documentation included in the project. Gained much needed knowledge when it comes to planning and its subsequent implementation.

Brief Description of working environment, expectations from the company: The working environment was good. The office building was exquisite. My workstation was on the tenth floor. The employees were nice but didn't care much about us. They were too busy in their own work and would rarely talk to interns. Only some of them would come forward and indulge in discussions during work. The workload was relaxed and I never had any problem with the amount of work they gave me, just the kind of work. I had expected the company would give me core related work but all the work that I was given was documentation, updation and validation. Only seldom would I get a job of my interest that too after many requests. So was not happy with the kind of work. But the mentors were nice and they would listen to my requests.

PS-II Station: Hindustan Unilever Research Centre, Bangalore

Student

Name: Tanmay Singhal (2013A1PS578G)

Student Write-up

Short Summary of work done during PS-II: Preparation of polysulfone membrane by phase inversion method NIPS (Non-solvent induced phase separation method, its theoretical background and the effects of selected synthetic parameters on membrane fabrication. The synthetic parameters under study were cloud point effect, coagulation bath effect and additive addition effect. For cloud point effect IPA and water were taken as anti-solvent, for coagulation bath effect 100% water and 90% DMAc were taken as coagulation baths and TiO₂ (Anatase and rutile) were taken as nanoparticle additives. SEM analysis and image processing was done to compare the effects on the pore size, porosity and its distributions.

Objectives of the project: To study the effect of synthetic parameters like cloud point effect, coagulation bath effect and additive addition effect on membrane fabrication.

Outcomes of the project: Membranes having variety of pore sizes which could be used as micro filtration membrane.

Major Learning Outcomes: Understanding of polymer science and membrane fabrication process: Its thermodynamics and kinetics.

Brief Description of working environment, expectations from the company: HUL is one of the most renowned companies in FMGC (Fast moving consumer goods). The working culture is good and the people around are very helpful. The work suits a person who is really interested in research (especially chemistry) and have a lot of patience to repeat the work again and again until a satisfactory result is concluded. Water (Pure it) is the best department of homecare

Name: Nimitosh Gupta (2013A1PS539G)

Student Write-up

Short Summary of work done during PS-II: Project aim was to produce safe tea for skin application. It was achieved by separating gallic acid and gallates from tea by enzyme hydrolysis and chromatography.

Tools used (Development tools - H/w, S/w): M.S. Excel

Objectives of the project: To develop method to produce safe tea for skin.

Outcomes of the project: Successfully separated gallic acid and gallates from tea.

Major Learning Outcomes: fractionation, adsorption, enzyme hydrolysis.

Brief Description of working environment, expectations from the company: Very friendly, everyone was supportive and was trying to help with the project.

Name: Gourav Gupta (2013A1PS718G)

Student Write-up

Short Summary of work done during PS-II: Redeposition plays a critical role in reducing the whiteness of the fabrics. Many polymers have been explored in this space to prevent it. This project focuses on two parts (I) consolidate the literature learning on the role of different physicochemical conditions on adsorption of the anti redeposition polymers and mechanism involved (II) Experimental study on the influence of different wash parameters such as pH, ionic strength, surfactant concentration, fabric type on the adsorption of Texcare on fabrics. Different methods explored in the current study are UV spectroscopy to quantify Texcare, Langmuir models for adsorption isotherm, zeta potential for surface charge measurements.

Tools used (Development tools - H/w, S/w): UV-visible Spectrophotometer, Meta Zeta-sizer, Orbital Incubating Shaker, Centrifuging Machine, and Magnetic Stirrer.

Objectives of the project: Influence of wash parameters on Adsorption of Texcare on the Fabric Substrates.

Outcomes of the project: 1. Adsorption of 'polyester >'Polycotton> 'cotton

2. Ionic strength does not alter the isotherm

3. Presence of antiredeposition polymers SCMC does not alter the adsorption of Texcare polymer for Polycotton surface

4. At surfactant concentration lower than CMC, isotherm is unaltered.

5. Higher surfactant concentration reduces the adsorption of Texcare.

6. At low pH, no change in adsorption is observed.

7. Increase in pH decreases the adsorption; zeta potential shows the presence of residual negative charge on Texcare.

Major Learning Outcomes: After working for 6 months here I have learnt a lot about the experimental research. My project started from the scratch which taught me how to start and proceed on a particular area. I found and studied lot of papers related to my project area and designed the whole experiments by myself. I learnt a lot about how we can improve the existing products efficiency and usefulness by just introducing a little change. But to find out that little change you need to a lot of hardwork. I came to learn a lot about various safety guidelines that are followed in a FMCG company. I also learnt a lot about various chemical instruments and chemicals for my project. The Best Thing about this PS-II was to use the previous 3 years of knowledge and how to convert it into real life products.

Brief Description of working environment, expectations from the company: First of all, I met with some of the very knowledgeable persons here which really motivated me towards my further career. The mentors that were providing to us are really very helpful. When you are working in the lab with other research scientists you don't feel like stuck somewhere, it feels very friendly. People here always ready to help you and always give you something new to learn. Campus is very beautiful and Refreshments provided by the company is really awesome so that you never feel bored. I expected very less from this company, but after knowing about it I really feel proud to say that it was one of the best experiences of my life.

Name: Suraj Lungase(2013A1PS922G)

Student Write-up

Short Summary of work done during PS-II: Synthesized superhydrophilic and hydrophobic polybetaines. Studied its structure-property relationship by analyzing its response to addition of electrolyte and response to change in pH.

Tools used (Development tools - H/w, S/w): Advance Rheometer AR1000, FTIR spectroscopy, NMR spectroscopy, Tensiometer, UV spectroscopy, Vacuum oven.

Objectives of the project: Study Response of polybetaines to electrolyte addition and pH variation.

Outcomes of the project: Significant change in viscosity of hydrophilic polybetaine because of addition of electrolyte and pH variation. Hydrophobic polybetaine has salt tolerance because of hydrophobic species.

Major Learning Outcomes: Got hands on experience on lab work and various equipments.

Brief Description of working environment, expectations from the company: Nice working experience with people here who are always supportive and ready to help. Campus is really beautiful. Overall experience was very good.

Name: Arnika Jain (2013A1PS672G)

Student Write-up

Short Summary of work done during PS-II: It was a research oriented project. It was based on quantifying the tea aroma using simultaneous distillation and extraction (SDE) technique. The aim was to find the partition coefficient of the key tea volatiles. The initial experiments were carried out to optimize the parameters involved in SDE. They were followed by experiments to check the extraction and injection variability of the method. In order to calculate the partitioning, the aroma concentration in infusion and the total aroma concentration were compared and analyzed and conclusions were drawn from it.

Tools used (Development tools - H/w, S/w): Microsoft office

Objectives of the project: To find out the partitioning coefficient of tea aroma into infusion as a function of grades of black tea.

Outcomes of the project: Percentage partitioning of the key tea volatiles as a function of grades was found and the trend was analyzed.

Major Learning Outcomes: Gained expertise in handling equipment's like GC, HPLC, sonicator, centrifuge and rotavapor. I developed communication skills and gained an exposure to the research world.

Brief Description of working environment, expectations from the company: People in my company were really supportive and helpful. It was quite an encouraging environment. Everybody was friendly.

Name: Hema Venusha (2013A1PS722H)

Student Write-up

Short Summary of work done during PS-II: The use of surfactant is gradually increasing day by day. Surfactant removal is an essential research aspect today. Magnesium Oxide having an isoelectric point at 12 is expected to adsorb anionic surfactants. Recently, several researchers have synthesized magnesium oxide nanoparticles of varying morphologies and have studied its efficacy in arsenic removal, antibacterial activity, solid base catalysts, toxic dye removal etc. However, until now there has been no systematic study on the effect of morphology of magnesium oxide on surfactant removal. In this study, magnesium oxide nanoparticles of varying morphology have been synthesized. Magnesium Oxide of different morphologies are synthesized. The synthesized Magnesium Oxide morphologies are characterized using XRD and SEM. Adsorption of surfactant molecules has been carried out on different morphologies of magnesium oxide, prepared by various routes. The adsorption properties of the surfactants have been studied by determining the kinetic plots. The results are studied and the factors causing this difference in morphologies are interpreted.

Tools used (Development tools - H/w, S/w): Autoclave, Hot air oven, XRD, SEM.

Objectives of the project: Synthesis and Characterization of Magnesium oxide particles of varying morphologies and the effect of morphology on surfactant removal

Outcomes of the project: We have got to know the best morphology for surfactant removal.

Major Learning Outcomes: Got hands on experience on lab work and the research advancements.
Learnt how research companies work and the kind of approach they look for.

Details of papers/patents: Paper is under process.

Brief Description of working environment, expectations from the company: Good comfort, Work life balance is good, awesome work place. Outstanding leadership opportunities, excellent colleagues, great support from instructors. One works and learns all the time. Extremely meritocratic- work results are given more weightage than age, gender.

Name: Ankit Kothari (2013A1PS923G)

Student Write-up

Short Summary of work done during PS-II: There is demand for products that whitens teeth. These products are generally either peroxide-based bleaching formats to improve intrinsic tooth color or whitening toothpastes with enhanced physical and chemical cleaning properties to remove and prevent extrinsic tooth stain. This is achieved by deposition of BD (Blue Dye) or BC (Blue Covarine) onto the tooth surface where it changes the optical properties of the teeth such that their appearance is both measurably and perceivably whiter immediately after treatment. These changes are studied by spectrophotometer which gives I^* , a^* , b^* values which are further used to calculate Whiteness Index (WIO). HAP discs are tea stained and initial values and final values after dye coating are recorded. Polyvinyl alcohol (PVA)(85kda) is found to have better deposition and greater delta WIO than the gantrez polymer(control).It was important to study the polymer-surfactant interaction. This report focuses on fluorescence spectroscopy technique. Lower the CAC/CMC ratio stronger the attraction. Thus, interaction between anionic polymer (Sodium dodecyl sulphate-SDS) and polymer (Gantrez) is stronger than interaction between SDS and polymer (Gantrez-PVA). Non-ionic surfactant (Steareth30) is also considered, it was found that either there is no interaction between this surfactant and polymer or its far below the considered range of concentration of surfactant.

Tools used (Development tools - H/w, S/w): spectrophotometer and fluorometer.

Objectives of the project: To enhance deposition of optical agents with the help of polymer-surfactant.

Outcomes of the project: A new polymer is added to the whitening composition which gives more whitening effect is studied.

Major Learning Outcomes: Got hands on experience on the lab work and instruments.

Brief Description of working environment, expectations from the company: I have learnt many things from HUL. Great platform for everybody. Very co-operative co-workers. The most enjoyable part of job is a work with HUL. We can learn daily from HUL. I am very much proud to be part of a team in Hindustan Unilever Limited. It would be thankful to all my senior team members and my organization for their support and encouragement to accomplish the work assigned to me. Learn about new technology. Learn how industry runs. Great support in your work. Management is superb. The most enjoyable part to work with my team

Name: Varun Jain (2012B4A1652P)

Student Write-up

Short Summary of work done during PS-II: My work involved studying the various parameters that affect the working and efficiency of the Reverse Osmosis system. It also involved investigating the design parameters that affect the RO membrane. The efficacy of the membrane in separating surfactants from water was compared with existing technologies.

Tools used (Development tools - H/w, S/w): The tools I used were TDS meter, Turbidity meter and RO pump.

Objectives of the project: 1. To study the parameters that affect working of RO system. 2. To study the design parameters affecting the RO membrane.

Outcomes of the project: 1. Established a relationship between the type of wastewater and energy consumed. 2. Established trendlines for permeate and reject concentrations and correlated with recovery. 3. Established that life of the membrane largely depends on the input concentration.

Major Learning Outcomes: I learnt the current application of RO in desalination systems from literature. I learnt how to use that theoretical knowledge and apply it to surfactant removal. Apart from my project, I also learnt a lot from the safety and ethics code of the company.

Brief Description of working environment, expectations from the company: The working environment at HUL is very conducive for interns. The company has a well thought out policy for internship projects and I would recommend HUL for any chemical engineering student interested in pursuing core projects.

Name: Nikhil Kumar chauhan (2013A1PS842G)

Student Write-up

Short Summary of work done during PS-II: Working on project which concentrates mainly on foams. This consists of analyzing the foam quality parameters. Idea behind this is to correlate data generated in lab with consumer data.

Objectives of the project: Objective measurements of foam and its correlation with consumer perception.

Outcomes of the project: Correlation could not be developed as measurement technique has some drawbacks.

Major Learning Outcomes: Understanding about foams, knowledge about corporate work culture.

Brief Description of working environment, expectations from the company: Working environment is very friendly. Everyone was really helpful, but on the other hand they have high performance expectations from interns too.

Name: Mansi Pant (2013A1PS712P)

Student Write-up

Short Summary of work done during PS-II: The outcome of secondary structure prediction tools shows that more than 50% of the sequence has dominantly beta strands. The computational model of Sericin predicted only beta sheet as the possible secondary structure. Different prediction tools provide different tertiary Structures but each of these structure have β -sheet as the dominant structure which

correlates with the CD studies of Sericin protein. We predicted the structure in solvent environment and it matched with predicted structure in vacuum.

Tools used (Development tools - H/w, S/w): I-tasser, GROMACS, Phyre2

Objectives of the project: To analyze primary sequences and homology analysis. To predict the 3-D structure of sericin protein from its amino acid sequence by using different computational methods. To develop the structural information and functional properties of Sericin protein.

Outcomes of the project: The computational model of Sericin predicted only b-sheet as the possible structure which correlates with the CD studies (experimental) of Sericin protein. The predicted structure in solvent (water) matched with predicted structure in vacuum.

Major Learning Outcomes: Learned about bioinformatics- how to predict protein structure using computational methods.

Brief Description of working environment, expectations from the company: Student with biology (bioinformatics) would be preferred for this project. Company expects you to be disciplined and sincere. Rest, they will guide you for your project from scratch.

Name: Ahmed (2013A1PS524G)

Student Write-up

Short Summary of work done during PS-II: Silk contains two major proteins, Fibroin (the fibrous protein) and Sericin (the gum protein). The Sericin protein from *bombix mori* cocoon has some unique functional properties such as UV protection, cryo-protection, reducing inflammation in cells etc. Lab has an established process to extract Sericin at high temperature & pressure. This Sericin has been shown to form hydrogel. In the present study, Sericin was prepared using same process. The fresh extracted hot Sericin is in form of a solution. However, after cooling to room temperature over the period, transforms into a nice Hydrogel having excellent viscoelastic gel properties. The hot Sericin solution was subjected to different physical conditions (e.g. different pH range & free metal ion concentrations). Hot solution of Sericin was aliquoted in multiple tubes and were then treated with known concentration of acid (HCl) / alkali (NaOH), such that its pH was modulated from acidic (~2.5 pH) to alkaline region (10.5 pH) in step of 1 pH unit. Subsequently these gels were examined for their rheological properties. There was a

significant variation in the gel strength and behavior at different metal ion concentration & pH. The later part of study is focused on the interplay of pH and metal ion concentration to obtain best gel properties. The interdependence of these two variables and its effect on gelation property of Sericin will help in its application as a possible structuring agent.

Tools used (Development tools - H/w, S/w): SDS Page, Rheometer, Autoclave, pH meter, Spectrophotometer, Imaging Equipment.

Objectives of the project: The objective of the study is to learn the bio-physical and bio-chemical characteristics of Sericin gel by understanding its physical and structural properties. As Sericin is known for its gelling properties, it's important to study its gel characteristics; this is where the rheological studies come in, to measure the storage modulus and loss modulus. Use of Sericin as a structuring agent in products may demand stability under different physical and chemical environment such as pH of medium, concentration of metal ion in medium and temperature.

Outcomes of the project: The data generated under different conditions will provide changes in rheological properties as a function of pH and metal ion concentration. Using these physical conditions as co-variables we can modulate the gelling properties of Sericin for various applications in product formulation.

Major Learning Outcomes: The Rheological Properties are understood and its dependence on various factors. The data obtained from the inter play of the two important variables, the external pH and the metal ion concentration, would show us variation in rheological properties. This data is then visualized as a 3D surface plot with best and worst combination of these variables in terms of gel strength. A correlation can be determined between the theoretical model of Sericin Protein and the experimental rheological data obtained.

Brief Description of working environment, expectations from the company: The working environment is Very good. Employees and scientists are helpful. HURC is research facility, mainly focuses its research in the following areas: Home Care Products, Hygiene, Water Purification, Laundry Detergents, Immunology, food, etc. This PS station will provide opportunities to upgrade your management and research skills.

Name: Jitendra Jasnani (2013A1PS509G)

Student Write-up

Short Summary of work done during PS-II: We explored a single step method of synthesis of micro capsules of sericin, a protein extracted from silkworm cocoons. Further studies revealed that the structures thought to be micro capsules were actually bacterial artefacts. Extraction of sericin from silk worm cocoons was done in presence of surfactants to study interaction with surfactant.

Tools used (Development tools - H/w, S/w): FTIR (Fourier Transform Infrared Spectroscopy)

Objectives of the project: The objective was to reproduce the synthesis of micro capsules of sericin based on literature.

Outcomes of the project: We found out the structures thought to be microcapsules in literature were actually bacteria.

Major Learning Outcomes: I learnt various techniques of analyzing structures in micrometer domain and analysis of secondary structures of protein. I also learnt that published papers can be wrong and you cannot trust the data blindly. Inter disciplinary knowledge is essential for success of a project.

Brief Description of working environment, expectations from the company: Hindustan Unilever Research Centre is a great place for someone who wants to explore corporate research and development. The researchers working here are really helpful and hard working. They make sure you understand what you are doing and give proper training if required. The overall experience was positive. I would have preferred if the project was more product development oriented.

PS-II Station: John F Welch Technology Center (GE), Bangalore

Student

Name: Phalgun (2012A4PS352H)

Student Write-up

Short Summary of work done during PS-II: Computational Method to determine Cylinder Liner Pitting

Tools used (Development tools - H/w, S/w): Python

Objectives of the project: Develop a ML model to predict Cylinder Liner Pitting Probability.

Outcomes of the project: Built a ML model that gives real time estimate of the Liner Pitting Probability.

Major Learning Outcomes: Learnt Python and ML

Brief Description of working environment, expectations from the company: Excellent working environment, fully supportive and approachable Experts. All in all it was a very good experience.

Name: D.Mahidhar (2013A4PS211H)

Student Write-up

Short Summary of work done during PS-II: Testing and Analysis

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: To make a model work.

Outcomes of the project: working model

Major Learning Outcomes: Increased proficiency in MATLAB.

Brief Description of working environment, expectations from the company: A great working environment and great learning opportunities and all the staff are very friendly.

Name: Swaminathan P (2012B5A4569G)

Student Write-up

Short Summary of work done during PS-II: Projects: 1) Equation based data reconciliation of Fossil fuel power plants 2) Pulveriser mill modeling and optimal load distribution with a development of VBA tool for the same 3) Transient modeling of a combined cycle power plant: implementation of the physics based model into the online platform, 'predix'.

Tools used (Development tools - H/w, S/w): MS Excel, Oracle crystal ball, VBA, Python, and Thermoflow

Objectives of the project: All the projects are aimed at digitizing the mechanical power generation industry, a current trend where the mechanical systems and electrical systems converge together with artificial intelligence over the top of it. This is the current transformation in the industry with a promising potential to optimize the existing conventional mechanical engineering components by use of sensors and dcs. Essentially, we create 'Digital twins'! The work will be used for online performance monitoring, optimization, monitoring and diagnosis of the real time power plant.

Outcomes of the project: Development of models and methods which exist only in the conceptual phase in the research papers. Individual outcomes of the projects in the same order: 1) Error reduction to several orders coherently across the different assemblies, viz. boiler, steam turbine, condenser-fwh-ct using a unique algorithm developed by myself. 2) Optimized the pulveriser for the fuel (coal) consumption and auxiliary power. Made the tool using VBA for GE's internal use. 3) On progress, in the right track.

Major Learning Outcomes: Gained experience in learning and implementing many techniques like Monte Carlo simulations, Data reconciliation, classical runge kutta algorithms, energy analysis, model predictive control; more importantly, understanding the current trends and challenges in the industry.

Brief Description of working environment, expectations from the company: Open-minded and modern work culture with freedom to follow your passion. Professional yet friendly employees who help interns in-need without spoon-feeding them. Activities including performance summits, tech/cult fests, high teas, team outings to resorts, team lunches, birthday parties, etc help interns to make connections, share ideas and interact with leaders in the industry. Facilities including gym, subsidized food, play area (indoor and outdoor) etc. keep us rejuvenated.

Name: Hari Krishna Vasudeva Reddy B (2012B4A4594H)

Student Write-up

Short Summary of work done during PS-II: We are changing the Database Structure in Aviation (so need to change all the queries of the reports accordingly)

Tools used (Development tools - H/w, S/w): SQLdeveloper, COGNOS, Spotfire, and Informatica.

Objectives of the project: All the businesses across GE follow the same database structure according to the new Enterprise standards.

Outcomes of the project: More Productivity. Aviation itself does not benefit from the changes but it just follows the standards that are set.

Major Learning Outcomes: personal skills - Communication skills, adjusting to the new work culture, pitching ideas to the functional team, technical skills - above tools used

Brief Description of working environment, expectations from the company: pro activeness, constant communication with colleagues.



Name: Poojan Parekh (2013A4PS277P)

Student Write-up

Short Summary of work done during PS-II: I worked on developing a program to automate the physical properties calculation process of steam turbine parts.

Tools used (Development tools - H/w, S/w): C, C++, NX,

Objectives of the project: To speed up the process of weight and CG calculation of diaphragms of a steam turbine.

Outcomes of the project: I made a standalone algorithm that plots the 2D geometry of steam turbine stages and computes the CG, areas, weights, polar moment etc. It was finally integrated with GE's proprietary turbine design software.

Major Learning Outcomes: Steam turbine design parameters, energy industry scenario, some languages and coding.

Brief Description of working environment, expectations from the company: Superb work culture. no limits on work hours - extremely flexible. 24 hours office - works best for us. You can come in any time, leave when you want, unless the work is done. Beautiful campus and amenities. Lots of activities to do.

PS-II Station: Mahle Beher India Pvt Ltd, Pune

Student

Name: Vedant Deshpande (2013A4PS326G)

Student Write-up

Short Summary of work done during PS-II: Work involved design optimization of an automotive condenser. The existing design of MY 15 condenser (used in TATA Tiago) and S101 (used in Mahindra KUV100) was optimized for quality improvement, cost savings and meeting the requirement of the customer. The entire process involved CAD modeling, analysis, prototyping, testing and process planning.

Tools used (Development tools - H/w, S/w): Catia V5, CFX*

Objectives of the project: Quality improvement, Cost optimization.

Outcomes of the project: Weight reduction of 12%, savings up to 21lacs/year, permanent eradication of an existing quality issue.

Major Learning Outcomes: Product development, prototyping.

Brief Description of working environment, expectations from the company: Work environment is very favorable for overall growth at this point of career. Mentor/guide and remaining is always available for help. Good exposure to outside market, industrial working and business strategies.

The only drawback of the PS station is the stipend given. Considering the fact that it is in a metropolitan city, the stipend is not even sufficient for monthly rent and food expenses. If the PSD can take efforts to increase the number, many people will opt for this PS station and will be a hub imparting good quality industrial experience.

Name: Rayala Vinil (2013A4PS342P)

Student Write-up

Short Summary of work done during PS-II: Study of different lot sizing techniques and applying them to optimize lot sizes of child parts of HVAC assembly line and creating model for time varying demand situations.

Tools used (Development tools - H/w, S/w): Excel VBA

Objectives of the project: To optimize lot sizes of child parts of Mahindra HVAC line

Outcomes of the project: Calculated economic order quantities and created model of heuristic methods.

Major Learning Outcomes: Inventory management, Procurement.

Brief Description of working environment, expectations from the company: Very supportive.

Name: R N S PAVAN (2012B4A4511P)

Student Write-up

Short Summary of work done during PS-II: Improving Demand Forecast Accuracy of OEM's

Tools used (Development tools - H/w, S/w): MS Excel

Objectives of the project: To develop forecasting tools for better planning.

Outcomes of the project: 3 models were developed.

Major Learning Outcomes: Design and review of new products.

Brief Description of working environment, expectations from the company: Working environment is relaxed with independence and responsibility given to propose new ideas.

Name: Nihal Cheeti (2013ABPS776H)

Student Write-up

Short Summary of work done during PS-II: The project is intended to assist the management of the company to draft new strategies and find new ways which could help the company to increase its market in the country. The aim of the project is to find the current market share of the company in India in Passenger Vehicles department and the past share of company in the market for the last five years, the way it is functioning. The analysis uses the market trends of all the passenger vehicles produced in the particular year and also the auto sales, cumulative if necessary. This analysis also includes competitors of Mahle and subsidiaries analysis and their function. Along with the analysis of OEM market sales, the analysis does the evaluation and review of financial performance of competitors.

Tools used (Development tools - H/w, S/w): Excel and SAP.

Objectives of the project: To find the present and past market share of the company and to make action plan to increase the market share.

Outcomes of the project: Market Share of the company and competitors, financial accounts, ROC etc. New Strategy for market expansion.

Major Learning Outcomes: Management of the company and a Project, Business evaluation, new business approach etc.

Brief Description of working environment, expectations from the company: Company works with the management side much affiliated to Anand Group and technical dependency on Mahle Behr Stuttgart (Germany).

PS-II Station: Mahle Behr India Engineering Services, Pune

Student

Name: Srujan Jayati (2012B4A4713G)

Student Write-up

Short Summary of work done during PS-II: The main key finding of the project is to assess the required parts on assembly line and then optimize and standardize the bin sizes for each part accordingly. This optimization process ensures that no part is supplied to the assembly line in surplus, and that principle of lean manufacturing, especially just in time methods are applied. The current scenario is based on manual selection, done primarily based on experience and intuition. This results in two challenges. First, it does not propose a standard method for Bin Packaging for any given Bill of Material. Second, it might not result in the most optimum solution. Development of a standardized logic for any given Bill of Material and Plant based Bin Data has been done. To tackle the aforementioned problems, the logic has been implemented in Excel followed by VB.NET. Line layout and Bin Packaging has been understood at the very fundamental level, and is the backbone to the selection of Bin Packaging. As this is a part of a way bigger project (Entirely automating process planning) in scope, the key result of this project would be that the standardized method developed is in sync with the project in its entirety.

Tools used (Development tools - H/w, S/w): VB.NET

Objectives of the project: To develop standard methodology of Bin size and packaging selection for assembly line.

Outcomes of the project: Generated an exported data grid containing part names and their bin sizes that they come in on the assembly line.

Major Learning Outcomes: Professional Ethics, Industrial Exposure, Programming Experience, Soft skills.

Brief Description of working environment, expectations from the company: It's a nice friendly place to work at, with regular activities and tournaments. People are friendly, supportive and cooperative, meanwhile staying very professional.

Name: Manmay Kulkarni (2013A4PS456H)

Student Write-up

Short Summary of work done during PS-II: The work done included study of the HVAC systems in automobiles, air-circulation circuits and co-ordinate mappings in Lathe, Drilling and CNC machines.

Objectives of the project: The objective of the project was to devise a mechanism to map the co-ordinates precisely and place the given objects (cubes) on the precise co-ordinate points.

Outcomes of the project: 4 proposals were given. First using rack and pinion gears, second used CNC, the third used a laser and electromagnetic field while the last one used lead screw principle to lead us to the desired outcome of placing the cubes on mentioned co-ordinates.

Major Learning Outcomes: 1) Practical Work Experience 2) Industry working methods and Organizational Structure. 3) Strengthening of technical details in relation to the project domain.

Brief Description of working environment, expectations from the company: The working environment was nice. An easy going stress free surrounding helped additional moral boost and increased efficiency due to the positivity around. Expectation from the company about the work and support regarding the project work were met.

PS-II Station: Mahle Filters India Ltd, Gurgaon

Student

Name: Ch V Sivaram (2013A4PS339P)

Student Write-up

Short Summary of work done during PS-II: updating the sales opportunity form and detailed study of burst pressure testing machine.

Tools used (Development tools - H/w, S/w): SAP Software

Objectives of the project: Sof Must Be Up To Date, Identify The Defects In Burst Test Machine.

Outcomes of the project: Actual Working of the Burst Pressure Machine Has Been Studied.

Major Learning Outcomes: Working Of Hydraulic Systems Involving Control Units, Solenoid Valves Has Been Studied.

Brief Description of working environment, expectations from the company: Working here is pretty good experience, perfect place for moderate Cg guys. Expectations aren't high but they will definitely help you in time of crisis.

Name: Grandhi Naga Veerendra (2012B4A4731P)

Student Write-up

Short Summary of work done during PS-II: Bench-marking of competitor's products, Field Return analysis of Renault Kwid, Designing TVS air cleaner in Unigraphics for Analysis, Preparing master list of drawings, making a report on Mass Airflow Sensor, Improvement of Rubber part drawings.

Tools used (Development tools - H/w, S/w): Unigraphics.

Objectives of the project: To know more about the existing models of the filters in the market and how those are different from the ones manufactured by our plant.

Outcomes of the project: My field return analysis of Renault Kwid air filters helped in finding the problems with that air filter, by designing a 3D model of TVS air filter we are able to find the pressure drop, stiffness of material and helps in presenting new filter model for TVS motors, my report on MAF sensors helps because when new BS norms come in making the MAF sensors mandatory.

Major Learning Outcomes: I learned using Unigraphics, learned about different air filters present in the market and how the designs vary for each manufacturer.

Brief Description of working environment, expectations from the company: Work environment is peaceful, everybody is helpful, there is sufficient amount of work provided for us through the PS, although there is some tedious work, there is also analytical and logical part of it. All in all this is a good learning experience about work culture in a mechanical company. The expectations are also on the right level.

Name: Rahul Krishnan (2012B2A769P)

Student Write-up

Short Summary of work done during PS-II: Worked on reducing the Cost of Poor Quality (COPQ) at the paper-coating plant in Mahle.

Tools used (Development tools - H/w, S/w): Lean Manufacturing, Six Sigma methodology

Objectives of the project: Reduce COPQ from 2.5% to 1.5%

Outcomes of the project: Made suggestions to the Mahle department heads on ways to cut wastage during transportation, unloading from the supplier end, changing the impregnation resin to match the latest industry standard and implementing comprehensive Lean Manufacturing methods at the plant.

Major Learning Outcomes: Gained first-hand experience of lean, six sigma methodology applications on the shop-floor. Learnt the many facets of shop-floor management.

Brief Description of working environment, expectations from the company: Working on the shop-floor shattered all my previous expectations of how a manufacturing plant functioned. Although never an entirely pleasing experience, the take-aways from the 5 month internship were eye-opening in terms of

the industry in India and the handling of lower-level employees, specifically. The technical aspects were all up for self-learning and the real worth of the experience was in the intangibles.

Name: Siddharth Pandey (2013A4PS328G)

Student Write-up

Short Summary of work done during PS-II: Made a proposal on shifting a production line from pune to Gurgaon plant. Covered topics - Commercial, Technical, Layout, and Budget. Work on a single piece flow proposal for a production line. I helped in installation of new air leak testing machine. Worked on solving any issues that occurred in the ALT.

Tools used (Development tools - H/w, S/w): AutoCAD

Objectives of the project: To make a proposal covering all aspects covered in the project; To get proposal approved; To Shift the line. Reducing W.I.P. (work in progress) in Mahle Pune plant to save space in plant. To install new air leak testing machine in Pune plant; to reduce human error.

Outcomes of the project: Proposal to move the line from Pune plant to Gurgaon plant was approved. WIP reduction project was cancelled as saving done was not worth the cost and effort taken to implement the new plan. New ALT machine was installed in Pune plant.

Major Learning Outcomes: Made multiples layout for new production line, work on installing a new machine for leak testing and cycle time study.

Brief Description of working environment, expectations from the company: Not very formal. Projects not up to the mark.

PS-II Station: Mahle Filters India Ltd, Pune

Student

Name: Krishna Praneeth (2013A4PS327P)

Student Write-up

Short Summary of work done during PS-II: Initiated TPM

Tools used (Development tools - H/w, S/w): SAP MM.

Objectives of the project: Zero Breakdowns, Zero Accidents, Zero Defects.

Outcomes of the project: Increase in Productivity.

Major Learning Outcomes: Maintenance engineering techniques.

Brief Description of working environment, expectations from the company: Working environment at Mahle Filters, Pune is very good. All the required equipment is made available for us so as to not delay our work.

Name: krishna kasyap (2013A4PS347P)

Student Write-up

Short Summary of work done during PS-II: Minimization of cycle times , preparing & displaying work instruction of all the lines, installation of weighing machines with automatic sticker generation.

Objectives of the project: To minimize the cycle time of a process.

Outcomes of the project: Reduction in cycle time thus increasing productivity.

Major Learning Outcomes: Documentation.

Brief Description of working environment, expectations from the company: Not upto the mark regarding availability of projects.

Name: R.Harish (2013A4PS328P)

Student Write-up

Short Summary of work done during PS-II: Observed all the filters production in the company.
Prepared layout inspection reports.

Tools used (Development tools - H/w, S/w): Minitab, Microsoft excel.

Objectives of the project: Reduction of customer PPM of Honda element from 7875 to 1000.

Outcomes of the project: Reducing the cost of poor quality.

Major Learning Outcomes: Statistical process control, DMAIC procedure, Minitab software.

Brief Description of working environment, expectations from the company: It was a ok experience.

PS-II Station: Mercedes Benz, Bangalore

Student

Name: Sanat Modak (2012B3A4578G)

Student Write-up

Short Summary of work done during PS-II: The project focuses on conducting an energy analysis of the automotive air conditioning system. An energy analysis involves identifying the exergy losses that occur in each of the processes in the automotive air conditioning system. Determining the exergy losses provides several insights into the distribution of irreversibility in the system. It also provides a method to evaluate how efficiently individual components perform under varying operating conditions. Based on this rationale, certain studies have been conducted. These studies seek to understand the functioning of the system after introducing certain changes in the components and configuration of the system.

Tools used (Development tools - H/w, S/w): Dymola and Microsoft Office

Objectives of the project: The project seeks to carry out an energy analysis of the automotive air conditioning system and create a tool that will automate the process of calculating energy losses and post-processing the results. The energy analysis is aimed at identifying the sources of inefficiency in the systems and determining its cause.

Outcomes of the project: An energy analysis of the automotive AC system was conducted. The process of calculating the energy related results has been automated using VBA macros and a set of codes in Dymola softwares. Certain studies too have been conducted in order to analyze the exergy losses on making certain modifications to some of the components and the system configuration.

Major Learning Outcomes: Understanding of the functioning of an automotive AC system. Studying the performance characteristics of various components. Analyzing the inefficiency in the processes occurring in the AC system and determining its causes

Brief Description of working environment, expectations from the company: The working environment in the company is good. The colleagues have been very supportive and have guided me throughout the project. Their inputs have been very helpful to me during the project. The working hours are flexible.

Name: Abhishek Suresan (2013A4PS256G)

Student Write-up

Short Summary of work done during PS-II: Automation in Simlab using Python for power train components.

Tools used (Development tools - H/w, S/w): Altair Simlab, Python, and Hypermesh

Objectives of the project: To improve efficiency and consistency and reduce errors in the FE modeling process by automating it.

Outcomes of the project: Created a tool for automatic finite element modeling of power train components in Simlab.

Major Learning Outcomes: FEM, programming (Python).

Brief Description of working environment, expectations from the company: Working environment was excellent with very friendly and supportive people at the station. Expectations from the company: Value addition to both the company and the student trainee.

Name: Bhagat Kewlani (2012B4A4573G)

Student Write-up

Short Summary of work done during PS-II: Work was completely based on Computer Aided Engineering (CAE) in which I dealt with suspension assemblies of Daimler trucks and Buses. My work was to learn basic concepts of Finite Element Analysis on Leaf Springs and then reading extensive literature on every analysis that could have been done till now and then automating the complete process. This process took them 3 days and the work that I was allotted will reduce the total time to just 10 minutes.

Tools used (Development tools - H/w, S/w): ANSA, Abaqus, Python and Hyperview

Objectives of the project: The objective was to automate complete pre and post processing of any Leaf Spring used in commercial vehicles using Python scripting. Since this process used to consume a lot of

man hours and effort, it was necessary that the complete process should be automated. It also took time to tune the model as per Force vs. Deflection Curve given by designer as user had to change the value of Young Modulus repeatedly to get exact stiffness. My aim also was to reduce the number of iterations used for this task and create a GUI in EXCEL VBA for the same so that user can calculate at what value of Young Modulus will give us the desired deflection according to Force vs Deflection curve that can be entered into script and we can get the tuned model for Leaf Spring which can be directly fitted into chassis. Hence, with this automation, the complete process will be fast, efficient and error-free.

Outcomes of the project: The time that was taken previously for preprocessing of Leaf Spring was approximately 3 days. Now it just takes 10 minutes and user can get the tuned model of Leaf Spring within 10 minutes.

Major Learning Outcomes: CAE, FEM, Basic concepts involved in meshing, Coding.

Brief Description of working environment, expectations from the company: It's one of PS stations that every Mechanical student dreams for. The work here is completely research based and projects allotted to interns are completely research oriented. I worked in CAE department of Mercedes Benz in which there was variety of softwares which were being taught to me. I was also given training in CAD softwares which is only given to newly joined employees. My job was to automate both post and preprocessing of Leaf Springs in Mercedes Buses and Trucks which simultaneously gave me an opportunity to learn a lot of softwares used for pre and post processing. This project deepened my understanding in suspension systems and their Finite Element Analysis. Being a novice to field of scripting, my team provided me a lot of support and solved my doubts related to it. With their help, I was able to discern very complex concepts of Finite Element Analysis and apply them in scripting. I was able to hone my skills in the field of CAE, FEA and scripting. Overall, Mercedes Benz is a pretty good platform for improving your skills and a great opportunity to learn from best designers and CAE engineers in the world. It could be brilliant start to anyone's corporate life.

PS-II Station: National Aerospace Laboratories, Bangalore

Mentor

Name: Dr L Venkatakrishnan

Designation: Chief Scientist & Head, Experimental Aerodynamics Division

The work has a major application to Micro Air Vehicles. He is a fast learner. He shows eagerness and dedication to learn new things. He is diligent at work.



Faculty

Name: Gyanan



Student

Name: KMSK Praveen (2013A1PS721H)

Student Write-up

Short Summary of work done during PS-II: Silver nanowires were synthesized using a chemical process called Polyol Process and coated on glass substrates. The produced silver nanowires coatings were developed into transparent and conducting nature. Also the silver nanowires were characterized under different techniques like FESEM, XRD, XPS, EDS, UV-Visible spectroscopy, which revealed the highly pure phase of silver nanowires.

Tools used (Development tools - H/w, S/w): FESEM, XRD, XPS, EDS and UV-Visible spectroscopy

Objectives of the project: To develop a transparent and conducting silver nanowires coating.

Outcomes of the project: A transparent and conducting silver nanowires coating were developed.

Major Learning Outcomes: Got a good experience related to Nanotechnology and able to learn different Characterization Techniques.

Details of papers/patents: Project abstract was accepted for ILAFM-2016 Conference for oral presentation, and work for Journal is on progress.

Brief Description of working environment, expectations from the company: The project guide was good and encouraging. The LAB has all the facilities which can be utilized by the student to gain some knowledge and experience.

Name: Tanmay Gupta (2012B2A4623G)

Student Write-up

Short Summary of work done during PS-II: Development of a 5kg mini UAV with VTOL tilt rotor tricopter mechanism is in progress in the Adaptive structures division. The wings were to be designed to take 15 kg of aerodynamic load for a maximum of 600g of structural weight. However, in the preliminary design the structural weight of the wings was around 850g. Thus, there was a need to optimize the weight without negatively affecting the structural integrity of the wings. Therefore, optimization

procedures like shape, size and topology optimization were performed using Altair Optistruct to find the optimal material distribution and shape of the structural elements inside the wing. Then, finite element analysis was performed with Altair Hypermesh as pre-processor and post-processor and MSC Nastran as solver. A light weight design was achieved satisfying static, buckling and dynamic requirements of the UAV.

Tools used (Development tools - H/w, S/w): Altair Hyperworks, MSC Nastran

Objectives of the project: Structural Optimization of UAV wing.

Outcomes of the project: Successfully reduced the structural weight of the wing by 47 %.

Major Learning Outcomes: Structural Design and Analysis, Optimization.

Brief Description of working environment, expectations from the company: NAL is a government aerospace laboratory with extensive current research going on. Thus, one can expect research based project to be allotted to them. The pre-defined projects are generally offered by surface engineering division, therefore, if one has interests on the lines of materials science, nanotechnology, materials testing etc. then one can find good projects and make the most of this place. However, if one wishes to explore some different aspect of aerospace, mechanical or chemical engineering, he/she can always approach other scientists in other divisions for projects like I did in the structural technologies division. NAL being a government organization, working environment may not be the best around, with all the things working very slow. However, still self-motivated and research oriented individuals would certainly have a good time working.

Name: Ayushi Agrawal (2013A4PS401G)

Student Write-up

Short Summary of work done during PS-II: The objective of the work was development of nanocrystalline Ni-B on mild steel to enhance mechanical properties like wear resistance and hardness. I started the work with literature survey understanding the basic idea of the experimentation process (pretreatment sequence and Electroless plating) and the recent developments in the field. After a lot of research and discussion with my mentor, I planned to go ahead with quaternary alloy coatings. After around 40-50 experiments being carried out with optimisation of parameters like deposition time, pH,

temperature, bath composition etc, Ni-Ti-Co-B coating was obtained. The final operating conditions and bath parameters were sealed. Then I had to prepare similar samples for various tests. The coating (as plated and heat treated samples) was tested for morphology, phase transformation behavior, hardness, wear resistance and corrosion behavior. The results were positive and in accordance with the previously done work. The high hardness values and better wear resistance obtained for the coating fulfilled the objective of the project.

Tools used (Development tools - H/w, S/w): IVIUM, NOVA, and Origin

Objectives of the project: To develop a new Ni-B coating on mild steel sample to improve its mechanical properties like hardness and wear resistance

Outcomes of the project: Developed quaternary Ni-Ti-Co-B coating with improved hardness values and better wear and also better corrosion resistance.

Major Learning Outcomes: Explored the field of research. Learnt new processes and softwares.

Details of papers/patents: High chances of paper being published.

Brief Description of working environment, expectations from the company: Good opportunities for learning, good working environment, people are always ready to help, only issue is the stipend not being provided.

Name: S Sharat Kumar (2012B2A1851H)

Student Write-up

Short Summary of work done during PS-II: I have been assigned a modeling and simulation project based on solid oxide fuel cell. My main aim was to develop a transient SOFC unit cell model with the given geometrical and thermodynamic parameters and simulate the carburization process happening in its anode when methane reform mixture is used as the fuel. This is done in COMSOL Multiphysics software which is an interactive tool used in modeling scientific and engineering problems. My work involved, finding the changes in the anode catalytic activity towards electrochemical reaction, the change in its porosity and permeability with the deposition of carbon on it. Finally the decrease in the cell performance with time due to the above effects is obtained and studied.

Tools used (Development tools - H/w, S/w): COMSOL 5.2a

Objectives of the project: To develop a SOFC unit cell with the specified geometrical and thermodynamic parameters and simulating the carburization process happening in its anode when methane reform mixture is used as fuel.

Outcomes of the project: The importance of the carbon deposition in determining the SOFC performance can be understood. An idea of the optimum conditions which are required to avoid the carbon deposition on the anode when methane is used as fuel can be obtained. Through this project one can get hands on experience with COMSOL software which is highly useful in simulating complex scientific problems.

Major Learning Outcomes: Getting introduced to fuel cell technology, mathematical modeling using COMSOL Multiphysics.

Brief Description of working environment, expectations from the company: CSIR-NAL, Bangalore has the state of art infrastructure when it comes to research. I was assigned a modeling project in the surface engineering division which has a dedicated work station for COMSOL simulations. My project guide and mentor were very cooperative and had put their best efforts in helping me throughout the project. The guidance and motivation that I received from the scientists here will surely enhance my technical and research abilities in future. I can say with full confidence that PS-2 in NAL would give a student the required research capabilities and a great industrial experience too.

PS-II Station: National Chemical Laboratory, Pune

Student

Name: Ayush (2013A1PS651G)

Student Write-up

Short Summary of work done during PS-II: Modeling a Quantitative and Structural Property Relationship between the heat of combustion of the organic molecules and their physical and chemical properties by employing Partial Least Square Regression and Genetic Programming and using Java and R.

Tools used (Development tools - H/w, S/w): R and Java.

Objectives of the project: Modeling and Simulation.

Outcomes of the project: The empirical models relating heat of combustion and descriptors.

Major Learning Outcomes: Modeling and Simulation.

Details of papers/patents: A paper titled "QSPR modeling for the prediction of Heat of Combustion of diverse organic molecules by Partial Least Square Regression".

Brief Description of working environment, expectations from the company: Decent working environment. Research oriented Individual projects. No Group interaction. Project Guide is quite cooperative and understanding. But had expected to meet new people and make some new friends but couldn't because no one else in the lab. No stipend so that sucked too. If you want people to go in research field at least give them something, why is there a CG cutoff even on stipend.

Name: Siddhesh Inamdar (2013A1PS475G)

Student Write-up

Short Summary of work done during PS-II: Continuous distillation of binary mixture using non ideal conditions, learning genetic programming, developing MATLAB programs.

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: Continuous distillation of binary mixture using non ideal conditions.

Outcomes of the project: Successfully found results for mixture of xylene and toluene.

Major Learning Outcomes: learned about distillation, MATLAB, simulation and modeling.

Brief Description of working environment, expectations from the company: Good environment, Ps mentor is an honorable person, gives good guidance, good for people who are interesting in doing some quality project in undergraduate study.

PS-II Station: Pluss Advanced Technologies Pvt. Ltd, Gurgaon

Faculty

Name: Samir Ramdas Kale

Student

Name: Shreyas Srivastava (2013A1PS651H)

Student Write-up

Short Summary of work done during PS-II: Applications Engineering - Product design and development. Developed a phase change material (PCM) based solar air dryer prototype, which the company intends on launching in the market in near future. This work included survey of various already existing solar air dryers in the market, then validation of the proposed design and mechanism using simulation software(s), and then procurement of raw materials from the local markets for the prototype development. Thus, it included a little bit of field work too apart from the study oriented tasks in the company's R&D department.

Tools used (Development tools - H/w, S/w): 3D- Modeling and simulation softwares such as ANSYS Fluent and SolidWorks. Other instruments such as heating furnace and thermal sensors were also used.

Objectives of the project: To develop a solar-chemical based electrically independent solar air dryer.

Outcomes of the project: Prototype is ready and experiments are being carried out for the final performance tuning.

Major Learning Outcomes: Learned the use of SolidWorks in practical life situations; also learned the importance and usefulness of latent heat storage capabilities of chemical substances in practical life. Practically applied the phenomenon of heat transfer in developing a commercial product which is useful in various ways.

Brief Description of working environment, expectations from the company: Extremely enthusiastic working environment with highly qualified engineers and colleagues.

Name: Shivam Srivastava (2012B2A1441G)

Student Write-up

Short Summary of work done during PS-II: To prepare a Form-Stable Phase Change Material using expanded vermiculite.

Tools used (Development tools - H/w, S/w): T-History, Calorimeter.

Objectives of the project: Preparation and optimization of a form stable phase change material (PCM) based on expanded vermiculite for energy saving applications.

Outcomes of the project: Successfully prepared a form stable PCM with 35% mass fraction of PCM and 65% Vermiculite.

Major Learning Outcomes: Latent Heat Energy Storage Applications, Phase Change Materials, Various polymer based form stable PCMs.

Details of papers/patents: <https://www.linkedin.com/pulse/form-stable-pcms-need-hour-shivam-srivastava?trk=prof-post>

Brief Description of working environment, expectations from the company: The work Environment was very conducive and supportive. The learning curve was quite large since they dealt with a niche technology regarding phase change materials.

PS-II Station: Rajputana Constructions, Patiala

Faculty

Name: M K Hamirwasia

PS-II Station: Shell Technology Center, Bangalore

Faculty

Name: Samir Ramdas Kale

PS-II Station: Skoda Auto India Pvt. Ltd, Aurangabad

Faculty

Name: Pavan Kumar Potddar

Comments: The projects here deal with quality related issues. It involves analysis of quality issues reported on the assembly line, dealers and vendors. Reports are generated to study the quality issues and decisions taken to address them in consultation with the engineers at Czechoslovakia. Projects are also provided in the area of Conformance monitoring of components according to Automotive standards. Basically BE Mechanical / Manufacturing Engg students are preferred.

Student

Name: Kirtan Jammalamadaka (2012B4A4952H)

Student Write-up

Short Summary of work done during PS-II: Conducting conformity of production activities for Skoda and Audi vehicles. Also, I analyzed failures occurring in Skoda vehicles and conducting statistical analysis on these failures. Acted as a support top the coordinators in the external audit conducted for ISO: 9001 and ISO: 14001 certification.

Tools used (Development tools - H/w, S/w): Excel, DISS, other company softwares and systems.

Objectives of the project: 1. Understanding COP activities. 2. Daily monitoring of field failures and their statistical analysis.

Outcomes of the project: 1. Understood the COP activities and conducting these on Audi and Skoda vehicles 2. Analyzed the failures occurring in Skoda vehicles and submitted detailed statistical analysis of these failures.

Major Learning Outcomes: 1. Organization structure 2. Plant functioning 3. COP activities including the ARAI documentation 4. Understanding failures and their detailed solution 5.Procedures and requirements for QMS and EMS certification.

Brief Description of working environment, expectations from the company: Excellent working environment and very encouraging mentors. A very good learning opportunity for people looking forward to working in an OEM.

Name: Siddharth (2013A4PS364P)

Student Write-up

Short Summary of work done during PS-II: Technology planning of seat manipulator, Process Planning for VW Passat, Tool Planning, Technical feasibility check, Line Compatibility check for Seat manipulator, Raising purchase requisition, 4M implementation, Giving instruction to operators regarding assembly procedure and sequencing of the same.

Tools used (Development tools - H/w, S/w): MS Office, SAP (KSRM).

Objectives of the project: 1) New Technology implementation of Seat Manipulator: Concept development, technical feasibility and line compatibility analysis. 2) New car project implementation of VW Passat: Process planning, Creating Process sheets, Tact plan, list of prime important joints, Image documents to differentiate between variants. Execution of the project includes sequencing of the process, sharing of information about assembly process to operators.

Outcomes of the project: Seat Manipulator was line improvement project to reduce operator fatigue while assembling seat of Audi lines with better quality and ergonomics. VW Passat: Setting of the assembly line so that new car VW Passat can be produced on the line.

Major Learning Outcomes: 1) Technology planning 2) Process Planning 3) Tool planning 4) Functioning of an automotive industry 5) Importance of concurrent engineering.

Brief Description of working environment, expectations from the company: SAIPL situated in Aurangabad has assembly line for all the Audi models produced in India and all SUVs and sedan of Skoda and VW. Skoda Production System is followed all over the plant. Skoda expects Bitsian to have right aptitude and attitude towards the work which they offer with basic knowledge of MS Office and automotive engineering.

PS-II Station: Skoda Auto India Pvt. Ltd, Bangalore

Faculty

Name:Pavan Kumar Potddar

Comments: Projects are mostly in the area of Sales, Marketing, Product Branding, Data Analytic, Advertisement and Business Development. Students from BE streams with passion to enter into Sales and Marketing are mostly preferred. PPOs have been offered in past to deserving candidates at Mumbai. Interns will be expected to travel to other locations from time to time to study and report about the dealers, vendors, competitors etc.

Student

Name: Sangeeth K (2013A4PS241G)

Student Write-up

Short Summary of work done during PS-II: A brief study of the entire sales funnel of the Skoda Sales in the south was done. I was assigned certain tasks aimed at finding the gaps in the funnel. It included a competitive analysis of other brands of cars in the respective segments and quantifying the outcomes of a typical customer's experience. This study was done keeping in mind various parameters like reception at the showroom, sales consultant know-how etc. The "dealer management" and the "octopus jfk" portal were used to obtain a lot of data regarding booking, market share, customer retention index etc.

Tools used (Development tools - H/w, S/w): DMS, Microsoft Excel, Microsoft PowerPoint, JFK Octopus.

Objectives of the project: Arresting gaps in the sales funnel.

Outcomes of the project: Gave certain recommendations to improve the sales funnel.

Major Learning Outcomes: Learnt dealing with people and obtaining the most out of them.

Brief Description of working environment, expectations from the company: The office here in Bangalore is located inside a tech-park. It is a good small office. As far as the expectations are concerned, it totally depends on how much you are willing to cope up with the corporate set up. If you are someone who is OK with the hierarchy and the ego wars with superiors, someone who won't mind doing any redundant work assigned and get shouted at just to cater to the frustration of your superiors, YOU are at the right place.

Name: Aditya Venkat (2013A4PS258P)

Student Write-up

Short Summary of work done during PS-II: The project focuses on the after sales business in the auto industry. After a thorough overview, and understanding the KPIs and processes involved, I examined the changes to the processes that will bring about greater satisfaction to the customer and better service to

the vehicle in the minimum possible time with the help of colleagues at Skoda. There were also practical implementations such as changes to the appointment system, a new washing system etc.

Tools used (Development tools - H/w, S/w): DMS, MS Excel, MS PowerPoint, and ETKA.

Objectives of the project: > Improve customer satisfaction > Reduce vehicle pendency at workshops > Reduce customer complaints > Improve quality of service.

Outcomes of the project: > CRI increased from 85 to 95. > Complaints percentage reduced from 1.5% to 0.9%.

Major Learning Outcomes: > Insight into the after-sales department > Functioning of the workshops and processes > the necessity of the KPIs.

Brief Description of working environment, expectations from the company: The work was 80% office based and involved data analysis using VW's proprietary software and other tools like excel and PowerPoint. The remaining 20% was field based work where you visit a workshop and try to implement measures based on findings from the analyzed data. The work is quite interesting in the first 3 months but then gets very monotonous. Work hours are quite stringent and interns are expected to be professional in their interactions and behavior. Always be formally dressed and well groomed. Nice place to learn and polish your soft skills and get up to speed with basic analytics and presentation. Not very demanding and not the best place for core oriented students.

PS-II Station: Skoda Auto India Pvt. Ltd, Gurgaon

Faculty

Name: Pavan Kumar Potddar

Comments: Projects are mostly in the area of Sales, Marketing, Product Branding, Data Analytic, Advertisement and Business Development. Students from BE streams with passion to enter into Sales and Marketing are mostly preferred. PPOs have been offered in past to deserving candidates at Mumbai. Interns will be expected to travel to other locations from time to time to study and report about the dealers, vendors, competitors etc.

Student

Name: Charchit Shukla (2013A4PS344P)

Student Write-up

Short Summary of work done during PS-II: Gurgaon is a regional office of Skoda, which interacts with dealerships for sales and after sales department. After sales department mainly work on Customer complaints, workshop manpower mapping, ensuring escalated concerns are dealt with proper management, ensuring quality service, different types of data analysis in Dealership management portal, ensuring, parts stock at dealerships, parts ordering. Quarterly meetings with north region dealerships.

Tools used (Development tools - H/w, S/w): MS excel, PowerPoint, in house Skoda portals.

Objectives of the project: Increase customer satisfaction, reducing pending vehicles, increase revenue, and coordinate dealerships with Skoda

Outcomes of the project: Reduced pending vehicles at workshop, increased customer satisfaction, growth in EA 189 campaign.

Major Learning Outcomes: Managerial skills, communication skill, market analysis, presentation skills.

Brief Description of working environment, expectations from the company: Working environment is good, office culture and People are nice. But nobody takes responsibility for their work. I expected more involvement of employees in customer satisfaction rather than blame game. More strict nature is required towards dealerships. More technical work should be there than managerial.

PS-II Station: Skoda Auto India Pvt. Ltd, Mumbai

Faculty

Name:Pavan Kumar Potddar

Student

Name: Rajat Dalia (2013A4PS213P)

Student Write-up

Short Summary of work done during PS-II: The project mostly dealt with localization of child parts, MRP calculation, reducing the Ambiguity in MRP Impact Analysis of increase in price and volume during the given period, back order Analysis, calculation of final buyback payout, CPM calculation, MOS, and few other small tasks.

Tools used (Development tools - H/w, S/w): Excel, SAP, Etk, power point

Objectives of the project: To reduce the number of part lines in back order and to decrease the irregularity in Parts pricing.

Outcomes of the project: Customer concern was reduced from 6% in July to 2.5% in November and prices of 70 parts were changed.

Major Learning Outcomes: I Learned various software, and team co – ordination.

Brief Description of working environment, expectations from the company: The Working environment in Mumbai SAIPL is chill and good. Working hours are good. There is lot of work for those who really want to work.

Name: Harsha Bhargav (2013A4PS365G)

Student Write-up

Short Summary of work done during PS-II: working on excel. The basic work is to help your mentor and to learn the process.

Tools used (Development tools - H/w, S/w): Excel, PowerPoint

Objectives of the project: Dealer claim settlements & Sales funnel monitoring.

Outcomes of the project: Customer concerns were reduced from 6% in July to 2.5% in November and prices of 70 parts were changed.

Major Learning Outcomes: Excel and insights into automobile business.

Brief Description of working environment, expectations from the company: Work environment is pleasant in Mumbai with a big office whereas in Bangalore the office is a small one.

Name: Kamsani Jashwanth Reddy (2013ABPS553H)

Student Write-up

Short Summary of work done during PS-II: Preparing a process book on Data Management System of Host Company. Process book contains detailed description of different kinds of data available on DMS and along with the steps to be followed to access and download the required data. Monitoring sales funnel at dealership level. Sales funnel begins at customer inquiry and ends at closure after delivery or the customer has lost interest.

Tools used (Development tools - H/w, S/w): Microsoft Excel.

Objectives of the project: Monitor the Sales Funnel of Host Company at Dealership.

Outcomes of the project: Efficiency of the sales process increased at the Dealership.

Major Learning Outcomes: Data analyzing using Microsoft Excel.

Brief Description of working environment, expectations from the company: The working environment is good. All the people I worked with helped me any way they could. I didn't face any problem throughout my PS. The working conditions are also good. They encouraged learning new things which would help me in future.

Name: Shantanu Sanjay Nagras (2013A4PS222P)

Student Write-up

Short Summary of work done during PS-II: After Sales Analytics is involved analyzing historical data to analyze various aspects of the After Sales business, such as Parts Failure Patterns, Dealership Performance, Goodwill Requests, etc. Involved creating dashboards and other forms of well organizing data to help the management take key decisions. Coordinator for the EA 189 Campaign Acted as a coordinator for Skoda EA 189 Campaign, a recall campaign for its vehicles that needed software (and in some case hardware) update (to resolve the problem of abnormal emission levels). Laid out the plan to implement the campaign, set targets for dealerships, monitored their progress, made sure they have the required inventory with them at all times, acted as the point of contact for both the management and the dealerships. Also prepared reports that helped the management monitor all aspects of the campaign and speed up the process considerably.

Tools used (Development tools - H/w, S/w): Microsoft Office

Objectives of the project: 1. After Sales Analytics 2. Ensuring smooth and timely execution of the EA 189 Campaign.

Outcomes of the project: 1. The EA 189 Campaign has been launched and is being carried out smoothly. The campaign progress can be easily monitored through the dashboard that has been created. Updating the dashboard also takes little time as most of the report is automatically updated. 2. The Goodwill Requests Report is up-to-date, after compiling huge amount of data from January 2016 and analyzing it. An online web portal for the same has been launched to which I contributed by giving suggestions and testing the site. 3. The EW penetration report is compiled on a monthly basis, has been compiled thrice so far. The time required to compile the report has been reduced to 2 hours from the initial 8 hours, using tricks in excel. 4. Failure analysis performed for Brake Discs and Batteries has proved to be quite useful to the After Sales department. It was appreciated by the Brand Manager himself. 5. Most of the data of the After Sales department is now much more organized than it was when I joined five and a half months ago. Decision taking has certainly become easier owing to this.

Major Learning Outcomes: 1. Working effectively as a significant part of a team. 2. Communicating in a professional manner. 3. The kind of discipline, manners and etiquettes expected in the corporate world.

4. Various tools of data analysis. 5. Various tools of presentation 6. The importance of deadlines in the corporate world.

Brief Description of working environment, expectations from the company: The working environment of the After Sales department is barely satisfactory. But there is a lot of work to do and there are opportunities to work hard.

Name: Kshitij Modi (2013ABPS821P)

Student Write-up

Short Summary of work done during PS-II: I worked on three projects 1. Study of DMS and Supply Chain 2. Sales Funnel Monitoring 3. Field Support in Sales

Objectives of the project: Prepare a process book for DNS Improve Sales in Rajasthan.

Outcomes of the project: Prepared the process book Measures were suggested to increase sales in Rajasthan.

Major Learning Outcomes: Learnt how automobile industry works.

Brief Description of working environment, expectations from the company: The environment is very good. People are really helpful.

Name: Saurabh Tulankar (2013ABPS811H)

Student Write-up

Short Summary of work done during PS-II: 1) Mapping and analysis of Customer concerns - monthly, 2) Developed various extensive dashboards to evaluate performance of the dealerships based on various parameters. I, Developed an algorithm to automate the process of updating the Dashboards thus reducing TAT. Developed an algorithm to convert and save the reports generated from various dashboard into PDF format and send the same to the respective dealerships automatically. 3) Monthly Breakdown Analysis.

Tools used (Development tools - H/w, S/w): Microsoft Office, VBA.

Objectives of the project: To reproduce the raw data of thousands into something much more meaning full using graphs and programs. Analyzing the breakdown reports and customer concerns to find trend in the concerns.

Outcomes of the project: Dashboards based on various KPI's were made and thus helped the entire Aftersales team to evaluate their current performance and take actions accordingly to improve their performance. Customer concerns analysis was successfully completed and thus reduced the number of concerns by more than 50% by the end of the internship.

Major Learning Outcomes: Business analytics, Professional communication and presentation skills, Microsoft Excel, VBA

Brief Description of working environment, expectations from the company: Work environment is satisfactory. There is lot of work load and could provide much more motivating environment.

Name: Mudit Gandhi (2012B5AB647P)

Student Write-up

Short Summary of work done during PS-II: Preparing management updates, rebranding Slides, ensuring soft copy documentation of each rebranding project (separate project folder in network folder) etc. 3. Apart from above, as a regular activities he will be exposed to following i) Maintaining monthly dealer panel updates and get the slides ready by month end 31st July and there after ii) Ensuring update on the industry segment sheet and network update on VW group slides iii) Maintaining Dealer prospect

database iv) Competition network coverage v) Coordinate with all for required back end support in activities like agreement finalization, vendor settlement with finance and approval of HOD/ Director. vi). Calculating Dealer Risk. Outside the department, I intend to do personal research to understand the Business Strategy better, out of academic interest.

Tools used (Development tools - H/w, S/w): PowerPoint, Excel, eDrawings, SKODA B2B TNT Software, Process Flow Diagrams, And PERT Charts

Objectives of the project: To understand Skoda Auto India's strategic business position and work within the Network Development Team to assist their objectives and successfully learn Network Planning and Processes during my internship.

Outcomes of the project: Improved Processes in compliance with ISO standards; rebranding work in Indore completed; Network Planning Project; Skoda Strategy Project.

Major Learning Outcomes: Business Development, Network Planning Understanding; Challenges while facing the ground Reality of network changes and Planning; Dealer and Vendor Management; Strategic Changes and their affect in the Supply Chain.

Brief Description of working environment, expectations from the company: I was very motivated to work in the automotive industry, my top preferences included Mercedes Benz and Skoda, I got Skoda Mumbai and was really happy, I also had an idea that this was the Sales and Marketing Office as the Head Office and plant are in Aurangabad. Skoda helped me broaden my industry knowledge, exposing me to Passenger Vehicles industry in the Sales, Marketing and Business domains (so called non-core) from core in Commercial Vehicles in my previous internship. The work environment in the Mumbai office is very professional, the team I was given was Network Development (from Sales, After sales, Marketing and Network Development) and everyone was very supportive from the very beginning, being the only intern in my department I got hands on understanding of not only my Manager's Network Planning and Rebranding Project; but also Sales Training; Dealership Quality etc. As one could be mistaken in understanding the role, I will clarify that Network here is not IT; Network was involved in a Dealership Rebranding and Restructuring Project, which in simple terms means, renovation under the new Corporate Identity and Design as well as leaner Supply Chain through planned strategic location and size of Dealerships. I will be frank and maybe a bit blunt about this but there were times when I had to do work which did not interest me to the least but even in that I learned being patient and seeing things through for the bigger picture. As far as the challenges are concerned, my Trips to Indore (my

hometown) to overlook rebranding of the dealership there and the regular Mumbai office was very comfortable, the employees are treated well. The only complain I had from my internship and the PPO (which I don't know if I will be given) was that the work could have been a lot more challenging and the returns could have been a bit more, meaning I felt a mismatch of skillset at times, other than that it lives upto its brand image, pushing towards growth and there is a huge scope to learn.

Name: Mohammed Motiwala (2013A4PS172P)

Student Write-up

Short Summary of work done during PS-II: Whole sale department (making various reports to monitor and analyze India Sales); Sales funnel monitoring at showroom; CSS analysis at India level; Lost case and lost inquiries analysis of visited outlets; deployment of iPad and Skoda sales app at all outlets in West and East zone.

Tools used (Development tools - H/w, S/w): Excel, PowerPoint, and DMS

Objectives of the project: To monitor sales funnel; to deploy Skoda I-Consultant.

Outcomes of the project: Making necessary changes in sales process at outlets visited; Deployment of I-Consultants.

Major Learning Outcomes: Understanding of sales process in automobile company. Understanding of various tools to monitor the status of sales; Understanding actual sales at showroom.

Brief Description of working environment, expectations from the company: Projects are not very well defined; Only those interested in sales and marketing will enjoy completely; Most work is making reports on excel.

Name: Akhil Sule (2013A4PS844G)

Student Write-up

Short Summary of work done during PS-II: Marketing analysis and pitching of products as per the swot analysis. Implementing tracking systems and sales funnel management.

Tools used (Development tools - H/w, S/w): MS Office

Objectives of the project: To perform SWOT analysis of the products and sales funnel management.

Outcomes of the project: Pitching of products.

Major Learning Outcomes: Marketing principles implementation.

Brief Description of working environment, expectations from the company: Very professional working environment. Great office infrastructure.

Name: Ravi Teja (2013A4PS400G)

Student Write-up

Short Summary of work done during PS-II: Work Done::1. Product Segmentation Analysis with product specifications which includes external and internal dimensions, equipment's, motor performance and motor efficiency. 2. Prepared Performance tracking reports of Skoda and overall market by creating monthly marketing reports. 3. Analysis on price variations with monthly tracking reports and product features comparison.

Objectives of the project: 1) Performance tracking of Skoda, Automobile industry and car segments in the market. 2) Analysis on product segmentation and Pricing strategies.

Outcomes of the project: Manifestation of trends in sales in automobile industry. Submitted all reports on the projects.

Major Learning Outcomes: Briefly knowing how Marketing and Sales departments work. Understood the sub-divisions in marketing (product marketing, dealer marketing, Media marketing, etc.) and sales (Sales planning, Sales, and Cooperate sales).Manifestation of trends in sales in automobile industry. How different types of analysis are done and tackling big data in excel.

Brief Description of working environment, expectations from the company: Good, Only take it if you want no technical related things.



PS-II Station: SRF Ltd, Gurgaon

Faculty

Name: Pavan Kumar Potddar

Student

Name: Abhishek Suresh (2012B1A1810P)

Student Write-up

Short Summary of work done during PS-II: SRF LTD. is an MNC that handles many businesses under its hood. The CTG-B focuses on specialty chemicals (pharmaceutical and agro based chemicals) and refrigerants (HFCs). A lot of their work involves scale up of lab scale processes to large scale (Pilot scale, FMP scale and so on). This involves a lot of careful study involving energy analysis focusing on yield, purity, Batch Cycle Time and many other factors. My aim here was to design process and validate the same for a few products. The work requires basic understanding of BFDs, PFDs, PnIDs, Safety sheet, IPDS and Design Basis. Certain software skills like ASPEN and VISIMIX comes handy.

Tools used (Development tools - H/w, S/w): MS-Excel, ASPEN PLUS, Research Papers (literature study)

Objectives of the project: Process Development and Scale-Up Studies of a New Product

Outcomes of the project: Process design went great. Process development and scale-up studies were done. The process was a three step reaction. Three batches have been successfully completed for step-I and II.

Major Learning Outcomes: ASPEN: Software used to obtain thermodynamic properties of pure substances/mixtures. It is also used to run simulations to get a basic understanding on how different systems work. For example: Flash Calculation, Distillation, Boil-off, Heat Exchanger and many more. Actual industrial Exposure providing opportunity for large scale application of the concepts learnt. The most common unit operations involved in the project were distillation, layer separation and filtration. Apart from work involving process design and production, a lot of documentation work also needs to be done. This includes IPDS, MOC data, Property Sheet, Electric Load sheet and line list.

Brief Description of working environment, expectations from the company: The working environment is amazing. The best learning exposure you could ever get. All that company expects is basic knowledge of chemical engineering focusing more on Process Design and Scale-up. They also expect you to have a basic understanding of chemistry along with motivation to learn new concepts and put them to industrial use.

Name: Rahul Gupta (2013A1PS612G)

Student Write-up

Short Summary of work done during PS-II: Design and production of chemicals.

Tools used (Development tools - H/w, S/w): Aspen, Visimix

Objectives of the project: To study design of specialty chemicals

Outcomes of the project: Studied production and design

Major Learning Outcomes: Studied production and design of Specialty chemicals

Brief Description of working environment, expectations from the company: Nice working environment, no major expectations as such from the company.

Name: Dushyant Jain (2013A1PS568G)

Student Write-up

Short Summary of work done during PS-II: Work involves performing engineering calculations and preparing design documents like BFDs, P&IDs, IPDS and interlock sheets.

Tools used (Development tools - H/w, S/w): Microsoft Excel, VISIMIX and ASPEN Plus

Objectives of the project: R&D Scale up, Process Development and Modeling of a new product.

Outcomes of the project: Successful production of given amount of two chemicals.

Major Learning Outcomes: Better understanding of the unit operations, P&IDs and plant exposure.

Brief Description of working environment, expectations from the company: Work in the head office is mostly simulations on ASPEN and VISIMIX along with preparation of design documents whereas in plant mainly data compilation, line tracing etc.

PS-II Station: Structural Engineering Research Centre, Chennai

Faculty

Name: M K Hamirwasia

Student

Name: Abhinav Sethi (2013A2PS220P)

Student Write-up

Short Summary of work done during PS-II: I worked in area of machine learning applications in structural health monitoring. The project was in 2 parts: nonlinear system characterization using SVM and second, structural damage identification using principle component analysis and SVM. Later, the systems were also successfully tested with incremental learning algorithms.

Tools used (Development tools - H/w, S/w): Mostly MATLAB.

Objectives of the project: To develop approaches for nonlinear system and structural damage characterization using SVMs.

Outcomes of the project: Successfully developed systems for both the objectives.

Major Learning Outcomes: About Nonlinear Systems in Engineering Structures, Machine Learning Algorithms, About Structural Health Monitoring.

Brief Description of working environment, expectations from the company: You should come here only if you have genuine interest in doing research. There are many departments covering all areas of structural engineering with excellent facilities. The working environment is very good. One should spend a good amount of time visiting all the departments, meeting with scientists and inquiring about their areas of research before finalizing on a project. Food offered here is terrible but it shouldn't matter as long as you are determined to work. Also you shouldn't expect any stipend, accommodation etc from SERC.

Name: Mukul Yambal (2013A2PS581P)

Student Write-up

Short Summary of work done during PS-II: Nonlinear time history analysis of 20-Storey bare frame equipped with friction dampers in Chevron configuration is carried out using direct integration by

Newmark-Beta method of in ETABS 2015. 21 different cases of slip load distribution along story height were considered for Design Based earthquakes (DBE) and Maximum Credible Earthquakes (MCE) using three different earthquakes with different scale factors. Results are compared with limits of maximum base shear and interstory drift ratio, prescribed in Uniform Building Code (UBC) and optimum slip load distribution is found out.

Tools used (Development tools - H/w, S/w): ETABS-2015, SAP 2000, and MATLAB.

Objectives of the project: To optimize slip load distribution along height of 20 story benchmark problem using friction dampers.

Outcomes of the project: Optimum slip load distribution for friction dampers using chevron bracing is found out for 20-Storey benchmark problem.

Major Learning Outcomes: Although it was research Institute, I learned mostly to work with civil software such as SAP 2000, ETABS 2015, i also learnt Abacus and MATLAB Rayleigh damping, Nonlinear Analysis (both using Modal (FNA) and Direct Integration) using time histories of different earthquakes, types of different energy dissipation devices and modeling of friction dampers using chevron bracing are few technical things that i learnt during my PS2 experience. Also i learned about how research work proceeds and documentation methods and tricks that can be used while writing a paper.

Brief Description of working environment, expectations from the company: If you are trying for MS then it is best for Civil engineering. Experienced Scientists as well as excellent facilities are here in CSIR-SERC.

Name: Garigipati Sai Srikanth (2013A2PS561P)

Student Write-up

Short Summary of work done during PS-II: Impact testing of Textile Reinforced Concrete beams and slabs was done. Numerical and analytical models were developed. The models were validated using experimental data. The models were used to perform a parametrical analysis. Results were presented.

Tools used (Development tools - H/w, S/w): Instrumented Impact Test machine, UCT machine, MATLAB

Objectives of the project: To model low-velocity impacts on TRC beams and slabs numerically and analytically.

Outcomes of the project: Glass textile, Basalt Textile and Steel bars were compared in effectiveness of resisting impacts.

Major Learning Outcomes: Textile Reinforced Concrete will play a pivotal role wherever impacts are a concern like crash barriers, defense bunkers etc. in future.

Brief Description of working environment, expectations from the company: A once in a life-time opportunity to get exposure to research at the undergrad level. There are plenty of ongoing projects at a time. BITS students have had a good reputation so far, so scientists want to involve BITS students in their projects. You will have plenty of resources at hand too, equipment unmatched in India and access to software and journals etc etc. You can get a paper or two published.

Name: Gaurav Mittal (2013A2PS742H)

Student Write-up

Short Summary of work done during PS-II: Optimization of impact hammer foundation using ABAQUS.

Tools used (Development tools - H/w, S/w): ABAQUS, MATLAB, and SAP2000

Objectives of the project: Optimization of impact hammer foundation.

Outcomes of the project: Optimization of impact hammer foundation.

Major Learning Outcomes: Designing of Impact hammer foundation.

Brief Description of working environment, expectations from the company: A very good environment.

PS-II Station: Tata Autocomp Systems Ltd, Pune

Student

Name: M Prathyusha Sai (2013ABPS757H)

Student Write-up

Short Summary of work done during PS-II: My major part of project is time study. It is mainly in the shop floor. Through time study of different assembling processes i need to find out wastes and non-value added works, and suggest ways to reduce them so as to increase their production.

Objectives of the project: To find out maximum possible non value added activities in various assembling processes and to suggest ways to reduce them and increase production.

Outcomes of the project: Increase in the production by implementing few of the ways suggested.

Major Learning Outcomes: About suspensions, how a time study is done, how to analyze the present situation to make it better, how an organization works.

Brief Description of working environment, expectations from the company: The environment of the company is one of the best part, People in the company are very friendly and very helpful. The only expectation from the company is a bit higher package.

Name: Ch Rishi (2013A4PS161G)

Student Write-up

Short Summary of work done during PS-II: Understanding the manufacturing and inspection processes of fabrication parts of Lift Axle. I also developed an error proofing system for a critical component at the supplier plant. Analyzing the rejection data from the past and developing solutions to help reduce future rejections by providing.

Objectives of the project: Implementation of an error proofing system for a fabrication part.

Outcomes of the project: Error Proofing system implemented at the supplier end which reduces possibility of part rejections.

Major Learning Outcomes: Understanding the various manufacturing processes involved in making fabrication parts and developing a design for the error proofing system.

Brief Description of working environment, expectations from the company: Friendly and helpful co-workers. The projects given are well planned out and the interns are expected to work and perform at the same level as the employees in the respective department. The final implementations and the positive results generated are among the major company expectations.

Name: Priyanuj (2012B4A4745G)

Student Write-up

Short Summary of work done during PS-II: I was allotted the business unit - Tata Hendrickson in the Manufacturing dept. I was involved in two major projects during the term. One of them was implementing an automation system on press machines. Second was implementing the concept of SMED for change of fixtures. Both projects offered a lot to learn about production and lean manufacturing. Other than that, on a daily basis I would be carrying out various TPM and kaizen tasks on the shop floor.

Objectives of the project: Reduction in Cycle Time.

Outcomes of the project: Targets Achieved.

Major Learning Outcomes: Concepts of Lean Manufacturing.

Brief Description of working environment, expectations from the company: work environment differs in different business units, as they function as different organizations altogether. In TATA Hendrickson, employees are very considerate towards interns. Every senior person is easily approachable and our progress is monitored upto the very highest level of hierarchy. Our ideas and inputs are valued by mentors although they may not always use them. Only negative aspect about this business unit is that it is situated at a very remote location and consumes a lot of time for commute.

Name: E V N A Aditya Gautam (2013A4PS218H)

Student Write-up

Short Summary of work done during PS-II: I was allotted to the Business Unit Tata Hendrickson Suspensions Pvt. Ltd. In the company my project was in the testing and validation lab in the Engineering department. My project was a design of a test rig. This involved design of the frame structure of the rig, then finding out the loading patterns that are needed to be replicated by the Actuator. These loading patterns were found out by conducting RLDA (Road Load data Acquisition). Then after this a control panel of the rig was designed, such that the loading pattern can be replicated. This was the scheduled task. This was completed as per plan. The future is that this rig would be used to test a number of different components need to be validated for fatigue life.

Objectives of the project: Software used was SolidWorks.

Outcomes of the project: Rig developed will be used to test components, both imported and locally made. This testing gives failure life of the locally made samples in comparison with the imported ones. With this, locally made components will be benchmarked to the imported ones. So localization of manufacturing of the components can be achieved.

Major Learning Outcomes: I learnt the way actual industry works. Also learnt how different department in the organization cooperate and act as internal suppliers to each other. I also learnt about Road Load Data Acquisition (RLDA). Strain gauges, string potentiometers, Accelerometers, and different kind of data measuring equipment. Also basics of Testing were learnt. Also I learnt a lot about truck Suspension a lot.

Details of papers/patents: No patents involved.

Brief Description of working environment, expectations from the company: The department allotted to me was testing.

Name: Tejas Bugdani (2012B5AB469P)

Student Write-up

Short Summary of work done during PS-II: 1. Creation, compilation and verification of reliable data on more than 80 different fasteners used at 3 plants of Automotive Stampings and Assemblies Ltd. (ASAL) (Tata AutoComp Systems Group). 2. Research and recommendation of promising new suppliers.

Tools used (Development tools - H/w, S/w): Excel, SAP system used in the company

Objectives of the project: To reduce annual spending on the sourcing of fasteners at 3 plants of ASAL.

Outcomes of the project: Reliable data on 80 fasteners created and verified to move forward with the project. Promising new suppliers researched.

Major Learning Outcomes: Technical specifications and standards of fasteners. I also learnt effective communication skills.

Working of and problems faced in sourcing department of the company.

Brief Description of working environment, expectations from the company: I was allotted a project at Automotive Stampings and Assemblies Ltd. (ASAL), a Tata AutoComp Group business unit. I can only speak for ASAL. The work environment is friendly but the employees are very busy and they won't be able to guide you on everything. You'll have to figure out most of the work yourself. Good communication skills and basic knowledge of the work at each department of the company is expected. Its better if you speak Marathi language. Most probably you will be given a cost-saving project and you will work in correspondence with Central Purchase dept.

Name: Aditya Rajiv Paradkar (2013A4PS359P)

Student Write-up

Short Summary of work done during PS-II: Studying and checking of techno-commercial scope. Preparing Bidder List. Suppliers profile enquiry. Preparing of the RFQ Documents. Participate in weekly Purchase Head Review meetings with Purchase Heads from all BUs and CP team. Preparing Quote Comparison and analyzing it. Checking and verification quotations as per RFQ requirement. Coordinating with Suppliers for Commercial Discussions. Participating in Technical and Commercial discussion with suppliers. Preparing Target Rates based on the Quote Comparison sheet & Approved Budget.

Tools used (Development tools - H/w, S/w) : Excel, PowerPoint.

Objectives of the project: Sourcing and Cost saving.

Outcomes of the project: 8% saving with respect to the allotted budget.

Major Learning Outcomes: Learned about various documentations involved in purchase process e.g. RFQ, Quote Comparisons, Quote Analysis, etc. Understood general terms and conditions in a quote and their importance. I was introduced to commercial negotiations. I learnt MS Excel and its applications. I also Gained Commercial skills.

Details of papers/patents: A brief introduction to the process followed at Central Purchase at TACO-SCM followed by in-detail working of the flowchart followed.

Brief Description of working environment, expectations from the company: Horrible and toxic environment. No company culture. Interns are not treated well, at-least in SCM division. I expected better mentors. If possible please make sure Pankaj Narang, Abhimanyu Sharma and Sanjay Kaul do not have interns under them. They are horrible mentors. They are capable of scarring young students for life. Please do not allot students to the Central Purchase department. The corporate structure of the company is very overwhelming for a young intern to handle. Lunch and transportation is provided. Lunch is horrible. Pilani mess food is better than the lunch provided. The work has got nothing to do with Mechanical engineering. They just want cheap labor to do their work. I did not learn anything productive except how to be good clerks and peons. The central purchase is overworked and want cheap options to outsource their work. Please do not send students to Central purchase department. Also found the people to be very cynical and very depressing. The work they allot can be done by any 10th standard passed student. The mentors feel the need to express their supremacy at every turn and do not respect the interns. They also feel the interns must rigidly follow the corporate hierarchy and the environment is very toxic.

Name: Gourav Bansal (2012B1AB845P)

Student Write-up

Short Summary of work done during PS-II: Worked on iEDGE Learning Project for which master database was created. Master Db was used to create feedback analysis of modules, so as to make some

improvement. Digital Campaigns were managed for promotion of iEDGE Learning. Learnt about SEO/SEM and was implemented on our website to improve google search. Google Analytics was used to get information about visitors and was used for marketing.

Tools used (Development tools - H/w, S/w): Excel, Mailchimp, Mail Merge etc.

Objectives of the project: Digital Marketing of iEDGE Learning.

Outcomes of the project: Digitally marketed the modules.

Major Learning Outcomes: Frankly, Not much! Excel.

Brief Description of working environment, expectations from the company: PS experience was almost horrible. We were never treated equal to employees, not even treated like an intern. Organizational Culture was very depressing. They taught us to be clerks rather than teaching and mentoring how it works. My mentor (Pankaj Narang) was an unreasonable man. I am very sad for the experience I had in industry. I wish no-one should be treated that bad in any organization. After asking previous semester interns under Mr. Pankaj Narang, I came to know it's been happening from last 3-4 semesters. I have only 1 wish that students should not work under him. I wish you discontinue this PS Station from next time.

Name: Manan Shah (2012B4A4618G)

Student Write-up

Short Summary of work done during PS-II: Basically I worked on cost saving projects at the company. I successfully implemented a cost saving project by coordinating with various departments like finance, engineering and quality.

Objectives of the project: To implement a cost saving project at the company.

Outcomes of the project: Successfully implemented a cost saving project thereby helping to save the company money.

Major Learning Outcomes: Improved soft skills and commercial skills.

Brief Description of working environment, expectations from the company: The working environment was relaxed and a little formal. I hoped to work on technical stuff, but it was mostly commercial in nature. I got a basic idea about the commercial work culture.

Name: Abhishek sharma (2013A4PS352G)

Student Write-up

Short Summary of work done during PS-II: I was assigned to do sourcing for the Chakan project, which is a mega project done by the Tata Autocomp. The business units of Tata Autocomp are deciding to shift from different locations in Pune to one consolidated place in Chakan to cater efficiently their customers and try to reduce transportation and day to day cost.

Objectives of the project: To reduce cost of the Cape sourcing.

Outcomes of the project: Completed one sourcing on power supply arrangement for less than the assigned budget.

Major Learning Outcomes: How to do sourcing, how to take part in commercial discussion etc.

Brief Description of working environment, expectations from the company: The working environment was not so friendly, there were no technical things to do in the PS also there were no extra learning except to do work on excel which can be done by any person it do not require an engineer to edit excel files. My mentor was good therefore I was able to learn few things like how to talk to customers, how to do benchmarking etc. Overall please do not assign students to this station especially the SCUM division

PS-II Station: Tata Chemical Innovation Center, Chennai

Student

Name: Sathwik Reddy Maddi (2013A4PS307H)

Student Write-up

Short Summary of work done during PS-II: Studied and evaluated various mechanical drives being used in the plant, studying their functioning and efficiency. For this, an in depth study of drives and their design was needed, later on possible areas for optimization were found. Another study was done on the combustion of fuel-water emulsions, and their advantages over regular fuel. Study of magnetic resonators which further improve fuel combustion was done.

Objectives of the project: Optimization of Mechanical drives and optimization of fuel combustion quality.

Outcomes of the project: No further improvement regarding drives can be done to increase their efficiency, apart from changing their original design. This process burdens the company with a heavy cost and is not economically advisable. Secondly, suggested the company on using fuel-water emulsions in place of regular fuel (HFO) and also magnetic resonators to improve fuel combustion, reducing costs and toxic emissions.

Major Learning Outcomes: Learnt the functioning of a process plant, the sensitivity of the entire process. Importance of quality assessment and control and the department's various functions and methods used. Maintenance of machinery, pumps, etc. In-depth knowledge of mechanical drives. Knowledge gained about combustion of fuels, functioning of boiler, and how it can be improved by using fuel-water emulsions and magnetic resonators.

Brief Description of working environment, expectations from the company: The working environment is a small process plant in the outer areas of Chennai, quite isolated. The size of the plant is quite small as compared to other PS stations and the company employs a small work force at this particular site. Due to its small size and limited number of employees, various processes and machinery can be studied in detail, with guidance from all departments. The staff is friendly and always ready to help. There is not much scope for research regarding process development, etc, especially for mechanical students. Chemical and biology students may benefit from this company. The company expects you to get

thorough with the processes there, spend time in the plant observing and studying. They would be more than satisfied if one or more suggestions regarding process improvement can be given.

Name: Ashish K Kanekanti (2012B1A1772P)

Student Write-up

Short Summary of work done during PS-II: Detailed study and analysis of the various processes and the functioning of the respective equipment inside the process plant; underlying principles of operation; common troubles encountered and the troubleshooting techniques. Most emphasis was laid on spray drying technique and the product compatibility with the dryer; various segments of spray dryer assembly; variations/ change in feed and product's physical characteristics. The optimization of process parameters of spray drying to improve the quality and quantity of the product in the view of sensitive properties of dried solid.

Tools used (Development tools - H/w, S/w): Basic mass and heat transfer calculations, guiding principles of drying, theoretical evidences to improve the design of equipment. Aspen plus was used to simulate a portion of chemical process to understand the ideal variation of process parameters.

Objectives of the project: Optimization or improvement of spray drying process. To understand the changes in physiochemical characteristics of the feed/product. To understand the changes in psychometric characteristics of the drying medium. Identifying the problems associated with drying process and troubleshooting the same with theoretical as well as practical evidences.

Outcomes of the project: The relative humidity values of air at four key areas during the process of drying that helps in estimating the desired final moisture content as well as the bulk density of the product. Validate or improvise the design parameters of rotary valve suiting the product compatibility. Better yield and quality of the product by the optimization of process conditions. Improved dryer utility by addressing the problem of rotary valve.

Major Learning Outcomes: Operating or process conditions maintained in a food processing industry. The quality and corresponding compliance standards uniquely followed or undertaken by the Tata Chemicals group. Deviation in practical outcomes from the theoretical evidences and how to achieve an offset value to balance both of them.

Brief Description of working environment, expectations from the company: Exposure to a typical corporate working environment and idea of association with the employees of all ranks was developed. Detailed work description of all the employees of various departments was understood. The organization expected us to learn the operation of equipment on field during the running of the process as well as the underlying principles; troubleshooting techniques specific to each operation of the entire manufacturing processes. We were also expected to research the current technology for improvements and bring about changes in the plant, if economically feasible. All their expectations were met to our best attempt possible.

PS-II Station: Tata Chemical Innovation Center, Pune

Student

Name: Gandhi Akash Anil (2013A1PS760G)

Student Write-up

Short Summary of work done during PS-II: Effect of Crystallizer volume on the preferred morphology of crystals. Literature review and experimental analysis.

Objectives of the project: To determine the effect of Crystallizer volume on the preferred morphology of crystals.

Outcomes of the project: Established a trend of the different crystals developed in varying operating conditions. Established a simpler process to develop a polymorph of one of the crystals. Potential applications in pharmaceutical industry.

Major Learning Outcomes: Learnt the basic and advanced concepts in crystallization. First exposure to an actual research environment. Learnt various lab protocols, safety measures, equipment like DSC, PXRD, FTIR, Microscope and apparatus like spray dryers, mills etc.

Brief Description of working environment, expectations from the company: First exposure to an actual research environment. Hands-on working in laboratories to develop our idea. My mentors introduced a novel idea with potential revolutionary applications in pharmaceutical industry. I developed a literature review as well as laboratory tests to verify the hypothesis and generate a trend. The work environment was very conducive for research work.

Name: Sachin Kalakonda (2013A1PS761G)

Student Write-up

Short Summary of work done during PS-II: Bio degradation of polyurethane foam using entophytic fungi and enzyme solutions. Identification of the products produced because of the degradation.

Objectives of the project: Bio degradation of polyurethane foam.

Outcomes of the project: Polyurethane Has Been Successfully Degraded.

Major Learning Outcomes: Everything that I did here is learning since I am from chemical engineering department and my work was in micro biology.

Brief Description of working environment, expectations from the company: The working environment is too good and all the employees are helpful and very approachable.

PS-II Station: Tata Motors, Dharwad

Student

Name: Gautham Vadlamudi (2013A4PS396H)

Student Write-up

Short Summary of work done during PS-II: The man power requirement is estimated for a particular ICV bus chassis model in the production line, using maynard operation sequence technique (m.o.s.t.). The man power requirement is then optimized using lean principles and the line is balanced accordingly. The man power requirement is found along with bottleneck stations in the line.

Tools used (Development tools - H/w, S/w): m.o.s.t. Technique, lean manufacturing basics

Objectives of the project: Man Power Estimation and Reduction, Identification of Bottlenecks and Reduction of Non-Value Added Processes.

Outcomes of the project: The man power required for the line is far less than what is present in the line actually. So with this the company can save the expenses for approx. 13 man power.

Major Learning Outcomes: m.o.s.t. Technique, detailed study and understanding of the processes involved in the ICV assembly, lean basics.

Brief Description of working environment, expectations from the company: The work environment is quite lively as the m.o.s.t. Project needs the interaction with many people for gathering the information. Also observation, understanding and analyzing are the main aspects of m.o.s.t. Study.

Name: Pranab Kumar Pathak (2013A4PS338G)

Student Write-up

Short Summary of work done during PS-II: The work which I did was based on quality developments at supplier end. At the TML production line, a lot of issues are observed on different parts which hamper the production rate. Most of the issues that are observed in production line are originated from the supplier end itself. These issues demand for additional rework if the entire part is not to be scrapped. The rework adds at an average, 4-5 minutes to downtime. More the issues, more is the downtime;

hence the company might incur heavy losses. To avoid this loss I performed some periodic quality check at the supplier plant in order to maintain efficient production. According to the 5S standards of production, necessary changes were proposed to the supplier company. Also I did some redesign work for one of the parts that was showing issues for quite some time.

Tools used (Development tools - H/w, S/w): Excel, Word, Solid works.

Objectives of the project: Standardize production at supplier end.

Outcomes of the project: 5S implementation at supplier end increased production efficiency.

Major Learning Outcomes: Basics of 5S Standards How the SQ department works Quality improvements at vendor end

Brief Description of working environment, expectations from the company: Even being considered a core mechanical company, the work in TML is mostly managerial. Not much technical knowledge is to be expected.

PS-II Station: Tata Motors, Jamshedpur

Faculty

Name: Arun Maity

Comments: Tata Motors, Jamshedpur is in the process of implementing World Class Quality. The students are given projects related to Quality Management, Supply Chain and Industrial Engineering. The students learning opportunities were in the areas of benchmarking, defects analysis, improving productivity, reducing cycle time, standardization, conformance of design and reducing defects at every stages. A student can be better prepared for PS-II, if he/she is given exposure in the areas of quality, safety, productivity, environment and managing projects.

Student

Name: Viyank Kalla (2013ABPS215P)

Student Write-up

Short Summary of work done during PS-II: Studied and analyzed all the processes going on in heavy cab fitment line (hcfl). Studied the WIS (Work Instruction Sheet) and observed how it is being implemented. Prepared the station wise manpower layout (Work cell layout) and gave suggestions in order to improve them. Tracked down the defects occurring daily in HCFL and created daily reports in order to do the analysis and to be used at the time of the audit. A part of new project named DIFTR (Do It First Time Right), where analysis is required to be done in order to reduce the defects occurring during Fabrication. This requires daily monitoring of Fabrication defects.

Tools used (Development tools - H/w, S/w): Excel

Objectives of the project: The objective of the project is to identify issues and problem occurring in Heavy Cab Fitment Line (HCFL) and reduce the problems to improve productivity of HCFL. The methodologies used to improve productivity in Heavy Cab Fitment Line (HCFL) are W.I.S (Work instruction sheet) study, manpower balancing, Root cause analysis to find reason for defects; area and description so that it can be reduce for better productivity.

Outcomes of the project: 1) Learnt manpower balancing. 2) Learnt about World Class Quality (WCQ)

Major Learning Outcomes: 1) Manpower optimization. 2) Applying lean manufacturing techniques practically.

Brief Description of working environment, expectations from the company: Working environment is not bad. The expectations were huge because of the brand name but the company did not meet the expectations.

Name :Navdeep Trivedi (2013A4PS005P)

Student Write-up

Short Summary of work done during PS-II: Week 1,2,3-Visited different locations in the plant and got to know the processes carried out at those locations namely Vehicle Factory 1 & 2, Vehicle Factory3, Prima

Trim Line, World Truck Factory Line, Body in White Line. Week 4,5,6-Visual Observations of both the vehicles namely TATA Signa 4923.S and Ashok Leyland U4923TT.Took Photographs of the striking features and noted them down in excel sheets. Also took measurements of the components and their material was noted down. A separate excel file of differences was prepared for Cabin interior, Cabin Exterior and Chassis. Week 6, 7- Mapped and studied the Steering System for both the vehicles and suggested ideas for weight and part count reduction. Week 8, 9-Mapped and took detail measurements of the Long Members and Cross Members of both the vehicles. Prepared 2D Drawings of the same and also their layout. Week 10, 11-Mapped and studied the locations of the different major Vehicle Components on the vehicle frame. Also took their weights and thus prepared FBD of the complete vehicle. Went on to plot SFD and BMD of both the vehicles. Week 12 -Mapped the cross sections of the long members and other reinforcements along the length of the vehicle. Used this data to plot the Second moment of inertia and Section Modulus Graph. Week 13, 14-Took measurements of the Bogie type Suspension (TATA Signa Trailer) and Bell Crank Suspension (Ashok Leyland Trailer).Used the collected Data to prepare Suspension Simulink of both the suspensions in MATLAB. Week 15, 16-Learned CATIA and designed the model of the frame in CATIA. Week 17, 18-Learned ANSYS and analyzed the effect of the different forces on the frame. Consequently pointed out the region of least Maximum Principle Stress and Deformation. Week19, 20-Worked on improvement ideas, prepared a list of VAVE ideas. Week 21, 22-Helped in Rolling out a new vehicle on line.

Tools used (Development tools - H/w, S/w): EXCEL and PowerPoint.

Objectives of the project: Suggesting improvements in the vehicle and at the component level to reduce weight and save cost. Thus increasing mileage and handling of the vehicle..

Outcomes of the project: Z bracket shortening, Reinforcements removal, Ramp Length shortening, Holes and Cut outs in the 4 out of 8 Cross Members, Simplification of Cross Members 2 and 3, Plastic Air Tanks, Reorientation of the Fuel Tank and the exhaust muffler. Suggested a different type of Muffler. Using Bell Crank type of Suspension in place of Bogie type Suspension.

Major Learning Outcomes: Learned ANSYS and CATIA.

Details of papers/patents: Design & optimization of exhaust muffler & design validation.

Brief Description of working environment, expectations from the company: Good Practices at my workplace. All the employees are cooperative and willing to help. All are good natured and lively. The office is regularly cleaned. Get to eat delicious tiffin's of other employees. Practices that can be

improved. Too much pressure to meet the deadline. General Manager is rude sometimes. No Work Hour Flexibility. Sometimes had to stay post 5 clock.

Name: Kumar Shashwat (2012B1AB799P)

Student Write-up

Short Summary of work done during PS-II: Week 1,2,3-Visited different locations in the plant and got to know the processes carried out at those locations namely Vehicle Factory 1 & 2, Vehicle Factory3, Prima Trim Line, World Truck Factory Line, Body in White Line. Week 4,5,6-Visual Observations of both the vehicles namely TATA Signa 4923.S and Ashok Leyland U4923TT.Took Photographs of the striking features and noted them down in excel sheets. Also took measurements of the components and their material was noted down. A separate excel file of differences was prepared for Cabin interior, Cabin Exterior and Chassis. Week 6, 7- Mapped and studied the Steering System for both the vehicles and suggested ideas for weight and part count reduction. Week 8, 9-Mapped and took detail measurements of the Long Members and Cross Members of both the vehicles. Prepared 2D Drawings of the same and also their layout. Week 10, 11-Mapped and studied the locations of the different major Vehicle Components on the vehicle frame. Also took their weights and thus prepared FBD of the complete vehicle. Went on to plot SFD and BMD of both the vehicles. Week 12 -Mapped the cross sections of the long members and other reinforcements along the length of the vehicle. Used this data to plot the Second moment of inertia and Section Modulus Graph. Week 13, 14-Took measurements of the Bogie type Suspension (TATA Signa Trailer) and Bell Crank Suspension (Ashok Leyland Trailer).Used the collected Data to prepare Suspension Simulink of both the suspensions in MATLAB. Week 15, 16-Learned CATIA and designed the model of the frame in CATIA. Week 17, 18-Learned ANSYS and analyzed the effect of the different forces on the frame. Consequently pointed out the region of least Maximum Principle Stress and Deformation. Week19, 20-Worked on improvement ideas, prepared a list of VAVE ideas. Week 21, 22-Helped in Rolling out a new vehicle on line.

Tools used (Development tools - H/w, S/w): EXCEL and PowerPoint

Objectives of the project: Suggesting improvements in the vehicle and at the component level to reduce weight and save cost. Thus increasing mileage and handling of the vehicle.

Outcomes of the project: Z bracket shortening, Reinforcements removal, Ramp Length shortening, Holes and Cut outs in the 4 out of 8 Cross Members, Simplification of Cross Members 2 and 3, Plastic Air Tanks, Reorientation of the Fuel Tank and the exhaust muffler. Suggested a different type of Muffler. Using Bell Crank type of Suspension in place of Bogie type Suspension.

Major Learning Outcomes: Learned ANSYS and CATIA.

Details of papers/patents: Design & optimization of exhaust muffler & design validation.

Brief Description of working environment, expectations from the company: Good Practices at my workplace. All the employees are cooperative and willing to help. All are good natured and lively. The office is regularly cleaned. Get to eat delicious tiffins of other employees. Practices that can be improved. Too much pressure to meet the deadline. General Manager is rude sometimes. No Work Hour Flexibility. Sometimes had to stay post 5 clock.

Name: Salil Gupta (2013ABPS801P)

Student Write-up

Short Summary of work done during PS-II: The trim line allotted was extensively studied for different fitments in the line. Line stoppages were studied by the help of the andon board. Data for the stoppages was noted down in a tabular form. The bottleneck station was identified and time study of the station was done. Suggestions were made to debottleneck the station and also the manpower was balanced. In second phase of the project documents related to the new cabin introduced in the line were prepared. Also Work instruction sheets and standardized work sheets were prepared. These sheets can be used for giving proper training to the workers and can also be used for balancing the whole line when there is variation in production.

Objectives of the project: The objective was to improve the productivity of the trim line by andon analysis. Also standardized worksheets were needed to be prepared for the new introduced cabin in the line.

Outcomes of the project: The bottleneck station was identified and the time study was done to debottleneck the station. The standardized work sheets were prepared for the new cabin.

Major Learning Outcomes: Concepts of kaizen, standardization and andon board were widely used in the project. Practical knowledge related to manpower balancing was also gained.

Brief Description of working environment, expectations from the company: Tata Motors provided a good learning environment for the interns. The mentors allotted to us had good knowledge related to their field and could easily explain the concepts related to the work allotted. Overall it was a great learning experience in the company. Although one thing that can be improved is that the interns should be shuffled in different projects in the six months period.

Name: T.S.GIRISH (2013A4PS418H)

Student Write-up

Short Summary of work done during PS-II: Most of the work done is collection of data of different parts used on the assembly line and analyzing it to improve the quality.

Objectives of the project: To achieve "WORLD CLASS QUALITY LEVEL 3" in TATA MOTORS JAMSHEDPUR by increasing the bill of materials compliance to design specification.

Outcomes of the project: Outcome of the project is assisting to improve the quality.

Major Learning Outcomes: Lean manufacturing, different Quality parameters etc.

Brief Description of working environment, expectations from the company: Working environment was good and most of the project was based upon data collection and documentation. Expectations from the company was that better projects could have been offered which involves learning and problem solving rather than doing the same job over and over every dayx .

Name: Abhishek Kumar (2013ABPS020P)

Student Write-up

Short Summary of work done during PS-II: i) MOST Study of SIGNA Cab, W.I.S. Study- I was provided with the work instruction sheet and have to check the missing step if there were any and have to match the sequence. Data collection- I have done time study of each process involved in the making of SIGNA

Cab. Study of Defects in the PAINT Shop. Study of the operation sequence in the paint shop. Defect study- Identification of type of defects occurring in the final station and the reason behind the generation of defects. Study of CED Process of paint shop. Study of the PRETREATMENT and CATHODIC ELECTRO DEPOSITION process.

Objectives of the project: I was provided with the work instruction sheet and have to check the missing step if there were any and have to match the sequence I have done time study of each process involved in the making of SIGNA Cab. Then I collected the details of each process like number of spot welding in each process, number of operators involved, total number of operation at each substation. I Provided suggestion like There were many steps that were missing in every process and also there were some common steps that were missing like change of electrode cap, hammering, tip dressing, use of shielding screen etc. which will finally results in the increase of the CYCLE time of overall process. Study of Defects in the PAINT Shop- study of the operation and its sequence like joint sealant application, bake oven, sanding and rectification. Tag-o-rag, primer, top coat etc. I have studied various defects like Popping, Cissing, Orange peel, Dirt, Lifting etc and then provided suggestion which can reduce the defects. study of the PRETREATMENT and CATHODIC ELECTRO DEPOSITION process , identification of major problems like Flash corrosion, Problem in flow system, uneven film distribution, Dirt, Paint spits etc which needs to be eliminated, study of various process parameters and then suggestion like use of corrosion inhibitors or additives that prevent corrosion, inerting nitrogen by replacing oxygen, use of Nitrogen generators, corrosion monitoring, pump alarm system, Setting up a flash off zone before the baking oven, Fluctuating the CED voltage, Energy Integration in between CED & PT processes which can improve the efficiency of overall process.

Outcomes of the project: I. MOST Study for SIGNA Cab, Time study of each process involved in making of signa cab, Number of spotting done in each process. Process study at each station. Suggestions to include the missing step and the common steps involved in the making of signa cab. Study of defects in the PAINT Shop. Collection of different types of defect occurring in the CAB at the final station. Identification of station and the reason due to which defect are occurring. Study of different defects, reason behind its generation and steps to eliminate the defects. Implementation of the correct procedure at each station, use of innovative design to eliminate defects. Study of Cathodic Electrodeposition(CED). Collected the details of each process in PRETREATMENT and CED and identified the process control parameters. Studied the various process and their importance. Studied the Major problem encountered in the process of PRETREATMENT and CED and the reason behind their

occurrence. Use the various technique like NITROGEN GENERATOR, CORROSION MONITORING, PUMP ALARMA SYSTEM, SCADA (supervisory control and data acquisition) to eliminate the defects.

Major Learning Outcomes: i. FOR MOST STUDY OF SIGNA CAB, Change of electrode cap operation should be mentioned, Tip dressing operation not described. Hammering is often done in between various operations for proper arrangement. Use of shielding screen is not mentioned. Moving of chair in and out of the conveyor in slat line for sitting purpose is not mentioned. ii. FOR STUDY OF DEFECTS IN PAINT SHOP. There should be a new Substation after the BAKE OVEN such that Joint sealant application in Bake oven if new substation. After the joint sealant application , when the cab come out of the baking oven problems like breaking of the joint sealant, hole in the joint sealant, popping of the joint sealant etc. can be rectified at this new substation. As the problem related to breaking of the sealant is too frequent and this has led to increase in the cycle time of the overall process because of increase in rework operation. In the signa cab we generally apply Sealant bead. Comparing it to the Army Cab in which round sealant bead is applied, there is very less defect related to sealant. Therefore I suggest a new Spatula design which can cut the joint sealant into round bead of very less thickness. With keeping the thickness very less it will not have any bad effect on the look of the signa or other sleeper cab and with this new spatula it will be possible for us to reduce most sealant related defect. There should be proper mechanism of which operator is doing which work and in which area of the cab. So that in case if any defect is found in the cab we can easily identify the station in which correct procedure is not being followed and can take the required action to reduce that defect to as minimum as possible. At the Sanding and Rectification station, where sanding of whole cab is required, operator use Sanding paper with their naked hands. This compromise with their safety as while doing sanding they have to rub their hands with the cab. Considering the motto of TATA MOTORS as SAFETY FIRST operator should be provided with proper sanding gloves which also results in improving the efficiency of overall process.

Innovative design of Sealant gun can improve the efficiency of overall process and can also reduce the manpower needed at the Joint Sealant Station. Sealant Gun with attached spatula can help in reducing the number of substation; number of operators involved in the whole joint sealant application and can improve the overall efficiency of the process. iii. FOR STUDY OF PRETREATMENT AND CED. Corrosion inhibitors or additives should be added during the drying stage to prevent flash corrosion from taking place. Use of nitrogen in place of oxygen to prevent corrosion. Use of PUMP Alarm System. Setting up a flash off zone before the baking oven. Fluctuating the CED voltage. Energy Integration in between CED & PT processes.

Details of papers/patents: Resources-Mechanical-AESSEAL-Guides-AUTO

http://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1064&context=gradschool_theses,

<http://www.ifpug.org/Conference%20Proceedings/IFPUG-1999/IFPUG1999-03-Yamamura-The Journey To World Class Quality In The New Millenium.pdf>

<http://www.enme.umd.edu/ESCML/Papers/Kleyner-Sandborn%20ESREL06.pdf>

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Salvendy G. 2001. Handbook of industrial engineering. Third edition. Wiley Interscience, John Wiley & Sons, Inc., Canada. Saito S. 2004. Chapter 2.9: Case Study: Reducing Labour Costs Using Industrial Engineering Techniques. Mynard H.B., eds. Industrial Engineering Handbook, McGraw-Hill, Third Edition, New York, 151-164.

Brief Description of working environment, expectations from the company: Nice environment with huge learning opportunity.

Name: Anumalasetty Sasank (2013A4PS111H)

Student Write-up

Short Summary of work done during PS-II: Study of C.I and T.P.M activities in the plant. Preparation of documentation required for JH in Engine Division. Initiation of JISHU HOZEN in pilot areas of Engine Division. Completion of JH step-3 in Vehicle Factory Line-1 and Vehicle Factory-3. Suggesting the usage of Digital Vault for knowledge sharing in C.I. Part of Online PSR software project. Supporting the initiation of TPM and maintenance in Sp. Vehicles Factory.

Objectives of the project: Achievement of WCQ level-3 through CONTINUOUS IMPROVEMENT principle.

Outcomes of the project: Completion of Online PSR project. Achievement of Jishu Hozen step-3 all over the plant.

Major Learning Outcomes: People's management.

Brief Description of working environment, expectations from the company: Nice working environment. Co-operative employees all over the plant. Requires more learning opportunity which can be created by better projects involving research and analysis.

Name: K Ravi Kiran Reddy (2013A4PS430H)

Student Write-up

Short Summary of work done during PS-II: Implementation of various actions to achieve core components and mandatory components green. Arrangement of materials in store according to the layout plan and suggesting any changes in the plan. Markings and layouts of everything on the store and also the material on the line. Arrangement of kitting trolleys and standardizing the procedure and educating the work force to follow the standardized procedure. Making sure FIFO (first in first out) is maintained everywhere and is followed everywhere. Marking on all the bins is done so that fasteners and small components are placed without mismatching and easy for the workers to access the materials for better production.

Objectives of the project: Achievement Of Wcq Level-3.

Outcomes of the project: Nearly 75% Achievement As Been Completed

Major Learning Outcomes: Material Handling and Maintenance Supply Chain Management

Brief Description of working environment, expectations from the company: It's just an Ok environment, if the work is somewhat creative then it's ok to work.

PS-II Station: Tata Motors, Lucknow

Student

Name: Ansh Deep (2013A4PS304G)

Student Write-up

Short Summary of work done during PS-II: Conducting process audits and implementing the improvements associated with them.

Tools used (Development tools - H/w, S/w): PDCA

Objectives of the project: To increase the number of improvements across all 14 lines at the plant.

Outcomes of the project: Increased the no of improvements from 19 to 151.

Major Learning Outcomes: Learned about the importance of process audits and their importance in helping Tata motors reach Six Sigma quality standards. Also, learned about the major processes on all lines at the plant.

Brief Description of working environment, expectations from the company: The working environment is encouraging, if a little harsh at times. The 10-hour workday will be a tough mountain to climb but if you find an interesting enough project, it will pass eventually. You can expect full support from your mentors and other people you might come into contact with.

Name: Mukesh Reddy (2012B1AB746H)

Student Write-up

Short Summary of work done during PS-II: The output expected from this project is to increase the capacity and capability of vendors with the existing machinery. To achieve this, we need to find in a particular industry whether a machine is over-utilized or under-utilized. We do that by finding out (time or strokes) how much work is required by company on that machine and how much it can deliver. 1. Calculate the cycle time required for the part on that particular machine. 2. Find the average demand of that part from previous month's data. 3. Calculate the average demand for day considering 25 working days in a month. Now using the demand, we calculate the required time for producing the batch that

meets with demand. 4. Now we compare the required time with time available at machine considering the number of shifts and time its working.

Tools used (Development tools - H/w, S/w): Excel

Objectives of the project: To improve the capacity of various vendors at Tata Motors in order for them to keep up with the demand in the upcoming fiscal years.

Outcomes of the project: Kaizen methods were implemented at the PACO ALLEN (one of vendors at Tata Motors) for improved productivity and efficiency. Many other vendors were given particular set of instructions in order for them get same share of business as before and few machinery to increase capacity were suggested.

Major Learning Outcomes: In order to keep up with demands in the future TATA motors is conducting a capacity assessment project of their locally setup vendors. The idea is to estimate the ability of a vendor to establish a stable supply if the demand is increased by 80%. The current loading and estimated loading (at 180%) is calculated and viable solutions are provided in case a vendor is critical in terms of quantity or quality. Bottlenecks encountered are studied under kaizen and tackled appropriately.

Brief Description of working environment, expectations from the company: Tata Motors Lucknow (TML-Lucknow) is an important production facility of Tata Motors Limited And was established on 20th October 1992 to meet the growing demand for commercial vehicles in the Indian market. The state of the art plant is strongly backed by an Engineering & Research Centre and service set-up to support with latest technology & cater to the complexities of automobile manufacturing. TML-Lucknow is set-up on a land of 600 acres in the Chinhat Industrial Area. The plant has two main complexes- eastern and western. The Western Complex was commissioned first followed by the Eastern Complex recently. Lucknow being a plant focused on production of commercial vehicles produces buses and trucks (HCV- Heavy Commercial Vehicles).

Name: Rishabh N Goel (2013A4PS406G)

Student Write-up

Short Summary of work done during PS-II: Collaborated with vendors and people working in the plant to reduce the cost of warranty complaints that the company incurs.

Tools used (Development tools - H/w, S/w): PDCA

Objectives of the project: To reduce IPTV (Incidents per thousand vehicles) during warranty period.

Outcomes of the project: Successfully reduced IPTV of several major components.

Major Learning Outcomes: Learnt about six sigma and other quality standards followed in the industry.

Brief Description of working environment, expectations from the company: The Company expects a highly professional environment along with integrity and hard work. The work done is mostly dealing with people at different levels from the management to the workers. It requires soft skills and knowledge of the subjects studied during the college course.

Name: Harshdeep Singh Hora (2012B2A4540G)

Student Write-up

Short Summary of work done during PS-II: The project deals with systematically documenting the process carried out by each operator in carrying out the tasks assigned to them and optimizing these processes so as to increase the MOP (Measure of Performance) of the Assembly line. Work was done to eliminate muda (wastage) in the form of excessive movement and to balance the work among different operators on the line.

Tools used (Development tools - H/w, S/w): Recording the fitments performed on the line in the form of videos, analysis through MS Excel.

Objectives of the project: The project aims to increase the overall efficiency of the line by minimizing the losses in the form of excessive movement by operators and reducing line stoppages, thereby increasing the MOP (measure of performance) of the assembly line.

Outcomes of the project: Work standardized and balanced on two Zones of the line (Stations 1-8), effective decrease of 8 manpower on the line.

Major Learning Outcomes: Work and line balancing, work standardization.

Brief Description of working environment, expectations from the company: Conducive working environment, trainees get to deal with real-time problems faced by line managers and get to work on significant projects that are parts of major company initiatives.

Name: Abhinav Raj (2013A4PS151G)

Student Write-up

Short Summary of work done during PS-II: Implementation of JIDOKA at TATA MOTORS, LUCKNOW.

Tools used (Development tools - H/w, S/w): Quality Matrix, Torque Mapping and Potential Failure Mode Effective Analysis.

Objectives of the project: To identify the potential failure modes of critical processes and suggest possible solutions.

Outcomes of the project: New failure modes identified and possible solutions suggested.

Major Learning Outcomes: Understanding of Automation in Automotive Sector.

Brief Description of working environment, expectations from the company: Working Environment is very friendly, and company expects us to contribute as well as learn.

Name: Aayush Agarwal (2013ABPS696H)

Student Write-up

Short Summary of work done during PS-II: I was in purchase and supply chain dept. My work was related to ongoing projects. In one project, we worked at different suppliers' plant to improve their working conditions, improving their part storage conditions and process layout within the plant, in short improving aesthetics and overall rating of the plant. There was some basic design work in CAD, CREO. In another project, i used six sigma methodologies to eliminate recurring issues in a component. This was fun and mentors were friendly to guide me throughout the project.

Objectives of the project: Proper Operations management.

Outcomes of the project: Improved operations management.

Major Learning Outcomes: Managing operations and interpersonal skills

Brief Description of working environment, expectations from the company: Varies from dept. to dept., better to work with mentors less than 5 years' experience, new recruits. Think out of the box, initially work is dull but you can work and find better ways of doing a certain task as new tools and techniques we are familiar with can easily replace existing technology. If you can find some work for yourself best, else you will be overloaded with rubbish work they are already doing.

Name: Eti Akash (2013A4PS455H)

Student Write-up

Short Summary of work done during PS-II: The report focuses on the improvement of quality of suppliers of TATA Motors Ltd. The report further focus on two areas: A) Inventory management: Based on the order frequency of parts the inventory to be maintained is proposed. The no of trolleys for different parts are calculated such that there is no metal to metal contact between the parts and layout of the area is proposed to optimize the flow of processes. B) Data management: Data related to parts with more rejections are related are selected and data related for improvement of quality of part are prepared part wise as well as data related to corporation is made available by establishment of nerve center. C) PPAP (Production Part Approval Process) Evaluation: The parts with ppm more than 200 are selected and the PPAP are evaluated and necessary changes are done to bring down the ppm levels less than 200. Further the gaps in PPAP are covered to avoid future rejections.

Objectives of the project: a) To calculate Inventory required, trolleys required, layout optimization. b) To do Re- PPAP

Outcomes of the project: Trolley Requirement, layout optimized, inventory calculated PPAP evaluated.

Major Learning Outcomes: Learned to prepare PPAPs

Brief Description of working environment, expectations from the company: The working environment is good and the employee of organization is supportive helps in every way possible. They pose clear objective to achieve and give suggestions to improve yourself and what is expected from you from the company

Name: S Sai Vishnu (2013A4PS340P)

Student Write-up

Short Summary of work done during PS-II: Monthly VLO audits & renovating the Jominy Apparatus.

Objectives of the project: This project aims to deal with the adherence to quality standards of Tata Motors Lucknow. To achieve customer satisfaction, these standards should be upheld with the utmost sincerity. The issues with compliance are captured during vehicle layout audits over a periodic pre scheduled intervals (mostly every month) and corrections (or improvements) are suggested accordingly. After every correction re-audits are done to ensure maximum reliability in correction.

Outcomes of the project: Defects in vehicles were eliminated and Jominy apparatus is renovated.

Major Learning Outcomes: Material technology awareness & improved ability for defect cause analysis.

Brief Description of working environment, expectations from the company: Employees are highly motivated and learning is hassle free. The company expects you to be sincere and hardworking.

Name: Mohit Tunwal (2013ABPS853H)

Student Write-up

Short Summary of work done during PS-II: Implemented Standardized work on TCF Assembly Line 3 and also eliminated muda on a very significant level.

Tools used (Development tools - H/w, S/w): Lean manufacturing

Objectives of the project: Implementation of Standardized work on TCF Assembly Line 3.

Outcomes of the project: Implemented Standardized work on TCF Assembly Line 3.

Major Learning Outcomes: Line balancing, Kaizen.

Brief Description of working environment, expectations from the company: Very friendly working environment.

PS-II Station: Tata Motor, Pantnagar

Faculty

Name: Naga Vamsi Krishna Jasti

Student

Name: E.Harsha Vardhan Reddy (2013A4PS111P)

Student Write-up

Short Summary of work done during PS-II: During the course of my training in Tata Motors Ltd., Pant Nagar, I was assigned projects each being a subset of Productivity Improvement in shop mainly POWER TRAIN(Machine Shop). I was assigned the standardized work deployment project in the TCF 1A. The first course is to study the process involved in standardized work by understanding the standardized work flow chart refer to fig. this project has to be finished under a span of 12 weeks roughly around the time our PS ends.

Tools used (Development tools - H/w, S/w): THE TOOLS INVOLVED IN STANDARDISATION. Video making, Process Activity making each TM, Evaluation Layout VMAP-3/POCS, Action planning for elimination of OFIs, Combined refined process activity sheet, Productivity Table, Reassignment of work as per ATT, SWCT/SWC, Standardized WIS, Training of Team members with Standardized WIS.

Objectives of the project: The main aim of this project is to develop a standard or baseline for the various processes going in an industry so that they can be used to formulate new strategies for the further development of industry from current level by analyzing current best practices. Furthermore, following objectives are also to be fulfilled through the process of standardization.

Outcomes of the project: PRODUCTIVITY IMPROVEMENT: 30%, MANPOWER SAVED: 6, No of WIS Planned: 70, No of OFs identified: 80, No of OFIs completed: 69

Major Learning Outcomes: A new course can be designed out of this project. The project can help modification of the course content of some of the existing courses. The project can be used directly in some of the existing Compulsory Discipline Courses (CDC)/Discipline Courses Other than Compulsory (DCOC)/ Emerging Area (EA) etc. Courses. The project can be used in preparatory courses like Analysis and Application Oriented Courses (AAOC)/ Engineering Science (ES)/ Technical Art (TA) and Core Courses

Brief Description of working environment, expectations from the company: My training in TATA MOTORS Ltd., Pantnagar, Uttarakhand was indeed a very good experience. It has helped me to remove the gap between the theoretical and practical knowledge, and to have a better understanding of the various stages involved in assembling processes of an automobile. This training period has been proved invaluable in giving me an insight into the general working of the organization. It has also given me the

introduction to maintenance processes, work culture and work life. By visiting all the assembly shops of this industry, I got a view that how any vehicle is being made by different processes. Thus, the objective of this training has been successfully completed as per the scheduled training program given by the company.

Name: Hemang Korant (2013A4PS179H)

Student Write-up

Short Summary of work done during PS-II: This project was aimed at improving Productivity of the shops using MOST (Maynard Operation Sequence Technique). MOST is a Predetermined Motion Time Study, used to determine the time an operator should take to do a job, i.e. Work Content (CW). This technique is used to calculate the total time taken to manufacture any product, i.e. SMH (Standard Man Hours). This operation-wise CW is used to balance the line and assign the operations to the operators, keeping in mind that all the operators should be nearly equally loaded. No one should have more workload or less work load. This in turn helps in running the production line smoothly and reduces the waiting time. Line balancing will help in calculating the total manpower required for any production line.

Tools used (Development tools - H/w, S/w): Microsoft Excel.

Objectives of the project: Productivity Improvement, Production Line Balancing and Optimization of manpower.

Outcomes of the project: Improved efficiency of line operators, Moderated workload resulting into uniform product movement.

Major Learning Outcomes: Maynard Operation Sequence Technique (MOST), Lean principles.

Brief Description of working environment, expectations from the company: Being a very large organization, we face a lot of different kind of situations and people. Sometimes it is difficult to convey your ideas and solutions to other people. Plant timings are strict. Most officials were friendly and understanding.

Name: Harshit (2012B2A4609G)

Student Write-up

Short Summary of work done during PS-II: Standardized work is one of the most powerful but least used lean tools. By documenting the current best practice, standardized work forms the baseline for kaizen or continuous improvement. As the standard is improved, the new standard becomes the baseline for further improvements, and so on. Improving standardized work is a never-ending process. A work standard is a written description of how a process should be done. It guides consistent execution. At its best, it documents a current "best practice" and ensures that it is implemented throughout a company. At a minimum, it provides a baseline from which a better approach can be developed. Standards are an essential requirement for any company seeking to continuously improve. All continuous improvement methods leverage learning to get better results from their business efforts. Standards provide the baseline references that are necessary for learning. A standard operating procedure supplies a stable platform for collecting performance measurements. The standard and its profile of performance yields the information people need to uncover improvement opportunities, make and measure improvements, and extract learning. The shop Assigned to me was TCF -3A (Medium and Heavy Commercial Vehicle). They assemble LPT-3118 truck model in TCF-3A. My work revolved around implementation of standardized work on their main line i.e. chassis line with manpower of 124 direct operators and compromising of 18 stations. Made video of each operator for the time study of each segment of work done by each person at each station. Visual map of material flow is made for each equipment from line side location till vehicle to calculate the total distance of material movement per day. Process observation check sheet is filled for each operators work elements. This helps us rate the process overall and identify opportunities for improvement. Visual map of operators' movement (SWS) , time graph of operations divided in manual, machine or walk time is plotted against tact time (SWCT). Finally Productivity table is filled to measure the improvement out of suggested change. Taking these suggestions into consideration, work instruction sheet are made for each operator (Manual of work instruction).

Tools used (Development tools - H/w, S/w): Recording the fitments performed on the line in the form of videos, analysis through MS Excel.

Objectives of the project: The main aim of this project is to develop a standard or baseline for the various processes going in an industry so that they can be used to formulate new strategies for the further development of industry from current level by analyzing current best practices.

Outcomes of the project: Standardized work implemented in TCF-3A on chassis line from station 1 to 18 consisting of manpower of 124 operators. A total of 17 manpower is saved on chassis line out of 124. Increase in productivity is 16%.

Major Learning Outcomes: Line balancing & Lean Manufacturing techniques

Brief Description of working environment, expectations from the company: Conducive working environment, trainees get to deal with real-time problems faced by line managers and get to work on significant projects that are parts of major company initiatives.

Name: Kannan T (2013A4PS297G)

Student Write-up

Short Summary of work done during PS-II: Standardized Work for Paint Shop Project

Objectives of the project: To Assign Right Work to the Right Person

Outcomes of the project: Manpower Reduction and Ergonomic Improvement

Major Learning Outcomes: Time Management, Importance of Quality And Safety

Brief Description of working environment, expectations from the company: All In All AverageCan't Complain about Work but Not Satisfactory Too.

Name: Dileesh chintalapudi (2013A4PS809G)

Student Write-up

Short Summary of work done during PS-II: To deploy standardized work on the shop floor. Standardized work is a repeatable work method intends to meet the process on customer requirements. The most efficient work flow of safety, quality, lead time, quantity, cost, human movement and the combined best practices of all these comes under Standardized work. We have implemented standardized work and improved the productivity. We identified and eliminated Muda and Muri. We established manpower as per the work content at each station.

Tools used (Development tools - H/w, S/w): Visual map 3

Objectives of the project: To implement standardized work and improve the productivity. To identify and eliminate Muda and Muri. To review and establish manpower as per the work content at each station.

Outcomes of the project: Productivity improvement by 30% Measure of performance increases. Line balancing. Safety improvement.

Major Learning Outcomes: Participated in Kaizen event. Standardized work methodology. Lean manufacturing and 5s improvements. Ability to identify and solve the Kaizens. Ability to manage time and complete the tasks within deadline. Ability to effectively communicate to everyone.

Brief Description of working environment, expectations from the company: There are a lot of things you will learn. First of all you will get industrial exposure. You will get to know the process of assembly of a vehicle. You will learn the ability to manage time according to the deadlines and ability to effectively communicate to everyone.

Name: KVS Teja ID (2013A4PS405P)

Student Write-up

Short Summary of work done during PS-II: Optimization of manpower, Elimination of Muda, Muri in work process, Implementation of standardized work in weld shop.

Tools used (Development tools - H/w, S/w): MS Office, Standardized Work.

Objectives of the project: Implementation of standardized work in weld shop.

Outcomes of the project: Optimization of manpower, Elimination of Muda, Muri in work process.

Major Learning Outcomes: Welding, assembly, painting of vehicles, work management.

Brief Description of working environment, expectations from the company: Interns are expected to reach the target within deadline. The managers and project guides are ever so supportive and help us a lot in achieving the targets.

Name: Mithul Nayagam (2013A4PS404G)

Student Write-up

Short Summary of work done during PS-II: Productivity improvement through the implementation of Standardized Work on the assembly line.

Tools used (Development tools - H/w, S/w): Vmap3, POCS, SWC, SWCT.

Objectives of the project: To improve productivity and reduce manpower.

Outcomes of the project: 20% productivity increase.

Major Learning Outcomes: Working of the industry.

Brief Description of working environment, expectations from the company: Easygoing and low pressure, no real expectations or drive to do anything in most of the people.

Name: N. Vishal Patnaik (2013A4PS090G)

Student Write-up

Short Summary of work done during PS-II: Ergonomic Analysis Of Manufacturing Processes.

Tools used (Development tools - H/w, S/w): Delmia Process Engineer Software.

Objectives of the project: To improve productivity and reduce manpower.

Outcomes of the project: Complete Ergonomic Study Of Pantnagar Plant Completed.

Major Learning Outcomes: Operation Of Delmia Software.

Brief Description of working environment, expectations from the company: Very helpful & efficient work culture. The mentors were very direct and were professional.

Name: Sumit Jain (2013A4PS385G)

Student Write-up

Short Summary of work done during PS-II: Work Standardization is one common project which was allotted to 10 out of 14. This is mostly related to continuous improvements at the shop floor. Reducing motion of operators, their cycle time, putting an extra trolley or some other kind of improvements come under this. Subsequently, a lot of documentation is the by-product that comes with this exercise. But my mentor had different plans. So, Along with this project, he gave us a project related to Data Analytics

and a bit of a consultant work. Now, if you do this, you basically get to know the whole picture of how the organization is working and once you're into it and until and unless you don't want to do hardcore technical stuff, you'll love this project. There were 8 other wide-topics i had to learn to look into the problem of how to 'optimize fluctuation in production and manpower' with a broader vision. Six sigma, MOST, Statistics and a lot other things were needed to understand the problem completely. so yes, your mentor is important but mainly it's your interest to learn that will lead you to such variety. I even learned some MBA concepts as most of the time i spent was in HR building. From PPO point of view, i've had interaction with lot people here who suggested me not to take one (Having good chances of getting, if you work), that may be because of the company's situation in the market. Growth in the form of promotions is very slow. That thing of 'Mechanical field has good growth and after some years, you'll be at par with your IT peers won't work here', so make sure, if you're getting this PS, try to absorb the best out of the people you meet here and build your SKILLS of all type. At least, that is one thing this company (with this momentum) offers you.

Tools used (Development tools - H/w, S/w): Minitab, MS-Excel, and PowerPoint.

Objectives of the project: To optimize the fluctuation in production and manpower, thereby generating a predictive model to optimize product quality and save costs.

Outcomes of the project: We have developed a Master equation mathematically using various data analytical tools and business cycles which will help the organization in reducing the fluctuation of Manpower in hundreds.

Major Learning Outcomes: Learned techniques like Six Sigma and lean manufacturing, MOST, Statistical Process control, MSA, Standardized Work along with soft skills and professional ethics.

Details of papers/patents: No Paper/Patents but project is included in TATA Motors innovista, a india level competition of TATA Motors.

Brief Description of working environment, expectations from the company: Working Environment - TATA Motors is a big place not a small IT office. There is wide variety of shops each having their own work environment. So it depends on which place you're associated to for your project. HR building is the best, weld shop is the worst for working environment. Overall Rudrapur and pantnagar area has fairly ok weather so, not much of a problem. There are buses that run inside the plant to take you to every shop in every half hour. If you missed it, you have to walk a lot which will become a habit after some time. You'll get free food (60/month, yes 'month') for breakfast and lunch and regular bus service to take you to plant from major landmarks. Also, if you're working on shop floor, your coworkers will be 2-3 engineers and rest will be DET, ITI people who take shop data records. Expectations from company - Company don't know what are the skill sets of students that are interning, so the projects officially given were below par. They can be done easily by someone with fewer qualifications. So what's the point of

having this as a mechanical company of our PS2, if people aren't doing anything that can be properly called technical or can be related to their discipline (mechanical) they're learning on-campus. There are much better projects that can be identified at the management level or on the shop and initiative should be given to us to work and implement them. Also, if i say W.r.t Company's nature, it's not good at implementing projects on the shop floor. Because manufacturing dept. simply doesn't want to approve projects which constraints their limits but are needed.

Name: Srivathshav (2013A4PS345P)

Student Write-up

Short Summary of work done during PS-II: Data Analytics on Production Data. We Developed a Mathematical Model to deploy Man Power for any desired production considering real time factors like Downtime and Overtime Hrs. I have also been allotted a project on Standardized work (Lean Manufacturing) and Scratches prevention in Sumo and Safari Storme.

Tools used (Development tools - H/w, S/w): Minitab, MS Excel for Data Analytics.

Objectives of the project: Optimize Man Power for any Production, Standardized work Implementation in shop floor.

Outcomes of the project: Mathematical Model for Man Power Deployment, Standardized work implementation to improve Productivity.

Major Learning Outcomes: Six Sigma Principles, Data Analytics, DMAIC Approach, Standardized Work, SPC.

Brief Description of working environment, expectations from the company: The Working environment is very good at least for us interns. Our mentor helped us a lot throughout the project and taught us many industrial practices and principles. Our project on data analytics of production is new in the field and a future gazing innovation so they didn't expect a lot from us although they would like a project so that the money is saved or extra revenue is generated.

Name: Nagampally Vivek Reddy (2013A4PS212G)

Student Write-up

Short Summary of work done during PS-II: Standardization of work.

Objectives of the project: Productivity improvement, manpower reduction.

Outcomes of the project: Productivity improvement, manpower reduction.

Major Learning Outcomes: Standardization.

Brief Description of working environment, expectations from the company: Project could be better.



PS-II Station: Tata Motors, Pune

Student

Name: Nithin Guptha Bodla

ID No: 2013ABPS668H

Student Write-up

Short Summary of work done during PS-II: Our project was to implement the concept JIDOKA in tata motors. We were given two objectives, one was to design a module (ppt) on the concept jidoka, other was to help with the ongoing jidoka projects mainly Pick To Light System and Torque Monitoring System. Pick to Light system is a guidance system helps the line operator who carries the parts required from inventory to assembly line. We installed the LED's on the part bins in the inventory so that whenever the chassis enters the assembly line the corresponding LED's (indirectly represents parts) glow upon scanning the chassis. To achieve such automation we used the PLC machine to implement the logic, and the circuit of the system. Hence we had to programme the PLC according to the requirement. We wrote a Ladder logic satisfying the requirement. We were also involved in wiring and soldering works that need to be accurately done.

The next project Torque Monitoring System is a system to monitor the correct tightening/torturing of the bolts by the line operator. It involves the a wireless transmitter that needs to be installed at the end of a torque wrench, which sends signal to a PLC and OK lamps upon giving correct torque. Our role was to collect the necessary data that can be fed into the system which includes many parameters like the torque wrench being used in different station, using it for what all models, number of bolts tightened using that wrench, make of that wrench, station where it is used, tapping present at the end or not. Collection of this data this was helpful for our team to decide where to implement this system (critical areas), and also to write a logic accordingly and feed into the Picasso. In this project our role was only to collect data which was the hardest part since there was no such data that was made/there before, so we had to visit the assembly line, ask the operators about the torque wrenches and where they were using them, which bolt are they tightening, number of bolts tightened, etc.

Tools used (Development tools - H/w, S/w): PLC programming

Objectives of the project: Implementation of the concept JIDOKA in tata motors.

Outcomes of the project: Pilot projects were installed on the line and being tested successfully, and further planning to implement to the whole assembly line and also in different blocks.

Major Learning Outcomes: PLC programming

Brief Description of working environment, expectations from the company: We were placed in the LCA department (C9) in tata motors, we had to frequently visit the shopfloor and always wear helmet, safety goggles to ensure our own safety. I was asked to work in PLC, HMI and Barcode scanner.

Name: *Abhishek Kumar Anand*

ID No: 2013ABPS573H

Student Write-up

Short Summary of work done during PS-II: Implementation of Tata Motors Work Standard in Maval Foundry, Tata Motors Pune. Study of Steps for Operation being carried out at Maval Foundry and then calculating Measurement Of Performance (MOP) for further analysis.

Tools used (Development tools - H/w, S/w): PaLMSys

Objectives of the project: Implementation of Tata Motors Work Standard in Maval Foundry, Tata Motors Pune.

Outcomes of the project: Calculated MOP after calculating Content of Work (CW).

Major Learning Outcomes: Time based Work Study.

Brief Description of working environment, expectations from the company: Working environment is good. The officials were very helpful.

Name: *Lakshya Sharma*

ID No: 2012B3A4590H

Student Write-up

Short Summary of work done during PS-II: The main objective of this project was to improve the productivity and reduce the losses by the implementation of TMWS in Tata Motors Maval Foundry. TMWS implementation helps to reduce the overhead cost, since it gives the optimum number of people required for a particular operation and also the time required for it. The project starts with developing Process Mapping sheets for SGI Foundry, Maval Tata Motors and subsequently applying TMWS technique on each operation. The final results are cycle time and work content of each operation, which are subsequently used to calculate the measures of performance of the plant.

Tools used (Development tools - H/w, S/w): The project offers an opportunity to the student to closely observe each and every activity involved in the production process. It also inculcates within the student the ability to keenly observe any given data provided to them and to absorb whatever useful they can from it. Furthermore it also encourages the student to critically analyse every activity taking place in the production process in order to identify which activity adds value to the production process and which activity is Non Value Adding.

Objectives of the project: The main objective of this project was to improve the productivity and reduce the losses by the implementation of TMWS in Tata Motors Maval Foundry. TMWS implementation helps to reduce the overhead cost, since it gives the optimum number of people required for a particular operation and also the time required for it. The project starts with developing Process Mapping sheets for SGI Foundry, Maval Tata Motors and subsequently applying TMWS technique on each operation. The final results are cycle time and work content of each operation, which are subsequently used to calculate the measures of performance of the plant.

Outcomes of the project: Calculated MOP after calculating Content of Work(CW).

Major Learning Outcomes: The project offers an opportunity to the student to closely observe each and every activity involved in the production process. It also inculcates within the student the ability to keenly observe any given data provided to them and to absorb whatever useful they can from it. Furthermore it also encourages the student to critically analyse every activity taking place in the production process in order to identify which activity adds value to the production process and which activity is Non Value Adding.

Brief Description of working environment, expectations from the company: Tata Motors has a great and worker friendly work environment. Being a production center, Tata Motors lays a lot of emphasis on safety. The employees are friendly although with a significant percentage of its employees having been

working with the company for more than two decades a level of orthodoxy is to be expected in the work space.

Name: *N V S Prashant Ashish*

ID No: 2013A4PS140H

Student Write-up

Short Summary of work done during PS-II: 1. Costing of ADHOC POs of parts pertaining to transition from BS III to BS IV. 2. Preparation of Process Failure Mode Effect Analysis chart for three rubber manufacturing processes viz. a. Injection and compression moulding b. Extrusion c. Silicone rubber hose wrapping.

Tools used (Development tools - H/w, S/w): 1. Microsoft Excel 2. Siemens PLM software 3. SAP

Objectives of the project: 1. To perform costing of new BS IV parts. 2. To prepare an all process inclusive PFMEA chart for rubber manufacturing processes.

Outcomes of the project: 1. Costing for about 150 parts. 2. Prepared 3 PFMEA charts, found flaws, and suggested new method implemented in Honeywell.

Major Learning Outcomes: 1. Supplier communication skills. 2. Costing (RM, processing, overhead, inventory costs etc.) 3. PFMEA chart preparation 4. Rubber manufacturing processes and possible failure modes. 5. Tata trucks complete assembly processes.

Brief Description of working environment, expectations from the company: The people at Tata Motors are very amiable and amenable and the learning experience is very good.

Name: *Anmol Pandey*

ID No: 2012B2A4753P

Student Write-up

Short Summary of work done during PS-II: Project 1 involved the implementation of Six Sigma methodology to tackle the oil leakage problem in power steering gear assembly of Indica and Indigo.

There was successful completion of the analysis phase before the completion of PS II. In project 2, root causes for failure modes were successfully identified using Shainin DOE Tools.

Tools used (Development tools - H/w, S/w): Six Sigma Methodology, Shainin DOE Tools

Objectives of the project: Project 1: To reduce 6 IPTV and Cost of Poor Quality Project 2: Identifying the root causes for the failure modes of Instrument Cluster

Outcomes of the project: Project 1: Analyse Phase complete. Project entered Improve and Control Phase. Project 2: Root causes successfully identified.

Major Learning Outcomes: Six Sigma Methodology, Quality control and assurance

Brief Description of working environment, expectations from the company: Working environment was good, people were helpful. Overall the company met the expectations.

Name: *Satish Kumar Korada*

ID No: 2013A4PS399H

Student Write-up

Short Summary of work done during PS-II: Job skill mapping of all the activities in the shop.

Tools used (Development tools - H/w, S/w): Microsoft Excel

Objectives of the project: To determine the required skill sets for each of the jobs in different areas of Tata motors, pune.

Outcomes of the project: We found the skills levels required by each of the jobs in areas like chassis line, engine line, axle factory, gear factory etc.

Major Learning Outcomes: Working with excel, interpersonal skills

Brief Description of working environment, expectations from the company: We had exposure to lot of processes in the company like recruitment, deployment of operators etc.

Name: *Sitakanta Mohanty*

ID No: 2013A4PS380P

Student Write-up

Short Summary of work done during PS-II: The work involved improvement of productivity by implementation of TMWS at TATA Motors SGI foundry, Maval. The project methodology was to divide the maval foundry to various sub stations or shops like core shop, moulding shop, melting shop, pouring station, etc. and then studying and mapping various processes involved in casting manufacturing. 127 castings were studied and they were correlated to other castings items to complete the study of total 212 castings being produced in the foundry. The study was done in accordance to the rules of TMWS and MOST and then the collected data was fed into the TATA motors proprietary software called PaLMSys. After this, analysis was done and the data was compared with the industry standards and TATA motors' own targets. The optimal processes were identified and then pain areas were identified for further improvement. Some suggestions were provided to the concerned authorities for further action and study.

Tools used (Development tools - H/w, S/w): Software (TATA Motors proprietary software PaLMSys)

Objectives of the project: To implement Tata Motors Work Standards (TMWS) in Tata Motors SGI foundry, Maval.

Outcomes of the project: TMWS was implemented in the foundry and various pain areas were identified which had scope for improvement, some suggestions were provided to the concerned authorities for further study and improvement.

Major Learning Outcomes: I could learn about the most recent developments in productivity study and industrial engineering like MOST. Also, I could learn about all the processes involved in casting manufacturing in a foundry.

Brief Description of working environment, expectations from the company: The PS station, TATA motors was full of experienced and knowledgeable people, who helped us a lot in not only project related aspects but also other fields. There were many people with 30+ years experience in the same company and it was refreshing to see a sense of family like attachment with the company. The company

provided us with ample opportunities to study the various processes involved in an automobile manufacturing plant and hence made the whole PS experience a fruitful one.

Name: Arun Govind M

ID No: 2013A4PS107P

Student Write-up

Short Summary of work done during PS-II: Developing a methodology for supplier assessment to elevate supplier management at Tata motors to world class levels as a part of Process Excellence (ProEx) initiative rolled out in 2013.

Tools used (Development tools - H/w, S/w): MS Excel

Objectives of the project: Develop supplier rating system. Develop Audit check sheet for on-site supplier assessment

Outcomes of the project: Rating methodology has been developed and is going live by Feb 2017. Audit check sheet has been developed and audits are ongoing

Major Learning Outcomes: Learnt visual basic scripting for MS Excel macros.

Brief Description of working environment, expectations from the company: Cordial work environment. All employees in the assigned department viz. SQMS, P&SC, TML Pune were helpful.

Name: Devansh Shrivastava

ID No: 2012B4A4588G

Student Write-up

Short Summary of work done during PS-II: Collection of data and analysis of data

Objectives of the project: Implementation Of Torque Monitoring System.

Outcomes of the project: reduction of defects.

Major Learning Outcomes: Excel.

Brief Description of working environment, expectations from the company: Projects Given In Manufacturing Would Like To Get Projects In R&D.

PS-II Station: Tata Technologies, Pune

Student

Name: *Mathew Antony Mohan*

ID No: 2013A4PS072G

Student Write-up

Short Summary of work done during PS-II: Pre processor GUI development for OpenFOAM.

Tools used (Development tools - H/w, S/w): Python. PyQt. MayaVi.

Objectives of the project: To develop a gui for OpenFOAM.

Outcomes of the project: A gui was successfully developed.

Major Learning Outcomes: Understanding OpenFOAM and Python.

Brief Description of working environment, expectations from the company: Used to get cheques more than month late inspite of submitting attendance sheet on time with full attendance.

Name: *Nikhil Nair*

ID No: 2013A4PS341P

Student Write-up

Short Summary of work done during PS-II: In Sedan cars, Trunk Lid Hinge we use is Gooseneck type, which consists of a steel tube connected one end to trunk lid and other end to body side. The other type of hinge is a Four-Bar Hinge comprising of a lower link bracket to be secured to the vehicle body, an upper link bracket to be secured to the movable trunk lid, and pivoting links connected between the upper and lower brackets. Each one of these types has some relative advantages and disadvantages. Designing and manufacturing of Gooseneck Hinge is easier as compared to the Four Bar Hinge, but its big disadvantage is the size which contributes to greatly reduce the size of the luggage compartment. The Four-Bar Hinge on the other hand is mounted on the body side, and because of that it occupies no space of the luggage compartment.

Tools used (Development tools - H/w, S/w): CATIA software

Objectives of the project: The objective of this project is comparative study between Gooseneck Hinge mechanisms with the Four-Bar Hinge mechanism in the sedan trunk lid.

Outcomes of the project: Four-Bar hinge was found to be better than gooseneck hinge.

Major Learning Outcomes: CATIA software.

Brief Description of working environment, expectations from the company: Company didn't allow me to work in their project. They told me to search on your own for project. I didn't find the faculty here helpful as only in the last month did they help me somewhat in completing the project.

Name: *Kartikeya Tiwari*

ID No: 2012B2A4613G

Student Write-up

Short Summary of work done during PS-II: The organization is out of projects and the ones available are in the final stage. Hence the work I got was related to final documentation. This involved excel, word and ppt making. Also the company is not involved in any sort of design work it only does CAD work so the only software you need are Creo and CATIA.

Tools used (Development tools - H/w, S/w): Excel, word, creo, CATIA

Objectives of the project: Conversion of a diesel pickup truck to CNG.

Outcomes of the project: The project is not yet complete.

Major Learning Outcomes: CATIA

Brief Description of working environment, expectations from the company: The work culture is good and you may get to learn something if your department has live projects. But don't expect to get projects related to design which involves calculations and knowledge to mechanical engineering. The company only does CAD work (2D to 3D conversion) . So the only software you may need or you get to learn are CREO and CATIA. Also don't expect your stipend on time it usually gets delayed by 30 - 40 days. (in sometimes even more)

Name: Pranav Kumar Gautam

ID No: 2012B5A4533G

Student Write-up

Short Summary of work done during PS-II: To design CAD templates certain BIW parts using CATIA v5 Generative shape design workbench. The parts are roof bows and roof mounts, CantRail, Sill, B Pillar etc. (Ref: BIW stands for Body in White). A template is used for quick creation of parts for new vehicles by replacing old reference surfaces with new reference surfaces. The reference surfaces are styling surfaces (Roof, AB flange etc).

Tools used (Development tools - H/w, S/w): Software - CATIA v5 (Generative Shape Desing Workbench)

Objectives of the project: To develop CAD Templates for BIW UpperBody

Outcomes of the project: Creation of CAD Template for 3 roof bows and the 3 roof mounts, CantRail, Sill, B Pillar Inner and B Pillar Outer.

Major Learning Outcomes: Surface modelling using CATIA v5, Siemens TeamCenter PLM software.

Brief Description of working environment, expectations from the company: Tata Tech is a service industry offering expertise to clients. Some clients are TATA Motors, JLR, Airbus, Ford etc. They may delegate some CAD or CAE work to TATA Technologies. It is a service industry where a team of engineers will take on a client project and bring it to fruition. The working environment is good and the work depends on the projects allocated to the departments at the company. You may expect good work from certain departments. Overall it is a good place to learn Technical tools like CATIA, HyperWorks, ANSA, LS Dyna but it all boils down to the department you are allocated.

PS-II Station: Techtute Structures Pvt Ltd, Nagpur

Faculty

Name: Arun Maity

Comments: Students should be familiar with BIM. Work at Techtute, Nagpur requires expertise in a variety of softwares. Some of these include Autodesk Revit, AutoCAD, Civil 3D, Navisworks, Sketchup, Dynamo, Primavera.

Student

Name: *Tanmay Shrivastava*

ID No: 2012B1A2793P

Student Write-up

Short Summary of work done during PS-II: My project basically involved the complete BIM modelling on Autodesk Revit of six Hotels:

Aloft Nashville, U.S.A.

Hilton Garden INN, U.S.A.

La Quinta, U.S.A.

Holiday INN, U.S.A.

Home2, U.S.A.

The project involved the complete Architectural Modelling of these hotels. Complete modelling involves every minute detail of the the building. Even a small lamp that is kept on the table of a room!! My work basically involved 3D modelling of these very architectural components. In the field of BIM, these architectural objects are called "Families".

Tools used (Development tools - H/w, S/w): S/w : Autodesk Revit, Autodesk AutoCAD, Navisworks

Objectives of the project: The objective of the project was to completely model the architectural items of 6 different hotels in Autodesk Revit.

Outcomes of the project: LOD (Level of Detail) 400 model of all the architectural items, which were submitted to the client on schedule.

Major Learning Outcomes: Thorough knowledge of softwares like Autodesk Revit and AutoCAD. Also, gained professional exposure while interacting with clients and trying to meet the deadlines.

Brief Description of working environment, expectations from the company: Techtur is a BITSian startup having quite a professional and inspiring work environment. The company employs more than 50 skilled and hardworking people and has BIM projects from all around the world. It is a great learning experience for any BIM enthusiast.

Name: Parth Sureks

ID No: 2013A2PS632P

Student Write-up

Short Summary of work done during PS-II: Jewel is a multi-use complex being constructed between existing terminals 2 & 3. It is the world's largest ID (Interior Designing) project till date. I was included in this project in August after the training, and I have been assigned all the tasks in turn so as to get all-round experience. I started with LOD 200 modelling, and worked upon common areas ceilings of all the floors including the modelling of different voids, edges of the whole floor ceiling. Typical profiles were created for edges and used in model to save time and effort. After that I switched to restroom modelling, which comprised of wall claddings, skirtings, floors, ceiling and placement of families. Some weeks later, I switched to documentation of the project, which included handling all the incoming files, interacting with the client and incorporating all the changes, suggestions by them and also keeping track of timeline on our end. Lastly, I worked on lift lobbies and corridors, LOD 0-500, which is basically the complete modelling process for a small area, giving a complete overview of BIM modelling.

Tools used (Development tools - H/w, S/w): Autodesk Revit, Navisworks, AutoCAD

Objectives of the project: To complete BIM modelling of all the ID elements for the construction of Jewel, Changi Airport, Singapore.

Outcomes of the project: LOD 500 model of the entire ID elements of Jewel, Singapore; coordinated with Architectural, Structural and MEP models.

Major Learning Outcomes: Efficient handling of such a large scale project. Technical proficiency in Building Information Modelling (BIM). Client interaction and documentation.

Brief Description of working environment, expectations from the company: Techtur has a motivational and inspiring work environment. It's a BITSian company currently employing more than 50 dedicated and competent professionals who are all in the same age group (22-27), so enthusiasm is always present. Techtur is working on numerous international prestigious projects like Jewel, Singapore; DIFC Gate Avenue, Dubai; Midfield Terminal, Abu Dhabi Airport. Mr. Viraj Voditel, CEO, is a certified Autodesk Expert Elite professional.

One can expect to improve his/her technical proficiency in BIM and depending upon their level of dedication and involvement, he/she can also head an entire project. A great learning and working experience for any BIM enthusiast.



PS-II Station: Tube Investments of India Limited, Chennai

Faculty

Name: Raghuraman S

Student

Name: *Nelanuthala V S Ashwin*

ID No: 2012B5A4605H

Student Write-up

Short Summary of work done during PS-II: Studying the various methods to improve cold tube drawing in industry. This includes modifying the geometry of the die required for drawing, Modifying the surface of the tube for effective lubrication to reduce draw loads and providing an external ultrasonic vibration aid to the die so that friction is reduced. The die geometry modification is a finite element analysis project undertaken in ansys and Is dyna, with CAD drawing done in solidworks. Surface modification was a chemistry and a design project and ultrasonic vibration aided drawing was a design project where a fixture was designed for the utm for sinking the tube to quantify the loads while drawing.

Tools used (Development tools - H/w, S/w): Solidworks

Objectives of the project: To find methods to improve the process of cold tube drawing in industry

Outcomes of the project: A fixture for the ultrasonic vibration aided drawing was successfully fabricated Die geometry analysis was made, Design of an electrochemical etching tank for creation of porous surface on the tube for increased oil adsorption was prepared

Major Learning Outcomes: Working with people, Engineering environment experience, design experience, simulation and analysis experience, Testing experience, Mechanical Workshop working experience, Plant and industry shop floor working experience.

Details of papers/patents: Study on the methods to improve cold drawing, NIT warangal sheet metal conference proceedings paper march 2017

Brief Description of working environment, expectations from the company: Very open friendly people, with freedom to conduct independent research work. Encouragement for the same. Open for conversations and provide inputs for the project as and when asked or required . Very good Research and development facility.

Name: Kaushik Thommandra

ID No: 2012B4AB864H

Student Write-up

Short Summary of work done during PS-II: Finding out the factors that cause failure of the equipment, machinery used in the plant and finding the correct machinery and equipment to be used for that particular product Manufacturing

Tools used (Development tools - H/w, S/w): Solidworks

Objectives of the project: Estimation of roll separation force in squeeze roll of tube mill to prevent bearing failure.

Outcomes of the project: Conducted a parametric study on the load variations with respect to roll configuration, friction, material strength, tube diameter.

Major Learning Outcomes: Got to learn the major problems faced from design point of view and operator point of view and trying to solve the problem keeping in view of both the factors is very important. learnt to use different softwares. Learnt to deal with different kind of people and dealing with organisation.

Details of papers/patents: Comparison analysis and parametric study on roll separation force to avoid bearing failure.

Brief Description of working environment, expectations from the company: A very friendly environment and very supportive at every point of time. There is freedom to work on any working project. There are no specific deadlines.

PS-II Station: VMS (Vakil Mehta Seth) Consultants Private Limited, Mumbai

Faculty

Name: M K HAMIRWASIA

Comments: Students should be well versed with structural design and codal provisions. They should be familiar with the analysis and design of RCC and Steel multi-storey structures.

Student

Name: *Bhaskar Adari*

ID No: 2013A2PS532P

Student Write-up

Short Summary of work done during PS-II: The work done by us was solely related to the ongoing projects of the host organisation. We gained insight to the practical applications of the teachings by the professors in college. The work allotted to us was a gateway to learning new software like ETABS, SAFE, RCDC, SAP2000, etc. Overall, it was a great learning experience and 6 months felt too less for it.

Tools used (Development tools - H/w, S/w): ETABS, SAFE, STAAD.Pro, Excel, AutoCAD, RCDC.

Objectives of the project: Help the host organisation through working as a design engineer

Outcomes of the project: Contribution in many ongoing projects.

Major Learning Outcomes: Learnt analysis and design software, preparing schedules, etc. The 5 and 1/2 months of working at VMS Consulting Engineers was a smooth transit from academia to the industry. While studying from books, we do not have a lot of clarity about the practical applications of the theory that we have learnt. However, at VMS, we got the opportunity to work on live projects and that really improved our understanding of the basic concepts.

Brief Description of working environment, expectations from the company: The employees working in the company were eager to help us and solve any doubts we asked. Having a strict deadline developed in us a quality of juggling multiple tasks simultaneously. The company expects us to not just be sound in our field, but also be aware of the technology around us and keep ourselves updated. This is to make us self-dependent and problem solvers rather than problem finders.

Domain: Eco & Finance & Management

*PS-II Station: Aditya Birla Skills Foundation-(part of Aditya Birla Group),
Bhubaneswar*

Faculty

Name:Anjani Srikanth Koka

Student

Name: Aniket Uday Sawant

ID No: 2012A1TS675G

Student Write-up

Short Summary of work done during PS-II: The project was a skills-gap survey of six cities of India which were: Udaipur, Bhubaneswar, Berhampur, Bhopal, Jabalpur and Kanpur. The research included four major sections viz, Industrial profiling, Educational Profiling, Youth Profiling and Vocational Education profiling. In the industrial profiling, from existing data, we figured out the high-growth, high job-demand sectors in the city and the attrition rates for certain job-profiles in the semi-skilled and skilled category of workers. This gave us a local employment scenario for the city. Educational profiling included finding the qualitative and quantitative aspects of the existing educational infrastructure in the city to ascertain the supply side of the work-force. Youth profiling was majorly focused on the qualitative demands of the youth in terms of salary, career and place of employment. Vocational educational profile was a competitor analysis of vocational training institutes in the city. The over-all objective of this survey was to come up with a feasibility report for Aditya Birla Group to set up vocational training institutions in these cities which are differentiated in approach and solve the local problems of skills-demand.

Tools used (Development tools - H/w, S/w): Microsoft Excel and R-programming

Objectives of the project: Over-all objective - To come up with feasibility reports for six cities in India to find potential skills-gap on a local level

Specific objectives -

- 1) Industrial profiling of cities to find out the high-growth sectors in terms of job-demand and attrition
- 2) Educational profiling of cities to find out the quality and quantity of education provided
- 3) Youth profiling to figure out the differentiated demographics of the youth in the city based on socio-economic backgrounds (mainly urban-poor) thereby affecting their individual aspirations.
- 4) Vocational education profiling of cities to find out the weaknesses in existing vocational training centers in the cities.

Outcomes of the project: Outcomes of the project were six feasibility reports submitted in complete confidentiality to Aditya Birla Skills Foundation, with recommendations for a differentiated approach to vocational education in each city based on the four sectors mentioned above.

Major Learning Outcomes: 1) most important learning outcome was the awareness of the existence of various Government schemes available for Skill development across India and their efficiency or lack-of depending on the cities.

2) Different behavior of each city based on its geographical location, connectivity to major industrial hubs and markets, population division and exposure to vocational education.

3) A comparative study of the cities in terms of potential for vocational education keeping in mind the youth aspiration and industry demand.

Brief Description of working environment, expectations from the company: Since the brief included six different cities there was no physical office space and we were working from the accommodation the company provided for us. Our working environment was varied across a spectrum involving local industries, reputed universities, and slums across cities, cooperators and mayors in different cities and private and Government ITIs. This turned out to provide a very wide variety of experiences and exposure.

Name: *Prateek Kachoria*

ID No: 2012B1A4649G

Student Write-up

Short Summary of work done during PS-II: Aditya Birla Group requires using its CSR (Corporate Social Responsibility) funds to open vocational training centre in these 5 smart cities of India: Udaipur, Bhubaneswar, Bhopal, Jabalpur, and Kanpur. Our job was to do the ground research and generate a skills-gap analysis report, which would suggest the ABSF to design its centre's courses and curriculum in a way that would reduce the skills-gap which existed in these cities. Project is an undertaking of Skills India programme started by Hon. PM Narendra Modi to improve the skills present in human resource of India. Me and my colleague Aniket Sawant from Goa campus spent 1.5 months in Udaipur (Raj.), 1 month in Bhubaneswar (Odisha), 14 days in Berhampur (Odisha), 25 days in Bhopal (M.P.), 14 days in Jabalpur(M.P.) and 18 days in Kanpur (U.P.). Our job in every city was to find out what skills are highly demanded by the industries and what skills does the youth of these cities lack, so that, ABSF could run courses on those particular skills and hence get these unskilled youth to become skilled and get employment. For this we found out the growing industrial sectors in above mentioned cities by visiting a number of industries large, MSME's etc. For e.g. tourism and mining in Udaipur, hospitality, healthcare and organized retail in Bhubaneswar etc. We also found in which areas up-skilling of employees was needed and where soft skills were required. Our project work required intense inter-personal and analytics skills which we acquired through constant meeting, interviewing and observing people who are good at these. Also, our Mentor Mr. Sanjay Shivnani (Head of vocational education, ABG) played a key role in guiding us wherever needed. Through this PS-2 station we interviewed and made acquaintances with people ranging from MAYORs, IAS officers, Commissioners, owners and managers of large, medium and small scale industries, their employees, centre heads of existing vocational training centers and student getting trained under them, principals of Industrial training

institutes just to name a few. One of the perks of the ps-2 station was the immense sightseeing experience we gained by visiting every city under our mandate. To be involved in a social project of Aditya Birla Group and to recommend them the in€™s and out€™s for their future vocational centers is in itself a huge achievement for us. Also, ABSF has already started a skilling centre in Udaipur and we are glad that our report is used as a research base to set it up.

Tools used (Development tools - H/w, S/w): Ms-word, Ms-excel

Objectives of the project: To check the feasibility of opening a vocational training center in 5 smart cities of India and perform a skills-gap analysis in those cities.

Outcomes of the project: UDAIPUR: It was found that it was a feasible place to open a vocational training center here with major growing areas being tourism, hospitality, organized retail, technical services, mining. Hence, the courses related to these sectors were suggested to the company.

BHUBANESWAR: Major growing sectors here were found to be: hospitality, healthcare, organized retail and technical services. Demand for Semi-skilled labor here was found to be huge and therefore job profiles and related courses for placement in those profiles were suggested to the company.

BHOPAL: Major growing sectors were identified to be: organized retail, technical services, front desk jobs, construction. But, the growth in industries was found to be slow. Nevertheless, the most popular courses and most promising courses in these sectors were suggested to the company.

JABALPUR: It was found that the investment in industries in this smart city is not growing. Hence, only a few job profiles like electrician, fitter, diesel mechanic were suggested to the company, as the ordinance factories recruited these in large number yearly.

Major Learning Outcomes: 1.Strong inter-personal skills2. Vocational education Scenario in India
3. Skills-Gap analysis4. Surveying, interviewing people

Brief Description of working environment, expectations from the company: Our job was to go into the field and interview people, managers, institution heads, students etc. We were provided with hotel rooms by Aditya Birla Group, so we mostly called people from our hotel rooms and took meeting appointments. Every week we had a conference telephonic meeting with our mentors from the company who were very supportive and professional in their conduct. We were provided with accommodation, travel allowance, daily travel expenses in all of the cities we visited with a decent stipend. It was a huge exposure opportunity for us and we could not expect more.

PS-II Station: American Express, Gurgaon

Mentor

Name: Purna Atluri

Designation: Director, Risk and Information Management

Students have worked on model view capability (MVC) hosted internally for decision science team in Risk and Information Management (RIM) department. They have been given the opportunity to work both in front end and back end of capability using Java, Spring framework and other Web Technologies. Students have revamped the underlying framework of MVC, successfully completed and deployed 3 major work streams in production environment and transitioned a legacy SAS process to Java to PMMLfiles. We have found BITS students diligent and disciplined. They have always shown learning attitude by asking appropriate questions. We look forward to have interns who can take ownership and account ability of their work, have ability to ask relevant questions, demonstrate sense of urgency of deliverables.

Faculty

Name: Ashish Narang

Comments: Expectations from industry:

American Express also known as Amex, is an American multinational financial services corporation best known for its credit card, charge card, and traveler's cheque businesses. Project assignments for interns includes improving internal services and improving models to predict defaulter cases. Interns have been exposed to both front end and back end technologies including Angular JS, Node JS, Python, Java, Spring Framework etc. They look forward to have interns who can take ownership of the task, eager to learn, open to work on different technologies and have excellent communication skills.

Student

Name: *Saurabh Shukla*

ID No: 2013A7PS175P

Student Write-up

Short Summary of work done during PS-II: Revamping the existing product by changing the underlying architecture to add flexibility for future changes. Add scalability to the project by using Predictive Markup Modeling Language. Added new work streams to existing capability. Addition of new features such as export which enables the page to be exported for further analysis. This web application is only for the internal use of amex.

Objectives of the project: Build Model Visualization Capability

Outcomes of the project: We delivered a fully functional capability to the RISK and Information Management of American Express. The capability has strong underlying architecture and is highly scalable. It covers all the work streams which helps the risk modeling teams to continuously revisit and improve their models.

Major Learning Outcomes: a. Gain familiarity with Java Spring Frameworkb. Gain familiarity with SASc. Gain familiarity with various machine learning algorithms like gradient boosting machine, logistic regression.d. Learned the importance of query optimization in data retrieval.

Brief Description of working environment, expectations from the company: Environment and work culture are great. No too much work pressure and colleagues help you out and guidance is abundant from the seniors. The office hours and ambiance will surely meet your expectations.

Name: *Gireek Bansal*

ID No: 2013A7PS094P

Student Write-up

Short Summary of work done during PS-II: Revamping the existing product by changing the underlying architecture to add Flexibility for future changes. Add scalability to the project by using Predictive Markup Modeling Language. Added new work streams to existing capability. Adding new features such as export which enables the page to be exported for Further analysis. This web application is only for the internal use of Am Ex.

Objectives of the project: Revamping Model Visualization Capability web portal

Outcomes of the project: We delivered a fully functional capability to the RISK and Information Management of American Express. The capability has strong underlying architecture and is highly

scalable. It covers all the work streams which help the risk modeling teams to continuously revisit and improve their models.

Major Learning Outcomes: a. Gain familiarity with Java Spring Frameworkb. Gain familiarity with SASc. Gain familiarity with various machine learning algorithms like gradient boosting machine, logistic regression.d. We learnt the importance of query optimization in data retrieval.

Brief Description of working environment, expectations from the company: Environment and work culture are great. No too much work pressure and colleagues help you out and guidance is abundant from the seniors. The office hours and ambiance will surely meet your expectati

Name: *Jatin Khandelwal*

ID No: 2013A7PS105G

Student Write-up

Short Summary of work done during PS-II: Revamping the existing product by changing the underlying architecture to add flexibility for future changes. Add scalability to the project by using Predictive Markup Modeling Language. Added new work streams to existing capability. Adding new features such as export which enables the page to be exported for further analysis. This web application is only for the internal use of American Express.

Tools used (Development tools - H/w, S/w): Java Spring

Objectives of the project: Revamping Model Visualization Capability web portal

Outcomes of the project: We delivered a fully functional capability to the RISK and Information Management of American Express. The capability has strong underlying architecture and is highly scalable. It covers all the work streams which help the risk modeling teams to continuously revisit and improve their models.

Major Learning Outcomes: a. Gain familiarity with Java Spring Framework

b. Gain familiarity with SASc. Gain familiarity with various machine learning algorithms like gradient boosting machine, logistic regression.d. Learned the importance of query optimization in data retrieval.

Brief Description of working environment, expectations from the company:Environment and work culture are great. No too much work pressure and colleagues help you out and guidance is abundant from the seniors. The office hours and ambiance will surely meet your expectations and give American Express medium priority for PS.

Name: *Chandradeo Arya*

ID No: 2013A7PS015P

Student Write-up

Short Summary of work done during PS-II: Big data analytics is one of the biggest challenges of any organization like American Express to find the most useful information from the data. We as the Prospects acquisition team have the responsibility to build the response model for finding probable customers so that most relevant offers can be sent to probable customers through direct mail accepting which they will become regular AMEX card holder. AMEX gets large amount of data from credit reporting agencies like Experian. My project aims to build the deep learning model which can show prospects behavior, ranks the most important attributes about the prospects to target them, show trends on monthly data, compare model performances and hence in future be used for predicting response of the ongoing AMEX customers also. Based on the result of the project marketing and strategy team will build the best strategy at the least cost to send offers to prospects. Result of the project in turn will also help customer acquisition team in building response model for the ongoing AMEX customers also. This work will help IMS in getting better response from the customers with decreased cost of conversion per customer and hence benefit the organization in competitive market environment.

Tools used (Development tools - H/w, S/w): Deep learning libraries like H2O, Apache Hadoop, SAS EG, Python, java

Objectives of the project: a. Process trade line data b. Build response model on trade line data c. Create new important variables to be used in production d. Make the model real time prediction compatible and portable

Outcomes of the project: Response model was built on the trade line data. Whole work also required multi-term processing of trade line dataset. We derived new variables which can be later used in production models. We found important variables and devised techniques for visualizing categorical variables and their effectiveness on response modeling. Finally model was made portable and real time prediction compatible.

Major Learning Outcomes: Learnt deep learning techniques which is future of machine learning algorithms. Got to work on such a large amount of data and got first time experience on working in distributed environment like apache Hadoop. Major outcome was also that I got to learn to work in collaborative environment with entire team sharing works which builds team spirit.

Brief Description of working environment, expectations from the company: American Express is located in Phase-V in Gurgaon in golf course road and my team was located in One horizon center building. Whole IMS dept. is located on 5th floor. While working you have a great working space, environment, facilities and canteen. In terms of technical support systems you get 24x7 services, all servers and data centers always running on. You have flexibility to come anytime and work when you wish. Given this team expects to get the work done from you as per schedule with full diligence. Work sometimes are very challenging while pursuing deadlines but being the whole team and specially your mentor, director everything gets done very smoothly.

PS-II Station: Bain Capability Center Pvt. Ltd, Gurgaon

Faculty

Name: Anjani Srikanth Koka

Comments: Expectations from industry:

Bain Gurgaon: Project Areas: Zero based Budgeting; not much technical skills needed but basics of finance and basic knowledge of PPT and MS Access is needed.



Student

Name: Anchal Garg

ID No:2012B5A2681P

Student Write-up

Short Summary of work done during PS-II: My project was to get the idea that how the organizational performance of an organization can be improved by analyzing organizational performance. For this we use a diagnostic tool known as org navigator tool to scrutinize organizational performance. We work jointly with our clients to assess the gaps and identify the opportunities that drive their organizational performance.

Outcomes of the project: Helping clients take their organizations to full potential

Outcomes of the project: Using Org Navigator tool to analyze the organizational performance

Major Learning Outcomes: Working under this project enriched my skill set of metrics and parameters important for any organizations performance. Except the soft skills I got to know important formulas for excel, power point and basics of MS Access.

Brief Description of working environment, expectations from the company: I would like to recommend Bain to everyone who wants a exposure of management consultancy. This has been an experience of a life time and helped me to have learning attitude and structured thought process. I sincerely believe that I was able to learn not only learn new skills but also refine what I have earlier.

Name: Mansi Singh

ID No: 2012B4A8730P

Student Write-up

Short Summary of work done during PS-II: Worked on a number of cases (private equity cases) varied by industry, where data in some form or the other was gathered. Further, this data was used for benchmarking and target screening based on the relative growth of the company compared to the industry and its competitors. This data was used to analyze whether client could proceed with investment or acquisition in that particular company. With this, I got an opportunity to work on MS Excel, use appropriate functions to get useful data, use PowerPoint more effectively and analytically solve the problems.

Tools used (Development tools - H/w, S/w): Gained proficiency on excel and PowerPoint

Objectives of the project: I was part of private equity team and got the opportunity to work on many cases (about 20-25), as most of the cases lasted for max a week.

Most of the cases involved the following methodology:

1. Understanding the industry or products/services → Collecting data from reliable sources
2. Tabulating the data in excel → Applying required filters and formula to get the desired results or find a way to make the data useful to the client → Presenting the results in the form of graph on slides and do the analysis based on it.

Outcomes of the project: Worked for private equity companies that require assistance related to industry overview, transactions overview, acquisitions, and related services. Helped me understand and analyze the business processes of the client and perform market analysis for the various trends in private equity sector pertaining to the region of North America.

Major Learning Outcomes: The major take back that I have taken from this internship is that it has widened my knowledge base and awareness of the workings in private equity sector. It will definitely be of a great help in planning my career more pragmatically. The PS experience has helped me not only in improving my skill set and knowledge base in Finance(private equity) but also; create a good network of colleagues and mentors that have guided me immensely in setting my career goals in this field.

Brief Description of working environment, expectations from the company: The industry is working on feats that are a century ahead of what is taught as academics. Sure, the basics are still the same; but constant learning is not a myth the very reality we exist in and PS-2 has just been a reminder of the same. The biggest advantage of working in big Multinational firms is that you are groomed really well to handle the rigors of corporate life. An experience like this will definitely help those who aspire to work in managerial roles in the future. The transition from academic to industry wasn't smooth since on campus, we lead a much laid back, carefree life but industry demands a slightly more intense outlook.

Name:Pranav Kulkarni

ID No:2012B3A4403P

Student Write-up

Short Summary of work done during PS-II:At Bain Capability Centre, I was in the Corporate Finance team. We basically give a 360 degree perspective of a company starting with its total shareholder return, and the levers that drive it; valuations, future perspectives, and the main issues analysts are talking about it. Each case typically lasts 4 days. For that, we make a 40 slides deck and read around 200 pages of analyst reports for every case, thus giving us a lot of knowledge and perspective about the industry.

Tools used (Development tools - H/w, S/w): The skill-set required are presentation skills, excel and a curious attitude! A bit of various consulting frameworks would be an added advantage!

Objectives of the project: To analyze the drivers of total shareholder return of a company and suggest strategies to improve it

Outcomes of the project: Gained various perspectives of the consulting sector and in-depth knowledge of how companies strategize in the long term using quantitative information. Understood the process of data-driven conclusions.

Major Learning Outcomes: It has been very helpful and resourceful to me to grow professionally as well as increasing my knowledge about various key things in consulting sector. I have also got a brief insight on complexity of consulting sector, and how each decision taken is driven by strategic requirement needed.

Brief Description of working environment, expectations from the company:I would like to recommend Bain Capability Centre for its great work environment, organized structure, and systematic way of working and good benefits. It's a smart company which takes good care of its employees so that they could grow, could extract out their best in favor of their company. It gives good work life balance to an employee and it has a nice work segregation.

Name:*Shubham Bhatia*

ID No:2013A3PS277G

Student Write-up

Short Summary of work done during PS-II: I was part of a team which dealt in Private Equity cases in Europe, Middle East and Asia Pacific region. All the cases were from different industries, hence there was quite a lot of diversity in the work. Our team used to do the competitive analysis, SWOT analysis and various other analysis to deliver correct current and predicted future status of the market to the client.

Tools used (Development tools - H/w, S/w): SPSS, Excel, PowerPoint

Objectives of the project: To analyze acquisition targets for PE firms

Outcomes of the project: Projects still in progress

Major Learning Outcomes: Learnt how consultancy firms approach and solve various business problems

Brief Description of working environment, expectations from the company: The working culture is quite good. People are really helpful and constantly support whenever you need their help



PS-II Station: Capital One, Bangalore

Student

Name: *Kikkiseti Shanmukha Sai Naresh*

ID No: 2013A4PS046H

Student Write-up

Short Summary of work done during PS-II: I created a tool for RWA (risk weighted assets) attribution. the level of automation is that the tool needs only excel input.

Tools used (Development tools - H/w, S/w): SAS, UNIX (PUTTY), Teradata (for datapull)

Objectives of the project: Create a generic and automated tool used for business analysis

Outcomes of the project: Full layout of the impact of factors on RWA shifts

Major Learning Outcomes: SAS programming, using UNIX as wrapper

Brief Description of working environment, expectations from the company: Good Working Experience

Name: *Chunduri Kiriti Venkata Purna Nanda Sai*

ID No: 2013AAPS279H

Student Write-up

Short Summary of work done during PS-II: Project assigned to me revolves around the tool called Digital Tool. My work involves the maintenance of the tool which includes implementation of new functionalities required and also making changes to existing functionalities based on the requests and then release the new version of the tool once in every 2 months. I have released 2 versions during my

internship and also helped them in solving so many issues in the tool some of them are existing form more than 1 year which saved a lot of money to the company.

Tools used (Development tools - H/w, S/w): Microsoft Access

Objectives of the project: The objective was to digitize the process of building Commercial Card contracts. The scope of India team was to take maintenance requests and then implement them in the tool and also to take care of the people issues with the tool.

Outcomes of the project: The tool has been fragile when i have taken its responsibility as the tool had some compatibility issues with the latest Microsoft office and the whole company started migrating to leading to macro errors. I was able to make it compatible on office everywhere and it saved more than 15 to 20 lakhs to the company. I was also able to provide so many functionalities which will make the process smoother and also fixed some bugs in the tool many of them are cost savers and some of them are time savers to the company

Major Learning Outcomes: Software's learned: VBA and SQL

Personal Development: My work involves so many calls with the people in USA who are using the tool which really helped in building rapport with them and also

Helped me in improving my communication skills and i also gained deck (ppt) preparing skills.

Brief Description of working environment, expectations from the company: The Company is one of the idle places to work. The timings are flexible and there is no dress code. Very frequent team outings and also multiple company outings. The people around are very smart and it also helps a lot for our personal development interacting with them.

Name: Abhishek Bhattad

ID No: 2013A7PS017P

Student Write-up

Short Summary of work done during PS-II: I worked as a Software Developer in the development of Capital One's own new product. First I worked on the Proof Of Concept (POC) model till September and then I was involved in the Industrial scale production of the product Design on Tap (DOT). This project also won the first prize among all the Capital One's ongoing project. Capital One is shifting towards Tech and they want to build their own products rather than using third party tools.

Tools used (Development tools - H/w, S/w): It was end-to-end product development involving Java (Spark), AWS (Amazon Web Services) environment, Sprint Boot (for microservices), AngularJS (for UI).

Objectives of the project: To replace the currently used third party tool with their own product. Besides monetary benefits there are many other advantages as well.

Outcomes of the project:The project won the first prize amongst the Capital One's projects from the head of the India Office. The product is in the development phase.

Major Learning Outcomes: It was end-to-end building of tool from scratch. A great learning experience working in an AGILE team environment. Got to learn different new Technologies and skills enhancement of the already learnt skills.

Brief Description of working environment, expectations from the company:The work culture of the company is very good. As it was my first corporate exposure, it was great to work in such environment. Everyone is willing to help whenever you reach them. People treat each other at same level as a team. The hospitality company provided for interns was truly unimaginable. It was great to work in Capital One and Thank You PSD, BITS Pilani for providing me this opportunity.

PS-II Station: Credit Suisse, Mumbai

Student

Name:*Ramya Mittal*

ID No: 2013A2PS630P

Student Write-up

Short Summary of work done during PS-II: Monitoring of VaR, ERC, Exposures and Sensitivities against limits globally across all Credit Suisse business lines. Reporting of and explanation of limit violations to senior management; Escalation and resolution of limit breaches. • Calculation and reporting of CS Group Position Risk ERC (99%), including analysis of portfolio changes and ERC composition over the reporting period.

Objectives of the project: As a part of the Centralized research group, the objective is to estimate how much a set of investments might lose, given normal market conditions, in a set time period such as a day.

Outcomes of the project: The VaR values are typically used by firms and regulators in the financial industry to gauge the amount of assets needed to cover possible losses.

Major Learning Outcomes: Validation projects investigate all aspects of the models, covering their assumptions regarding the behavior of different asset classes, performance over different time scales, treatment of different products and risk types and their aggregation and use in the risk capital calculations.

Brief Description of working environment, expectations from the company: Credit Suisse has a very good working environment. Always had seniors in team to help me out. It has been a very informational and full of learning experience for me.

Name:*Arya Roy*

ID No: 2012A3PS197P

Student Write-up

Short Summary of work done during PS-II: I worked on Risk Measurement using Greeks, VaR and IRC.

Tools used (Development tools - H/w, S/w): Proprietary Software

Objectives of the project: To measure Risk and fulfill compliance

Outcomes of the project: We measured Risk

Major Learning Outcomes: I learnt about the corporate structure and how to measure risk.

Brief Description of working environment, expectations from the company: The work environment was comfortable.

Name: Rohit Sai Janga

ID No: 2013A3PS293P

Student Write-up

Short Summary of work done during PS-II: Working on many types of PTA (Pre-Trade Analysis) requests have helped me gain a deeper understanding of the trading procedures and strategies used by front office. Making indicatives generator helped me in familiarizing with the work done by the Trade Analysis team. Implementing the MPOR methodology helped me gain a good understanding of the exposure calculations for bonds and securities.

Tools used (Development tools - H/w, S/w): SQL, MS Access, Excel, VBA

Objectives of the project: Manytimes the traders want to see the exposure profiles in different scenarios, for example by changing maturity by a year, or bumping the IR spread etc. so these type of repetition exposure calculations can be done using CVA pricer tool. Indicatives are the ball park numbers which trade analysis team publishes, which can be used to have an estimate of the exposure in a trade. My job was to make an Indicative generator which can publish the reports automatically. For calculating Bonds/Securities haircuts, MPOR is an important parameter; I have implemented the current procedure to calculate the MPOR on an existing Haircut tool.

Outcomes of the project: 1) Collateral Haircut tool is modified to choose MPOR on its own

2) Indicatives are automated, now a single analyst can publish the indicatives instead of 5

3) Discrepancies in trade routing logics are identified and changes suggested.

4) CVA Pricer is changed to implement the new SEPE methodology

Major Learning Outcomes: 1) Trading strategies

2) Haircut calculations and MPOR methodology

3) Trade routing logics of Insight (Credit Suisse Strategic Engine)

Brief Description of working environment, expectations from the company: My teammates were very helpful in understanding and getting familiarized with the current system of exposure calculations.

Name:*Bhanvi Gaur*

ID No:2012B3A3473G

Student Write-up

Short Summary of work done during PS-II: Dept: Prime Services; Team: Stock Loan The team handles the Securities Lending Business and coordinates the same with the London Desk. I learnt quite a few reports such as Over borrow analysis, Locate checking, No shows, ETF P&L, Disclosure etc. that facilitate the daily activities of London Desk. Also, I worked on improving efficiency in our daily tasks and issue that hinder the job of the front office desk.

Tools used (Development tools - H/w, S/w): Microsoft Excel

Objectives of the project: To learn the overall Securities Lending Business and work in coordination with the London Desk.

Outcomes of the project: Contributed to a crucial set of tasks of the Stock Loan team and learnt about how the business flows between the lenders on one side and clients on the other side and the role of Credit Suisse as a prime broker.

Major Learning Outcomes: Reporting to the London Desk, Understanding the critical refinancing processes, showing market trends for hot and warm securities to build up client relationships with CS.

Brief Description of working environment, expectations from the company: Working environment is stress free and engaging. Managers are very interactive and approachable. Colleagues are helpful and supportive.

Name:*Harmandeep singh gill*

ID No:2013A1PS728P

Student Write-up

Short Summary of work done during PS-II: Daily risk signoffs for Cash equities EMEA cluster. This was done by validating the trading books with the help of various softwares. The attributes measuring the daily risk were checked regularly so that they do not cross permitted limit values. Other work involved daily BFI reporting.

Tools used (Development tools - H/w, S/w): Microsoft excel

Objectives of the project: Thorough understanding of the business of risk management with respect to any particular cluster. Getting comfortable with all the applications as well as improving your soft skills

Outcomes of the project: My work was assistance to my team's work which helped them save time and do more adhoc activities in their spare time. I had also built a few techniques to execute the daily reporting procedures in a quicker manner.

Major Learning Outcomes: Holistic understanding of the risk methodologies involved in the risk management of trading books. Communication and networking skills improved. My product knowledge strengthened

Brief Description of working environment, expectations from the company: The work culture is great. People over here are really helping and encouraging

Name:*Anuj Piplani*

ID No:2013A8PS510H

Student Write-up

Short Summary of work done during PS-II: Data Validation for daily and weekly process. The data that are validated are used to calculate VaR Numbers by using P&L strip. Analyzing the impacts of various securities.Automation of MaRS queries using VBA,C# and using power shell.

Tools used (Development tools - H/w, S/w): TSRD, MaRS and Excel

Objectives of the project: Calculating VaR Numbers and significance of VaR numbers and analysis the results if there is any threshold breaches.

Outcomes of the project: I was able to automate the MaRS queries.Prepared a detailed procedure guide for equities which can be used for automation.

Major Learning Outcomes: Learnt Excel, VBA and C# for automation.Also learnt to use Bloomberg terminal and DSS portal.

Brief Description of working environment, expectations from the company: The corporate culture was nice. It was a great learning curve as this was the first stepping stone in my corporate life. The work was methodological and not so much challenging. But it was a good experience. The challenging work is not given to freshers and we are not put under much pressure.

Name:*Pujith Nalam*

ID No:2012B3AB576H

Student Write-up

Short Summary of work done during PS-II: I have worked with the implementation of a methodology change for Incremental Risk charge model (For trading book of credit Suisse) also worked on various BAU processes.

Tools used (Development tools - H/w, S/w): R, Excel

Objectives of the project: To gain the understanding of IRC model, implementation of the defaulted methodology change in Prototype(R)

Outcomes of the project: Understood how IRC model works and the purpose of IRC calculations by finance companies implemented a major methodology change

Major Learning Outcomes: Learned R while during various BAU processes and wrote an R script for calculating market recovery rate for Defaulted transactions in Defaulted Debt methodology.

Brief Description of working environment, expectations from the company: Working environment is very friendly and the Power distance Index is very low in the company. Some of the work might be repetitive; learning curve is steep for the first two months. Overall it is a very good place for Risk analytics

Name: Shraddha Panwar

ID No: 2012C7B3844P

Student Write-up

Short Summary of work done during PS-II: 1. Worked on scenario path generation model which is used to measure market shocks for a given period of time using different approaches. These approaches are designed and maintained by Credit Suisse- ERM department. I studied the methodology documents and improvised the existing process-automation code for Scenario Path Generation.

2. For KRI/EWI project, Modified a code written in R language so as to get the correct Long Term correlation value and expanded it to generate 1-Month rolling correlation output too. In MS-Excel, developed different asset pairs and test them for pre-defined conditions.

3. Following codes were had been written using R programming: Wrote a code to segregate variables into different source files based on the length of their time series respectively. Wrote a code for generating Validation Report which contains all the statistical tests that are used to check the model for its robustness and fit.

Objectives of the project: The objectives of the project are as follows:

1. To understand the method of generating Scenario Paths and to generate them in MS-Excel.
2. To understand the method of developing models for economic variables.
3. To learn R programming and to use it to automate the existing processes.

Outcomes of the project: 1. Scenario Path Generation project: This project helped me to understand new concepts of finance. I have learnt about the stress testing-concept, financial scenarios and how these scenarios impact the financial products. These concepts are first implemented in MS-Excel which helped me to brush up my excel skills, analysis capability, handling huge databases, etc. Also, by automating few processes helped me to use my programming skills.

2. Scenario modeling project: This project requires the skills of research experience, econometric and programming. Under this project, I have automated two Expansion processes and written a few codes as per my team's requirement..

Major Learning Outcomes: 1.I have gained quite good understanding of stress testing concept. Also I got a chance to brush up my excel skills while developing the scenario paths in Excel.

2. The project on Scenario Modeling helped me in using my econometric skills as well as my analytical and mathematical skills.

3. I had also learned a new language for coding i.e., R language. Since R programming is one of the most important statistical and analytical tool that many finance companies are using nowadays, so having knowledge about that is always a plus point.

4. During my internship I had learnt R language and wrote three codes as per the requirement of my team. Also I have done quite a few changes in the codes written by CRISIL people for modifying them as per my team needs.

5. My internship also helped me to improve my interpersonal and presentation skills. Having calls with the people from global teams helped a lot to improve my communication skills. Also Bi-weekly presentations helped me to improvise my presentation skills.

Brief Description of working environment, expectations from the company: Credit Suisse gives you a full-fledged opportunity to experience a typical corporate life and gives you enough space to groom yourself for your future. Credit Suisse provides an apt environment to learn, explore and grow.

As expected, the internship was fast-paced and prompting. Like other finance companies, this organization too expects you to learn quickly and work hard.

Name:Prachi

ID No:2013A8PS392G

Student Write-up

Short Summary of work done during PS-II: The research team at Credit Suisse is divided into various teams based on sector and strategy. Day to day work in the Single Securities team involves writing commentaries and research recommendations (buy-side) on various stocks under coverage, from a firm-specific or bottom-up approach. I was particularly assigned to Banking and Financial securities around

the world. Occasionally I would also write commentaries on important news items pertaining to the global banking scenario. Equity research involves a lot of reading in order to build up general awareness. Sound fundamentals are as important as the quantitative methods, both essential to value a company. Apart from research work we catered to several ad-hoc requests which involved heavy reliance on Bloomberg terminals and third party research vendors for data gathering. A CFA qualification would be highly valued for such work.

Tools used (Development tools - H/w, S/w): Excel

Objectives of the project: Supporting senior analysts on data gathering through third party research and Bloomberg terminals. Compiling recommendations on single securities.

Outcomes of the project: My final presentation to my team was based upon the banking system in UK and the effects of Brexit. I also engineered an Excel based linear regression model to map the sensitivities of several emerging market indexes to relevant macro economic factors.

Major Learning Outcomes: Learnt financial modelling and equity valuation, using DCF and Gordon growth models along with the study of price multiples.

Brief Description of working environment, expectations from the company: The team I worked with, Private Banking research was a bunch of highly qualified and knowledgeable people with at least 4 years of experience. Almost all of them were CFA charter holders. They were all really patient and approachable. However, in a Research job it is entirely up to the individual to garner as much knowledge and expertise in their sector. As for the recreation facilities or employee-benefits Credit Suisse was slightly disappointing. The cafeteria was decent. We were not provided any travel compensation, etc. However work hours are much lesser than other investment banks; my typical day would be a 10 to 7, so that's a plus! The company organized team parties once in a few months apart from some sports tournaments or Yoga/ Zumba classes on weekdays. I feel personal experience would differ based on the team you are allotted, but all in all it is a good workplace.

Name: Parthey Agrawal

ID No: 2013A3PS321G

Student Write-up

Short Summary of work done during PS-II: I was working in the Credit Risk Management Division at Credit Suisse. Here I was mostly working on Collateralized OTC Derivatives portfolio. Our team owns the model of capturing Risk (using Value-at-Risk) by Historical Simulation model and hence setting collateral levels for counterparties based on the risk evaluated. I would assist my team in the BAU work. There would be considerable amount of reporting and sometimes requests from other teams which would be needed to taken care of.

Tools used (Development tools - H/w, S/w): Sql, Microsoft Excel

Objectives of the project: Enhancement of the Mandatory Sensitivities Framework for OTC Collateralized Portfolios.

Outcomes of the project: I was able to enhance and check the mandatory sensitivities framework for various products.

Major Learning Outcomes: I learnt a lot about many financial products as well as improved on my Excel and SQL skills.

Brief Description of working environment, expectations from the company: The working environment I wouldn't say is great. The Pune office has better working environment as far as I have heard. At the same time it's not horrible. The people aren't very interested in talking to each other here much, unless it's something about work. Other than that, the facilities provided by the company are okay.

Name: *Nikhil Jain*

ID No: 2013A2PS412H

Student Write-up

Short Summary of work done during PS-II: I have worked on developing the Automation for regulatory reports and files supplied to the system for exposure calculation. I have also developed Model for Front Office Revaluation purposes. Along with the above mentioned projects, I have developed a model for generating shocks on the different asset classes wrt changes in the macro-economic factors like GDP, Inflation, etc.

Tools used (Development tools - H/w, S/w): MS Excel, MS PowerPoint, SqlDbx

Objectives of the project: To develop the automated procedure, Development of the Front Office revaluation model, and Scenario Definition modelling

Outcomes of the project: Completed targets in the given time line

Major Learning Outcomes: VBA Coding, Understanding of the Derivatives(Options, Futures Option, etc)

Brief Description of working environment, expectations from the company: It is a really good organization where everybody is willing to help you anytime. We are supposed to discuss the projects with our manager before finalizing them so as to keep the realistic targets in the given time frame. The other employees are willing to help you in matters inside as well as outside the organization.

Name: *Sukriti Kumar*

ID No:2012C7A2839P

Student Write-up

Short Summary of work done during PS-II: Loss given default is the economic loss incurred by a defaulted facility. It is calculated as a percentage of exposure at default for the defaulting counterparty. The project aimed at testing the model which was developed for the Swiss regulator, PRA which calculates the loss given default at counterparty level. It also discusses analysis that was done for calculating an appropriate discount rate so that the present value can be calculated at the time of default for the recoveries that have happened over the years so as to calculate the loss given default. This estimation of LGD is used in calculation of risk weighted assets which feed the capital calculation of the bank. Additionally, the project scope also includes self assessment of the policies being complied with during the model building exercises along with data pooling exercises.

Tools used (Development tools - H/w, S/w): R, Excel

Objectives of the project: Model testing for the IB PRA Loss Given Default (LGD) model at counterparty level

Outcomes of the project: The different tests help to validate the model at different levels and to check the accuracy of the model.

Major Learning Outcomes: Working in a professional environment- esp on skype calls and mails, hands on experience with different tools esp. R programming, knowledge and exposure to the financial world, various methods used for model testing and the idea behind them, how a model is developed and how to approach a problem.

Brief Description of working environment, expectations from the company: Working environment in Credit Suisse is decently good. The way that the team accepts a new intern/ an employee is recommendable. The team also lets you explore the work of other teams and guide you to explore new things. The director of my team is quite motivating and gives you the freedom to explore the work that you like.

Name: *Sumit Karvade*

ID No: 2012B3A4569H

Student Write-up

Short Summary of work done during PS-II: For the first one and a half months we were assigned work specific readings and asked to give presentations on our learning. Then, after all the accesses were granted, we were slowly assigned work, which is given to regular employees. Working under the chief risk officer, Scenarios team in RFDAR is responsible for analyzing and reporting the profits and losses for fixed income positions under various Macroeconomic events, including stress testing scenarios provided by regulators.

Tools used (Development tools - H/w, S/w): Excel and VBA

Objectives of the project: Using scenario based analysis for various Risk Reporting activities

Outcomes of the project: Conveyed exposures under various scenarios to Risk managers as a part of BAU reporting

Major Learning Outcomes: Working in the Market Risk Rates team helped me realize how market movements may affect the value of assets under management and how banks hedge against these losses. I gained a working knowledge of Macroeconomics, risk management through derivatives, excel and VBA. Last but not the least, one also gets to learn business communication skills, verbal and written, formal and informal, and the judgment of when to use which one.

Brief Description of working environment, expectations from the company: I was an intern at Credit Suisse Mumbai, in the Market Risk Scenarios-Rates team, which is a part of the Risk in Finance and Data Analytics department (RFDAR). I am grateful to the Practice School Division for giving me an opportunity to work with this bulge bracket bank and experience firsthand the nature of its operations. Working under the chief risk officer, Scenarios team in RFDAR is responsible for analyzing and reporting the profits and losses for fixed income positions under various Macroeconomic events, including stress testing scenarios provided by regulators. The work environment was great and the way my teammates & manager handled work taught me how to defuse high pressure situations while remaining cheerful.

Name: *Utsav Chatterjee*

ID No: 2013A5PS933P

Student Write-up

Short Summary of work done during PS-II: I was asked to create process manual for different risk classes

Tools used (Development tools - H/w, S/w): Excel, TSRD, Mars.

Objectives of the project: Documentation of all the work done by my department.

Outcomes of the project: New team member and teams of other risk classes won't face issue when working on different risk classes

Major Learning Outcomes: Value at risk and different risk classes

Brief Description of working environment, expectations from the company: It was cordial, learning and friendly.

Name:Anuraag Jain

ID No:2012C7A1855P

Student Write-up

Short Summary of work done during PS-II: There are some daily tasks called BAUs (Business as usual) which my team does, and they are mechanical in nature. My task was reduce the time taken to do these tasks. I automated them using the VBA programming language in MS Excel. By doing this the chances of error of doing all this manually was reduced to nil. I made macros for Block Leave Process, LIBOR sensitivity analysis and PnL Sign Offs. Apart from this I was given the task of Trader Mandate Exception Report. I made the reports for both the Equity and Fixed Income business.

Tools used (Development tools - H/w, S/w): VBA- Microsoft Excel Programming Language

Objectives of the project: To understand the working of my team- Supervision & Oversight with the Global Markets division. To automate the daily BAU's by writing the macros for it.

Outcomes of the project: Made the processes more efficient and reduced the scope of error to nil.

Major Learning Outcomes: Learnt the programming language VBA from scratch. Understood the various type of risk the bank faces while trading and after trading has ended.

Brief Description of working environment, expectations from the company:I found the working environment very good. People are cordial and work life balance here is great. Hard to find this in any other financial institution of global repute As being a major in Finance, I had expected that I would be given some profile related to it, but was given coding instead.

I was given work a ad-hoc basis. I used to interact with people from other teams, understand their work, and this gave me a good networking opportunity here in CS.

Department allocation is something which should be done interview or resume basis, and not being randomly.

Name:Shivankar Datta

ID No:2013A4PS363P

Student Write-up

Short Summary of work done during PS-II: Worked on dividend forecasting for companies in indices like S&P, Dow, DJIA and many more. Also worked on index rebalances and handling of corporate action.

Tools used (Development tools - H/w, S/w): MS Excel, Access and other Credit Suisse risk system

Objectives of the project: To understand the methodologies of indices and work on them

Outcomes of the project: Learnt about indices and their rebalances

Major Learning Outcomes: Improved handling of excel, access and VBA based macros

Brief Description of working environment, expectations from the company: Professional working environment, with proper care of compliance taken at all levels. Employees are very helpful and gave good guidance.

Name:Manvi Saxena

ID No:2013A3PS290P

Student Write-up

Short Summary of work done during PS-II: GnR works to consolidate data from the daily activities of the traders across the specified regions. The information collected from RFDAR department comes through various systems/software and is summarized by the team to be reported to the Product Managers in the form of dashboards, metrics etc. -Book of Work Tracker Daily deliverables in terms of metrics, dashboards, Adhoc requests and other projects have to be done by the team. Mails are sent on a daily basis to task makers, checkers and backups as due date approaches -Metric Automation These breaches are taken from the Ranking Tables and go into various packs of businesses -Operational Risk Interactive Dashboard Incidents of breaches collated and categorized based on Legal Entity affected, Losses / Profit incurred and its respective classes, incident status etc.-GM CCM Minutes Preparing points of actions for above mentioned GM CCM meets based on the attendees by sitting in the meetings

Objectives of the project: The project was aimed to analyse various metrics under Governance and Reporting, Global Markets and understand their importance from a Risk Mitigation perspective. Credit Suisse operates in a wide variety of segments broad segments being Equity, Fixed Income Division (FID), and Investment Banking Division (IBD). Businesses in each of these attract a huge amount of operational risk, which has to be monitored, reported and mitigated. Governance and Reporting as a team has a framework, inbuilt with various metrics which are used to analyse and contain this Operational Risk

Outcomes of the project: Several tools created 1. Book of Work Tracker 2. Metric Automation 3. Operational Risk Interactive Dashboard

Major Learning Outcomes: Learnt VBA, working of Controls Department of GnR

Brief Description of working environment, expectations from the company: Not much structured work for interns. Assigned only on Adhoc basis.

Name:Vatsal Gupta

ID No:2012B3A7503P

Student Write-up

Short Summary of work done during PS-II: It mainly focuses on the changes in the investment positions of the bank in case of a severe event such as the 2008 Financial Crisis and how the bank can hedge its risks to protect itself against such an event. The process involves the extensive use of in-house softwares such as the Market Risk System Analysis Tool, Smart, RDS along with Microsoft Excel, VBA.

Tools used (Development tools - H/w, S/w): The process involves the extensive use of in-house softwares such as the Market Risk System Analysis Tool, Smart, RDS along with Microsoft Excel, VBA.

Objectives of the project: The objective was to assist the teams in their daily, weekly, reporting and to analyse the changes in the banking and trading books in case of an SFTQ event.

Outcomes of the project: Analysed the changes in the investment positions due to an SFTQ event.

Major Learning Outcomes: Gained professional knowledge of Microsoft Excel, VBA.

Gained knowledge of an corporate environment and MNCs

Gained knowledge about financial firms and other financial knowledge.

Brief Description of working environment, expectations from the company: The corporate environment was very friendly that allowed individual growth in terms of knowledge as well as values.

Name: *Chaitanya Bhatla*

ID No: 2013A1PS701P

Student Write-up

Short Summary of work done during PS-II: The key functions of the Impact Analysis team include providing impacts for various decisions taken at a book level by the traders. This also includes the wind-down of various CS units. Impact Analysts also provide the impacts which come due to the change in methodologies of the calculation of risk. To perform this, various parameters have to be accounted for.

Tools used (Development tools - H/w, S/w): R Programming, VBA for Excel, SQL

Objectives of the project: The key functions of the Impact Analysis team include providing impacts for various decisions taken at a book level by the traders. This also includes the wind-down of various CS units. Impact Analysts also provide the impacts which come due to the change in methodologies of the calculation of risk. To perform this, various parameters have to be accounted for.

Outcomes of the project: This project helps the company's higher management take strategic decisions for investing the capital on the basis of the leverage risk faced by the company.

Major Learning Outcomes: 1. Calculating the Credit Risk

2. Calculating IRC numbers

3. Basics of Market risk

4. Basics of Regulatory Reporting under the Basel Accord

Brief Description of working environment, expectations from the company: Good working environment.

Name: Akshay Morey

ID No: 2012B3A1605P

Student Write-up

Short Summary of work done during PS-II: Equity Research in consumer staples and materials sector. Created sector presentations for clients. Wrote comments regarding news affecting the sectors and companies. Created DCF models for valuation.

Tools used (Development tools - H/w, S/w): HOLT, Bloomberg, and Excel

Objectives of the project: Improve understanding of sector drivers and firm drivers. Application of financial ratio analysis, relative valuation etc.

Outcomes of the project: Client presentations, financial models, case study on consumer staples

Major Learning Outcomes: Fundamental equity valuation, DCF model creation, sector specific knowledge

Brief Description of working environment, expectations from the company: Working environment is very open. People are approachable and provide frequent feedback.

Name: Siddharth Laddha

ID No: 2013A3PS088P

Student Write-up

Short Summary of work done during PS-II: Carrying out impacts for new trade developments

Tools used (Development tools - H/w, S/w): Excel, vba

Objectives of the project: Giving out impacts

Outcomes of the project: Eepe, ead numbers

Major Learning Outcomes: Analytics

Brief Description of working environment, expectations from the company: Good working environment.

Name: *Abhishek Gaurav*

ID No: 2013A2PS684P

Student Write-up

Short Summary of work done during PS-II: Validate and Analyses Time series data.

Tools used (Development tools - H/w, S/w): MS Excel, Other Applications used by CS only

Objectives of the project: Timeseries data analysis and reporting.

Outcomes of the project: Risk management

Major Learning Outcomes: Get to know some basic and advanced concepts about VaR.

Brief Description of working environment, expectations from the company: The work depends greatly on the department you are assigned to. I was in RFDAR-TSRD. My team was good. You need to keep asking your managers.

PS-II Station: Credit Suisse, Pune

Student

Name:*Ganesh Cherukuri*

ID No:2013A1PS562H

Student Write-up

Short Summary of work done during PS-II: Did BAU(business as usual) and project related to OPA(provisions)

Objectives of the project: Why we keep provisions in ledger and for which securities we perform it most.

Outcomes of the project: Automated some processes regarding to OPA

Major Learning Outcomes: Understood the basics and concepts applied in keeping provisions.

Brief Description of working environment, expectations from the company: Company was good and had very good colleagues.Work culture is fine.

Name:*Nikhitha Meela*

ID No: 2012B3AB936H

Student Write-up

Short Summary of work done during PS-II: Security Pricing

Tools used (Development tools - H/w, S/w): excel, SQL, UNIX

Objectives of the project: Haircut Procedure

Outcomes of the project: Haircut Procedure

Major Learning Outcomes: Learnt a Lot about the corporate culture

Brief Description of working environment, expectations from the company:It was a good experience

Name:*Naman Mahajan*

ID No:2013A3PS221G

Student Write-up

Short Summary of work done during PS-II: I basically worked on preparing certain macros for the processes being used by my team. I also documented these tools developed and worked on collecting data for the issues being faced by the team.

Tools used (Development tools - H/w, S/w): VBA, SQL

Objectives of the project: Objective

Outcomes of the project: Developed 3 macros, collected data for the issues

Major Learning Outcomes: VBA, SQL

Brief Description of working environment, expectations from the company: Very friendly working environment. Learnt the concept of teamwork and how to present your ideas before others.

Name: *Satya SriLasya chitta*

ID No: 2012B3A4653H

Student Write-up

Short Summary of work done during PS-II: Worked in Data Delivery management, Governance and sourcing department as in the chief risk office. Work involved use of company's risk engine to evaluate and analyse market risk scenarios.

Tools used (Development tools - H/w, S/w): SqlDbx, UNIX

Objectives of the project: Analysis of market risk for country parties

Outcomes of the project: Understanding of market risk analysis and data science

Major Learning Outcomes: Market risk scenarios understanding and efficient use of excel and Sql

Brief Description of working environment, expectations from the company: Various departments in company and each intern is allotted a desk manager and line manager to guide through internship. Expected to log in and track work using Jira and order intra company sites. Need to have basic awareness about risk and should be able to work through the different layers within each department

Name: *G Hemanth*

ID No: 2013A1PS849H

Student Write-up

Short Summary of work done during PS-II: Worked in Business Performance Management Team to develop/improve their methods to increase the quality of their outputs

Objectives of the project: Tools to develop the quality of outputs

Outcomes of the project: Introduced few tools which will reduced their errors and also worked on automation of manual process.

Major Learning Outcomes: Importance of team bonding and understanding, Understood the functioning of the management to an extent.

Brief Description of working environment, expectations from the company: A great working environment which allows easy access to working-sites and also managers.

Name: *Arpit Goyal*

ID No: 2013A2PS489P

Student Write-up

Short Summary of work done during PS-II: My team was BDC Transformation Strategy. It was mainly a management team. It is placed under the Risk and Finance Data Analytics and Reporting (RFDAR) department and the objective of this team is to assess the health of the 23 sub-processes of RFDAR. We had to perform an As-is analysis of the current processes and the metrics used to assess the health of these functions. Further, we had to study these metrics and had to propose new metrics that would more clearly and precisely depict the health of the function.

Tools used (Development tools - H/w, S/w): MS Excel, MS PowerPoint

Objectives of the project: Assessing the health of the 23 sub-processes of Risk and Finance Data Analytics and Reporting (RFDAR) and proposing new metrics.

Outcomes of the project: New metrics were proposed for 3 pilot functions out of 23 total functions under Risk and Finance Data Analytics and Reporting (RFDAR).

Major Learning Outcomes: Starting a project from the ground up, Teamwork, Leading a team, Management

Brief Description of working environment, expectations from the company: The working environment is very good. The company adopts Smart Working environment which means a person can login from a new desk every day, the desk isn't fixed. It keeps the working environment dynamic and it doesn't become boring.

Name: *Aman Kabra*

ID No:2013ABPS759H

Student Write-up

Short Summary of work done during PS-II: My work is to manage the Leverage methodology (a methodology used to maintain the Leverage Ratio of the company) for SFT, and I have been asked to handle the same for CCP team as well.

Tools used (Development tools - H/w, S/w): MS Excel (all the tools of MS Office in general)

Objectives of the project: My responsibility is to manage the Leverage methodology (a methodology used to maintain the Leverage Ratio of the company) for SFT, and asked to handle the same for CCP team as well.

Outcomes of the project: To prevent the next financial crisis, every bank must assess its risk related to credit defaults, and maintain leverage ratio over and above a specified limit. I have learnt Leverage ratio's denominator: Total Exposure calculations by doing them first hand.

Major Learning Outcomes: Risk monitoring is one of the most important aspects of a risk management team in an investment bank. The risk monitoring is necessary for every bank as this helps them to monitor the exposure that they may face in the condition of default.

SFT primarily deals with the Credit Risk Analysis of Repo, Reverse Repo, Securities Lending and Borrowing (SLB) and Prime trades.

CCP primary deals with the Credit Risk Analysis of Counterparties and trades which are cleared by a central clearing house: both in-house and external trades.

Brief Description of working environment, expectations from the company: Looking at it from a broader perspective, it teaches you how the corporate structure at an investment bank functions and the ways formal communications are done. A good experience for an intern.

Name: *Jai Agarwal*

ID No: 2013ABPS908H

Student Write-up

Short Summary of work done during PS-II: I worked on BAU activities of team, Prepared and implemented Book of Work (BoW) and Quality control log in the process. I also worked on creation of Change Log where we used to log every change request with all details.

Tools used (Development tools - H/w, S/w): Microsoft Excel, Microsoft Word, Microsoft Power Point

Objectives of the project: Improve the Quality of MRU team outputs through vigorous implementation of quality parameters in the data collation and validation process.

Outcomes of the project: I prepared Bow and Quality Control Log which were implemented in the process and really helpful to run the process smoothly by considering with Accuracy and Timeliness. Bow helped in delivering the outputs in timely manner and Quality Control Log helped in delivering the defect free outputs.

Major Learning Outcomes: I learnt about the reporting process and many terms related to it like Metrics, Meta data etc. I learnt applications of many formulas in the excel. I was Co-host for daily team meeting which also helped me to understand the working environment and crucial part of team deliverables.

Brief Description of working environment, expectations from the company: Working environment was good as the entire team members helped whenever we faced difficulties and helped in understanding the process as I had to prepare the Book of Work which contains details of every task (timeline, doer, reviewer etc.).

Name:*Himanshu Singh Tomar*

ID No:2013A8PS700G

Student Write-up

Short Summary of work done during PS-II: Performed Structured Trade Reviews, the Structured Trade Review (STR) process is a control over the consistency of trade bookings and relevant legal documentation for complex products such as exotic options which are done in the over the counter market etc. at Credit Suisse.

Tools used (Development tools - H/w, S/w): Kestrel, Excel, Doman, TerraFirma,Gruffalo,Foxhound

Objectives of the project: Perform Structured Trade Review of over the counter derivatives trades.

Outcomes of the project: Performed the Structured Trade Reviews successfully.

Major Learning Outcomes: Understanding of over the counter derivatives trades increased.

Brief Description of working environment, expectations from the company: Working environment was very good and all the members in my team were very helpful

Name:Manav Marya

ID No:2013A2PS500P

Student Write-up

Short Summary of work done during PS-II: Reconciliation of finance and Risk

Tools used (Development tools - H/w, S/w): MS Excel and Access

Objectives of the project: Identify DQIs

Outcomes of the project: Remediation of DQIs

Major Learning Outcomes: Better understanding of the inner machinery of the investment bank

Brief Description of working environment, expectations from the company: Nice

PS-II Station: DBOI (Deutsche Bank), Mumbai

Mentor

Name: Naveeta Agarwal

Designation: VP, GCRT

PS Program is a good concept

Faculty

Name:Shekhar Rajagopalan

Comments: Expectations from industry:Course Requirements: 1. Financial Statement Analysis, 2. Derivatives (including different models for option pricing, Greeks), 3. Financial markets

Soft Skills: 1. email etiquette, 2. Telephonic conversations

Technology skills: Word, Excel (not necessary but Excel VBA programming may help)



Student

Name: Anurag Rastogi

ID No: 2012B3A1380G

Student Write-up

Short Summary of work done during PS-II: The project focuses on resolving the valuation errors and discrepancies encountered while full revaluation of credit trades in internal risk calculator of DB. The project also includes exposure management through stress testing by performing stress runs on different market scenarios for each trade. The work done in the project is not separate from the normal day to day work performed by the credit risk management team.

Tools used (Development tools - H/w, S/w): Microsoft Excel, SQL developer

Objectives of the project: Resolution of Valuation errors

Outcomes of the project: Reduced the number of failing trades.

Major Learning Outcomes: Learnt about a great number of financial products.

Brief Description of working environment, expectations from the company: The working environment is very friendly and helpful. People even at senior levels are very approachable. It has indeed been a very good learning experience here.

Name: Deepthi Meduri

ID No:2013A3PS395H

Student Write-up

Short Summary of work done during PS-II: Market Risk Management

Tools used (Development tools - H/w, S/w): VBA, MS Excel

Objectives of the project: Daily business and annual projects

Outcomes of the project: Daily book of work and improvement in technical skills

Major Learning Outcomes: MS Excel, VBA, Risk Management

Brief Description of working environment, expectations from the company: Professional application of market risk management and Excel usage

Name:*Aneesha Srivastava*

ID No:2012B3A3519P

Student Write-up

Short Summary of work done during PS-II: The project focuses on resolving the valuation errors and discrepancies encountered while full revaluation of credit trades in internal risk calculator of DB. The project also includes exposure management through stress testing by performing stress runs on different market scenarios for each trade. The work done in the project is not separate from the normal day to day work performed by the credit risk management team.

Tools used (Development tools - H/w, S/w): MS-Excel, MS-Access, MS-Outlook, sqldeveloper, DB's internal software tools

Objectives of the project: Publishing various reports, which is a major responsibility given to the Mumbai Team.

Outcomes of the project: The reports published helped DB in keeping track on its Credit exposure. I got direct exposure to how exactly the corporate work and what kind of skill-sets they need.

Major Learning Outcomes: Learning the subject of risk management more practically and various soft skills involved. PS-II helped a lot in drawing a link between the theory we study and the way it is applied at industry level. By working on this project with the Credit Risk team I got to know how credit exposure is calculated, how it is useful for the organization and what all problems are encountered while doing this calculation in a much more complex world than we can ever speculate in theory. I got to know various measures involved in its calculation and the tools which are used for this purpose. I learnt Excel, SQL and also many soft skills through this internship.

Brief Description of working environment, expectations from the company: Working environment is stress free and yet motivating to perform better. People are very helpful and eager to share knowledge. The environment is very cooperative and thus helps one enhance his/her skills by sharing and caring.

Company expects us to be disciplined, to perform sustainably, to be innovative, to be client centric and to cooperate.

Name: *Aman Takiyar*

ID No: 2012B3A4464P

Student Write-up

Short Summary of work done during PS-II: As I was allotted the Market Risk department, I involved in analyzing the VaR (value at risk) and sensitivity numbers for the various assets classes, resulting from daily trades made by the bank traders.

Tools used (Development tools - H/w, S/w): MS EXCEL

Objectives of the project: Improvement in productivity and efficiency of day-to-day operations

Outcomes of the project: Created a MS Excel macro to automate the checking of end day VaR and SVaR reports.

Major Learning Outcomes: To get a hands-on experience in the market risk department of a leading global bank was a great learning experience, which surely complements the course material taught in our courses. In this regard, the course named Derivatives & Risk Management was of particular importance as it introduced us to concepts such as value at risk and sensitivities.

I would take this opportunity to emphasize the importance of being thorough with MS Excel as though it may sound as very underrated as a part of ones skill set but it is extensively used professionally. Working in the department surely added up to my prior skills of MS Excel. Also working in a corporate setup, which is strikingly different from an academic setup, one gets to learn and know about how the flow of work gets managed at both individual and collective level. Apart from the hard skills one has, managing ones time and work is no less important. Practise School experience was the perfect prelude one could get before entering into the professional sector.

Brief Description of working environment, expectations from the company: Working environment was very good owing to the helping nature of all the colleagues. They were very supportive which encouraged me to learn as much as possible during my stay with them. There are no further expectations from the company in this regard.

Name: *Gopala krishna kashetti*

ID No: 2013A1PS739H

Student Write-up

Short Summary of work done during PS-II: I was part of EM SFA and Funds team in the GCRT department. Work was to assess the funds and corporate in terms of parameters which impact credit profile and come up with a rating.

Objectives of the project: To understand the process of credit rating

Outcomes of the project: Learnt the process of credit rating funds and corporate

Major Learning Outcomes: Credit rating of funds and corporate, securitization portfolio

Brief Description of working environment, expectations from the company: Worked as part of sub team in GCRT. We were provided with brief trainings about general guidelines. Any knowledge on finance and accounting knowledge would help.

Name: *Rohan Singhvi*

ID No:2013A1PS702H

Student Write-up

Short Summary of work done during PS-II: I was allotted Rates team in Product Control. Product Control deals with compiling daily risk and pnl reports for the trader and reporting them. Trades go into a profit and loss account which has to be assessed daily by the product controllers for abnormalities called 'breaks'. In addition, controllers analyze the figures on the P&L for risk and market trends as well as product performance - assessing how the trader is performing in accordance with the market. They are responsible for the monitoring of trades in the portfolios they look after, and act as a primary control function; monitoring trading activity to ensure it is within a specified limit. In addition of this BAU I also used my time to automate monotonous work which wasn't adding any value to the person doing it.

Objectives of the project: In addition to the BAU automating some processes.

Outcomes of the project: With my automation the bank was able to save around 80-90 mins of manual work on a daily basis.

Major Learning Outcomes: I learned about many different exotic/vanilla products and their pricing. During my PS i also gained information about Greeks. I also came to realize how a small market movement can have a large impact on PnL.

Brief Description of working environment, expectations from the company: The working environment was very friendly and cordial with everyone treating you as a friend and colleague. We were treated as any other employee and were given the same work as done by employees. In fact I was given many other important responsibilities in addition to the normal work. During the BAU i realized that many processes could be easily automated which could save a lot of time. So i learnt basic VBA and automated processes saving around 45 mins. Recognizing this my manager's manager sent a mail to the complete team highlighting and appreciating this. He then asked me to learn one DB proprietary tool which can be used to automate processes across different Microsoft tools. I used that to save another 40 mins of daily manual work. Overall it was great experience and i would recommend people looking for a good work life balance in addition to learning lots of new things to choose this as PS.

Name: *Sai Chanakya Madireddy*

ID No: 2013A4PS283H

Student Write-up

Short Summary of work done during PS-II: Reporting P&L of traders to Financial Directors and correcting the attribution of P&L in the system so that the right numbers go into the bank's balance sheet. Reporting the FX Exposure to the trader. Calculating the funding cost incurred by the trader for his capital.

Tools used (Development tools - H/w, S/w): Excel and some internal softwares of Deutsche Bank.

Objectives of the project: Making and reporting the traders P&L to the bank's regulators and also making them aware of the forex risk involved and funding cost incurred for the capital.

Outcomes of the project:Balance Sheet numbers of the Bank are correct and the bank gets to know about the Forex risk involved in the profits they have earned in non reporting currencies.

Major Learning Outcomes: Excel and basics of derivative trading

Brief Description of working environment, expectations from the company: They expect us to have basic knowledge about the derivative instruments and we should also be aware of some financial jargons which are used in the daily work. Shortcuts in excel would help us complete the work bit fast. \

Name: *Kushagra Vijayvargiya*

ID No: 2012B3A4415P

Student Write-up

Short Summary of work done during PS-II: My department was global credit rating team (GCRT). I did the financial spreading's i.e., BS, IS of counterparties using their financial reports . And later did the credit ratings of the firms by comparing on the basis of a few parameters.

Tools used (Development tools - H/w, S/w): Used the proprietary software of the firm and a bit of excel

Objectives of the project: Credit Rating of the firms, financial spreading of the companies

Outcomes of the project: Rating counterparty on the basis of the parameters and comparing these parameters with the market scenario and spreading done before.

Major Learning Outcomes: Working under the office environment, Credit rating of the firms, how to read financial reports.

Brief Description of working environment, expectations from the company: The people are very helpful and are willing to help you in whatever problem you face.Sometimes it can get hectic, but mostly is peaceful and stable. They here accept you to have a basic knowledge of accounting.

Name: *Naman Gupta*

ID No: 2012B3A3602P

Student Write-up

Short Summary of work done during PS-II: Studied credit limits and credit ratings. Reviewed 3 companies.

Objectives of the project: To understand credit risk

Outcomes of the project: Reviewed 3 counterparties

Major Learning Outcomes: Credit risk, risk management, credit ratings

Brief Description of working environment, expectations from the company: Working environment is very good. Team members are very helpful and expect you to work sincerely.

Name: Parth Malviya

ID No: 2013A8PS490P

Student Write-up

Short Summary of work done during PS-II: 1) Annual Credit Ratings Review : The most important role of an analyst is to annually review the credit ratings of all the counterparties in the portfolio and ensure that the ratings arrived are with respect to present financial situation of the counterparty. 2) Financial Forecasting: Via counterparty specific assumptions and evaluating possible future developments under various scenarios (e.g. base case, down-side case, stress case). 3) Spreading Financial Information: Latest available consolidated financial statements for the counterparty are required to be spread in proprietary software which then calculates all important ratios essential for analysis.

Tools used (Development tools - H/w, S/w): MS Office, Company's proprietary softwares.

Objectives of the project: Credit Analysis

Outcomes of the project: Projects taken by me were part of regular tasks accomplished by Credit Ratings Team.

Major Learning Outcomes: Strong grip over financial statements. Understanding importance of various ledger accounts & entries. Understanding of various sectors and the parameters that have an impact on them. Analyzing various business models and understanding how they are able to generate revenues. Forecasting and their importance.

Brief Description of working environment, expectations from the company: Extremely supportive manager and mentor ensured my learning curve remains steep and I get the maximum exposure towards various sectors. Highly cooperative team members helped in adjusting to the new environment and were quite approachable for any sort of guidance required.

Name: Ankur Baheti

ID No: 2012B3A4472G

Student Write-up

Short Summary of work done during PS-II: 1) Reconciliation of adjusted EBITDA for ~300 counterparties located in US & Europe by analyzing financial reports. It is amongst the most important metric to analyse the operating performance of a company. 2) Document preparation of ~300 counterparties showing the changes in capital structure during the term of bank loan facilities. 3) Prepared end to end credit rating report of a major listed US outdoor sports retailer. Involved cash-flow forecast, Peer analysis, through company & industry analysis amongst various other things. 4) Helped senior analysts gauge the regulatory risk on highly volatile US midstream Oil & Gas portfolio.

Tools used (Development tools - H/w, S/w): Proprietary Softwares

Objectives of the project: Counterparty credit ratings for structured loan facilities to leveraged customers in developed markets.

Outcomes of the project: Credit Rating Reports

Major Learning Outcomes: Financial Analysis

Brief Description of working environment, expectations from the company: 1) Average Food

2) Company Transport 3) Excessively formal work environment 4) Average work load

Name: Vandana Jain

ID No: 2013A2PS044P

Student Write-up

Short Summary of work done during PS-II: I am basically performing work done by a Book runner. By book runner i mean the person who runs books where trades happen. For ex. a trader in Front Office did a trade for a client, then depending on the currency and desk it is recorded in a book. That book is now analyzed by a book runner, to see how much profit and loss it is giving, how much risk is there. What is causing PnL i.e. the attributes (carry, FX, IR curve move etc). Then pricing etc using internal softwares of deutsche bank, calculating PnL etc using various data to verify the trader's estimation.

Tools used (Development tools - H/w, S/w): Internal softwares of Deutsche Bank & Microsoft Excel.

Objectives of the project: I was involved in daily BAUs.

Major Learning Outcomes: Learned about how the flow is from trading to analyzing the risk and PnL, and further downstream flows of data to calculate VAR etc.

Brief Description of working environment, expectations from the company: Working environment was very good. Team was very supportive and helpful. We had timing of 8:30AM-5:00 PM, which may extend depending on the issues in Book running.

PS-II Station: Ernst & Young Global Delivery Services, Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name: *Prakhar Toshniwal*

ID No: 2012B4A8608G

Student Write-up

Short Summary of work done during PS-II: Valuation of Derivative Products For the purposes of auditing and knowing the current status of the portfolio, the financial products need to be valued as of the valuation date. DVC team helps in valuing one huge category of financial products, known as derivatives. I have personally valued several products for 20+ EY clients (200+ hours), major chunk of which consists of US-based multinational companies and Investment Banks. Products include European Options, Interest Rate Swaps, Swaptions, Credit Default Swaps, FX Options, Total Return Swaps, Cross Currency Swaps, Digital FX Options, Caps and Floors, Basket Options, etc.â€¢Automation of Bootstrapping Process Since DVC deals with a lot of clients on a daily basis, it is very useful to automate some of the regular procedures which can make their job easier. As part of such a vision, we developed a template using VBA which simplifies the curves bootstrapping process for all the currencies. You can also build multiple curves at the same time using the template. Numerix and Reuters are the softwares used up by automation tool to function properly DVC Process Flow Mapping the DVC process flow documentation has been prepared for use in mapping the desirable workflow process to be followed at GDS-DVC and also help the team in automating the way in which clients are allocated to resources within the team. Significant growth of the team and the geographies that are serviced by the GDS-DVC has initiated the need for DVC workflow automation tool that would eliminate the need for manual intervention by the mid-management with regard to allocation of clients to respective team members.

Tools used (Development tools - H/w, S/w): MS-Excel, Excel VBA, Python, MS-Access, MS-PowerPoint, third-party valuation tools, in-built valuation tools, market data providers

Objectives of the project: 1) To value various derivative products (vanilla as well as structured)2) To automate the bootstrapping process for IR curves3) To design team's process flowchart and assess the depth to which automation can be incorporated4) To design templates for data comparisons, quizzes and analyses and client database for the team

Outcomes of the project: Client deliverables; Excel templates; macros for automation; process flowcharts

Major Learning Outcomes: 1)MS-Excel (Advanced) 2) SaS Programming (Basic) 3) Basics of Machine Learning 4) Monte Carlo Methods 5) Ordinary Differential Equations 6) Risk Sensitivity Measures (VaR and CVA) 7) Business Etiquette (both written and verbal) 8) Curve Bootstrapping Process 9) Valuation of Vanilla Derivative Products 10) Credit Derivatives

Brief Description of working environment, expectations from the company: The organization provides a great platform to learn and develop appropriate skill set in the field of quantitative finance. The workplace culture and environment is conducive to acquiring immense knowledge, not only about the subject but also about how the entire industry works. The interns are treated as full-time employees and trained via webinars, classroom sessions and mentorship programs. EY GDS does not believe in micromanagement of the employees and lets each one work at their own pace, unless you are crossing the deadlines very frequently. Keeping discipline and professionalism are paramount but at the same time, everyone right from the staff members to the Executive Partner are approachable and highly supportive. PPO chances are strong if they observe in you a deep desire to learn the subject and consistently perform above average, if not exceptionally well.

Name: P.Sai Teja

ID No: 2012B4A8600H

Student Write-up

Short Summary of work done during PS-II: I have designed a mass pricing template for zero coupon interest rate swaps using excel-vba which can be used to value a large number of trades at a single go. Also as a part of automation project, I have automated the process of financial instruments valuation for four products namely zero coupon interest rate swap, zero coupon inflation linked swap, zero coupon inflation linked option and averaging swaps. Apart from this I have designed a few market data extraction templates based on criteria from Thomson Reuters (data providers).

Tools used (Development tools - H/w, S/w): Fincad, Bloomberg

Objectives of the project: 1. Design of a mass pricing valuation template for zero coupon Interest rate swap
2. Automating the valuation process of financial instruments

Outcomes of the project: 1. Designed a mass pricing valuation template for zero coupon interest rate swap which can value a large number of trades at a single go.
2. Automated the valuation process of four financial instruments namely zero coupon interest rate swap, zero coupon inflation option, zero coupon inflation swap and averaging swaps.

Major Learning Outcomes: 1. Dynamics of derivatives market
2. Derivatives valuation

Brief Description of working environment, expectations from the company: Work life balance is good at the organization and the communication is transparent and open. The organization is training and development focused. The organization expects the resources to be well equipped with the dynamics of derivatives market and derivatives valuation. A lot of challenging opportunities are available in the quantitative finance field.

PS-II Station: Ernst & Young L.L.P., Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name:*Siddharth Rai*

ID No:2013A8PS423P

Student Write-up

Short Summary of work done during PS-II: I worked on Dynamic Dashboard using Html, Css and JavaScript. I made dashboards for clients of EY as per their requirement. This was my PS project. Apart from this I also worked on ACL(Audit Command Language) Global Analytics Tool (JE-CAAT), Audit Analytics Tool (AAM) to provide reports to the audit team for auditing.I also did visualization through Spitfire software

Tools used (Development tools - H/w, S/w): ACL, JECAAT, AAM, Spotfire, Tableau, Excel

Objectives of the project: To make a Dynamic Dashboard using d3js and other JavaScript Libraries.

Outcomes of the project: Made dashboards for clients and learned to generate reports for Auditing of Client

Major Learning Outcomes: Learned HTML,CSS and JavaScript along with jQuery, AJAX and d3js

Brief Description of working environment, expectations from the company: EY LLP Bangalore is a very good company with nice and helping people all around you. You can learn a lot during your Internship They prefer a dual degree student who is ready to do internship in both semesters.

Name:*Kshitij Bedekar*

ID No:2012B5A3486G

Student Write-up

Short Summary of work done during PS-II: Handled client engagements for audit. Developed dashboards using Tableau. Worked on developing dynamic dashboards using JavaScript and related libraries.

Tools used (Development tools - H/w, S/w): Excel, ACL, Tableau, JavaScript.

Objectives of the project: To understand audit procedures and handle audit engagements for clients. To develop dynamic dashboards using JavaScript.

Outcomes of the project: I was involved end-to-end in engagements for several clients for audit requirements. I developed interactive dashboards for financial data using Tableau.

Major Learning Outcomes: Audit procedures, design requirements for effective dashboards, effective business communication.

Brief Description of working environment, expectations from the company: At an intern at EY, you will always be with teammates and managers who are highly driven and extremely competent. Therefore, you will be expected to take responsibility for your own performance and will be answerable for the deadlines you set for yourself. Because of quarterly reporting, once every three months there will be a peak season with high workload and consequently long working days (and yes, nights). However, the expectations from interns are reasonably balanced between challenging and achievable, and there will be detailed training sessions in the first few weeks for the relevant tools used at work. I found my teammates and managers very supportive and approachable 100% of the time, and overall I found my experience highly rewarding and meaningful.

Name:*Maddela Sai Akhilesh Reddy*

ID No:2013A3PS108G

Student Write-up

Short Summary of work done during PS-II: Worked as a Data analyst. Did JE CAAT testing using ACL tool to check completeness of the data. Build visual dashboards using Tableau for EY.

Tools used (Development tools - H/w, S/w): ACL,SQL,Tableau,GAT,Excel,Spitfire

Objectives of the project: To do various data analysis according to client requirements. Our team supports the audit teams by doing various data checks when the data is very huge to handle by using tools like ACL, SQL, Tableau etc.

Outcomes of the project: Detail reports about the analysis. Visual dashboards which are very helpful for analyzing the data with human eye.

Major Learning Outcomes: I have learnt tools like Tableau, ACL, SQL, GAT, Spotfire. Learnt to handle client projects and tackle situations under pressure. Had a good exposure to the corporate world.

Brief Description of working environment, expectations from the company: The projects always have deadlines so they expect us to deliver the outputs within time, knowledge of Excel is also required. Working environment of the company is very good.

PS-II Station: Ernst & Young L.L.P., Chennai

Student

Name: Akhil Reddy Parvath Reddy

ID No: 2013A7PS152P

Student Write-up

Short Summary of work done during PS-II: The project allotted to me was to build search tool in Hbase(big data base).The platform was Django.It was tough and big project,so there was another guy with me in the project.Finally we came up with a webapplication that searches hbase with time and date options available.

Tools used (Development tools - H/w, S/w): Django,Hbase

Objectives of the project: To prepare a search tool in Hbase with time and date fields specified.

Outcomes of the project: A web application that searches the bigdata base.We can search using the time and date options available.

Major Learning Outcomes: Django framework,webapp building,Hbase

Brief Description of working environment, expectations from the company:At the start i wasn't aware of the any Django concepts, hbase concepts, python concepts. The first one month, we weren't allotted anything, so we used that time to gear up the required topics/languages. Later the project assigned was to build a search tool in hbase using Django framework. We had to learn Hbase since we did not have any basic idea of Hbase, the support of the mentor could have been better in the preparation. Finally we came with a working model with UI. Also every student allotted with this station was allotted web application building tasks.

Name: Rohan Khuntia

ID No: 2013A3PS334H

Student Write-up

Short Summary of work done during PS-II:1) Proficiency in writing ACL scripts and consolidating data to be further processed by GAT. 2) Learnt VBA scripting, working on Macros in Excel. 3) Developed the training tracker tool.

Tools used (Development tools - H/w, S/w): ACL, GAT

Objectives of the project: The objective of the project is to have a detailed analysis of ACL and GAT, and to build a training tracker tool which keeps track of the allocation of training.

Outcomes of the project: The project will help to consolidate and validate the data given by clients.

The training tool will be used to better manage training schedules.

Major Learning Outcomes: 1) Proficiency in writing ACL scripts and consolidating data to be further processed by GAT. 2) Learnt VBA scripting, working on Macros in Excel. 3) Developed the training tracker tool .

Brief Description of working environment, expectations from the company: The seniors and employees were very friendly.

Name: *Polavarapu Karthik*

ID No: 2013A7PS147H

Student Write-up

Short Summary of work done during PS-II: Built a Search tool with various functionalities like searching for attribute equal to some value or attribute not equal to some value and also in a particular daterange.

Tools used (Development tools - H/w, S/w): Hbase, Django, python, HTML, AJAX, JQuery and JavaScript

Objectives of the project: To build a search tool which searches in a given date range(must) and input taken from a free text box and stream the results.

Outcomes of the project: We are able to stream the values obtained by applying the values taken from the client. Client can also download the obtained data in csv or excel format

Major Learning Outcomes: Hbase,python and Django

Brief Description of working environment, expectations from the company: Working environment is lively and good.

Name: *Govind Narayan Sharma*

ID No: 2013A7PS185P

Student Write-up

Short Summary of work done during PS-II: I, and my team, developed and deploy an enterprise application on CentOS inside a VM for use by EY employees during their visits to clients office to help them automate revenue assurance process

Tools used (Development tools - H/w, S/w): Python, Django, PostgreSQL

Objectives of the project: Development of an automation tool to streamline the process of revenue assurance for clients in the telecom sector

Outcomes of the project: A working application deployed on CentsOS ready for use by EY employees

Major Learning Outcomes: PostgreSQL DBMS, Multiprocessing in python

Brief Description of working environment, expectations from the company: The working environment was very good. My department was a team of 10-12 people only so the experience was more like a startup, where you learn new technologies on the go to solve the problems you are facing.

Name: P Bharat Choudary

ID No: 2013A7PS199P

Student Write-up

Short Summary of work done during PS-II: All the projects were based on web application development using django framework. We had to develop tools which were mainly helpful in reducing the manual work load on the employees. We had to deal with both backend and frontend. A few projects were client related too. There was one project in which we had to convert an existing tool written in php to django. There was one project that dealt with big data too. We had to use hbase with django.

Tools used (Development tools - H/w, S/w): python, django, html, css, js, jQuery, Ajax, MySQL

Objectives of the project: To develop the django based web application and hit the deadlines.

Outcomes of the project: A tool that would help the employees to make their work easier & save time.

Major Learning Outcomes: Django, web development

Brief Description of working environment, expectations from the company: Formals are a must. The working environment is pretty awesome. People are friendly to you. They are strict on leaves. The office timings are from 10am-6pm. They are not that strict if you are late, but it will be pointed out in your review sessions.

Name: Anuj

ID No: 2013A7PS111G

Student Write-up

Short Summary of work done during PS-II: Web app development for the company in Django environment

Tools used (Development tools - H/w, S/w): Visual studio, VMware --> centos (coding in Python jQuery JavaScript CSS and SQL queries, also some work done in PHP MySQL)

Objectives of the project: Design and launch a functioning web application for the company

Outcomes of the project: Designed and launched a functioning web app for the company

Major Learning Outcomes: Knowledge in Python

Brief Description of working environment, expectations from the company: Good company. Good people. Healthy environment.

Name: Aneesh Phatak

ID No: 2013A8PS421G

Student Write-up

Short Summary of work done during PS-II: We have performed JE CAAT analysis on four projects till date. We are fairly comfortable with importing data files of various types, writing a workspace and scripts and then exporting the output files to the Global Analytics tool to cross-check data and stamp out any errors or discrepancies.

ï,§ we undertook a project on building a training tracker using u Wamp server as an application server platform. We have used HTML and CSS for developing and styling the front end. We have used PHP as the back-end programming language and MySQL as a database server.

Tools used (Development tools - H/w, S/w): ACL, GAT, uWamp, Excel Macros, VBA

Objectives of the project: To devise a training tracker tool that keeps track of all the training done at EY across all offices. It keeps a log of the names of trainee/s, trainer/s, meeting room location, time, date and books your Outlook calendar accordingly. Finally it sends a mail to all the trainer/s, trainee/s immediately after booking the meeting room and ten minutes before the training is due to start.

Outcomes of the project: Proficiency in writing ACL scripts and consolidating data to be further processed by EY Global Analytics tool working on Global Analytics Tool to generate a cube file

This tool will help EY conduct their training sessions without hassle and keep a log of all information related to the training in a database.

Major Learning Outcomes: Experience in front-end development using HTML and CSS

Experience in back-end development using uWamp server, php and MySQL.

Brief Description of working environment, expectations from the company: The work environment at EY is friendly and cordial and is the perfect setting for us to enhance our soft skills. We also developed the ability to work in large teams and inculcated values of team-spirit and perseverance. Initially, it took time to adjust to the demands of EY but after working here for close to three months we are sure this experience will help further our professional career greatly

Name: Prityush Haldar

ID No: 2013A3PS016P

Student Write-up

Short Summary of work done during PS-II: The project was based on Treasury Analytics with special focus on big data

Tools used (Development tools - H/w, S/w): Gretl, ACL software

Objectives of the project: To provide a treasury point of view to the data analytics process

Outcomes of the project: At the end of the project we were able to integrate Treasury Management with Data Analytics

Major Learning Outcomes: Corporate Finance

Brief Description of working environment, expectations from the company: A very good work environment with a team spreading all over the country in various locations.

Name:Roshan Joseph Ranjan

ID No: 2012A7PS025P

Student Write-up

Short Summary of work done during PS-II:Technical side - real time graphical representation of the information provided by MRF, Marico, etc.

Non-technical - write ups for newsletter, holding events, etc. for branding

Tools used (Development tools - H/w, S/w): Tableau, spitfire, DigiCube, uWamp, SharePoint, Microsoft Excel, PowerPoint, Outlook

Objectives of the project: To design the network diagrams for each client according to their specifications.

Outcomes of the project: The changing of color when pinging a database was displayed by corresponding IP address periodically.

Major Learning Outcomes: HTML, CSS, jQuery, AJAX, JavaScript, MySQL, PHP

Brief Description of working environment, expectations from the company: A very good induction programme with buddy system. Laptops and bags provided. Good cafeteria with lunch and snacks available. A 12 day leave system. Timely meetings for feedback and goals conducted.

PS-II Station: Ernst & Young L.L.P., Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: Tarun Tomar

ID No: 2013A3PS255G

Student Write-up

Short Summary of work done during PS-II: We developed a desktop application to automate the Engagement Tracking System. Engagement Tracking is a process used by team managers to record the status of a client engagement and tracks the utilization of all resources engaged with various clients. The existing tracker was based on MS-Excel macros. The new tracker tool developed by us provides responsive graphic user interface which allows user to input all the required details about an engagement and the resource used in a highly automated way. The tool is based on python and uses various modules like Tkinter, SQLite, xlswriter etc.

Tools used (Development tools - H/w, S/w): Python, SQLite, DB Browser

Objectives of the project: Automating the Engagement Tracker.

Outcomes of the project: A desktop application which would automate the Engagement Tracker and save up to 6 hours at Manager level.

Major Learning Outcomes: Functional Knowledge of GUI development using Tkinter (Python) and database handling using SQLite.

Brief Description of working environment, expectations from the company: The team in which we worked was concerning the data analytics. The environment is very friendly, and at the same time very professional. There is strict dress code. The working hours might be stretched during some weeks but the work is not very challenging. The team is being built and is expanding, so there are chances of PPO too.

Name: Aman Krishan Mohan

ID No: 2013A8PS447G

Student Write-up

Short Summary of work done during PS-II: Developed a desktop application to automate the Engagement Tracking System.

Engagement Tracking is a process used by team leads and managers to record the status of a client engagement and track the utilization of all resources engaged with various clients. The existing tracker is based on MS-Excel macros and is quite tedious to work with. The new tracker tool developed provides a concise and highly responsive graphic user interface which allows user to input all the required details about an engagement and the resource used in a highly automated way. The tool is based on python and its various modules: if~ TkInter (used for Graphical User Interface.) if~ SQLite (used for creating and working with Databases.) if~ XlsxWriter (used for exporting the final report in .xlsx format)

Tools used (Development tools - H/w, S/w: Python and SQLite

Objectives of the project: To automate the Engagement Tracking System.

Outcomes of the project: A desktop application which would automate the Engagement Tracking and save up to 6 senior management hours per week.

Major Learning Outcomes: Functional Knowledge of GUI development using python and database handling using SQLite.

Brief Description of working environment, expectations from the company: The environment is very professional in general, the firm has strict dress code and the people around are pretty enthusiastic about their work but most of them being CA or MBA. Company's vision is to expand its analytics segment and therefore there are chances for a PPO if you put in long hours that's because even though the work is fairly easy it consumes a lot of time and is tedious in general.

PS-II Station: Ernst & Young L.L.P., Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: Akansha Mittal

ID No: 2013A8PS422P

Student Write-up

Short Summary of work done during PS-II: Learn more about the tools used for Descriptive Analytics. Working on live projects and fulfilling the requirements of the clients by our capabilities in Analytics and representation of our analysis.

Tools used (Development tools - H/w, S/w: Tableau, SQL, MS-Excel

Objectives of the project: Descriptive Analysis

Outcomes of the project: Exception Reporting and Visualization of Data

Major Learning Outcomes: Business Intelligence Tools

Brief Description of working environment, expectations from the company: The working environment was friendly and our peers always helped us and encouraged us to develop our technical and soft skills. We were allotted live projects so were expected to learn business intelligence tools during the course of our internship.

Name: Vikash Patil

ID No:2013A8PS435G

Student Write-up

Short Summary of work done during PS-II: Descriptive Analytics: Analysis of data is a process of inspecting, cleaning, transforming data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making. Data visualization is an important aspect of data analysis it involves presentation of data in a pictorial or graphical format. It enables decision makers to see analytics presented visually, so they can grasp difficult concepts or identify new patterns.

Tools used (Development tools - H/w, S/w: Excel 13, Tableau 10.1, MS SQL Server 14, TIBCO Spotfire

Objectives of the project: Descriptive Analytics using Business Intelligence Tools

Outcomes of the project: As per the client requirements, the deliverable for the projects included Tableau dashboards, Excel worksheets extracted from SQL server.

Major Learning Outcomes: Major BI Tools: Tablea, Spotfire, SQL

Brief Description of working environment, expectations from the company:A very friendly working team with everyone in the same age group always open to doubts.

Name: Mihir Sharma

ID No: 2012B5A8644P

Student Write-up

Short Summary of work done during PS-II: Analysis of data is important in discovering useful information, suggesting conclusions, and supporting decision-making. Data visualization is an important aspect of data analysis it enables decision makers to see analytics presented visually, so they can grasp difficult concepts or identify new patterns. These five and a half months of Practice School have been an enriching time and I have learnt the ways of the Analytics world, and gained proficiency in Descriptive Analytics. Getting hands on experience on live projects was a great learning experience. I finish my time in Practice School better prepared for a career in Analytics.

Tools used (Development tools - H/w, S/w: Sql, Tableau, Ms Excel

Objectives of the project: Learn more about the tools used for Descriptive Analytics. Working on live projects and fulfilling the requirements of the clients by our capabilities in Analytics and representation of our analysis.

Outcomes of the project: The organization involved me in live projects. This project is basically a summary of all the engagements I have worked on. It summarizes the methodology used in each engagement.

Major Learning Outcomes: Major Tools used for Analytics.

Brief Description of working environment, expectations from the company: The working environment was friendly and our peers always helped us and encouraged us to develop our technical and soft skills. We were allotted live projects so were expected to learn business intelligence tools during the course of our internship.

PS-II Station: Genpact, Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name: *K. Sushma Raghavi*

ID No: 2013ABPS673H

Student Write-up

Short Summary of work done during PS-II: The entire work was based on Supply Chain Management and mostly into demand forecasting as of this team. But there are individual teams working on all the departments of supply chain management.

Objectives of the project: Implementation of new forecasting tool

Outcomes of the project: Forecast error was reduced

Major Learning Outcomes: Data analysis

Brief Description of working environment, expectations from the company: Friendly and chances of ppo are high in case the student is ok with less pay structure

Name: *Arnab Bhattacharya*

ID No: 2013A7PS070G

Student Write-up

Short Summary of work done during PS-II: I developed a software on Java at Genpact during PS2. The software was meant to be integrated with an existing tool working on a server. The software is a module which detects outliers in a dataset in the pre-processing stage and makes sure that no invalid values are being passed for further analysis.

Tools used (Development tools - H/w, S/w: Java, Eclipse, Renjin

Objectives of the project: To develop a module which determines outliers in the data and refines it according to the user's analysis purpose.

Outcomes of the project: A software which can be deployed on the server to make outlier detection more thorough.

Major Learning Outcomes: R programming, Increase in depth of Java Knowledge, Soft Skills

Brief Description of working environment, expectations from the company: The company was very helpful from the first day itself. On the very first day, they found out that I was looking for something else from this period than what they had planned and therefore, they immediately set out to get me work in my interest area so that I have something which is appealing and challenging to me. My mentor in the organization was very helpful and tried the best from his side to smoothen the process of getting accesses and softwares installed on my system. He helped me out initially with the type of data that I

was going to be dealing with and also informed me of some method that I can follow to achieve the results. Apart from these, Genpact has also given a good experience in terms of socializing with our fellow workers. They organized an intern's meet where we got to meet many more interns along with some esteemed employees of the institution. The celebration of Bitian's daya was also held in our company where we shared some anecdotes and good memories from our college. The whole time here has been fantastic. Although, they have less or to deal with in Computer Science backgrounds, some other type of areas like Finance and Business Engineering has a lot of scope here and the experience is going to be memorable.



PS-II Station: Genpact, Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: Chitturi V G S S Veerabhadra Vikas

ID No: 2012B4A4676H

Student Write-up

Short Summary of work done during PS-II: Developed a generic Automated statistical predictive model in Open source tool R, Using modeling technique especially Logistic Regression which is industrially preferred. Predictive modeling entirely devoted to the services of banking and also acquired an idea on different kinds of analytics work like Data preparation, profiling , Data cleaning, Model validation techniques. Exclusively gained a perspective on using Data Mining algorithms like Clustering, Principal component Analysis. Compared the SAS (statistical analytic system) and R codes and identified redundancies.

Tools used (Development tools - H/w, S/w: R, SAS, Excel

Objectives of the project: To Build an Automated Statistical Model in R.

Outcomes of the project: Model Built is tested on test data sample.

Major Learning Outcomes: Machine Learning Algorithms such as Linear Regression, Logistic Regression, Neural Networks, Decision Trees, Support Vector Machines are implemented and learned. The structure and Business purpose of these techniques are understood. Data mining and clustering algorithms along with linear algebra are studied and researched. The coding in R is learnt to some extent and so many packages are dealt with.

Brief Description of working environment, expectations from the company: Key bank Decision Sciences and Modeling Support team (DSM) on behalf of Genpact providing Marketing Analytics support to Key bank - one of the largest regional Banks of U.S.A. Also does Model Documentation, Model Results and Model Monitoring etc. The team is looking for people having some experience in BPO (Business process outsourcing) and also expecting people who are proficient in VBA excel, SAS, R, Unica - Campaign Execution.

PS-II Station: GiftXOXO, Bangalore

Faculty

Name: *Lucy J. Gudino*

Comments: GiftXOXO is a part of Nreach Online Services Pvt. Ltd. It provides employee reward, recognition and employee engagement solutions to corporate companies. GiftXOXO helps organizations and individuals enjoy the world's most extraordinary Experiences and Activities. Students were involved in Customer Feedback analysis, Data analysis, Market Research, data validation projects and website development projects. Skill set that is required are: PHP, HTML, Javascript, CSS and Excel.

Mentors at both the organizations were encouraging students to apply skills and knowledge in a real-life environment. Students are not only allowed them to refine their skills and knowledge but also the art of learning. I also helped them to improve interpersonal and communication skills, taught them how to manage stress, how to be proactive, how to communicate with their colleagues.



Student

Name: *Prakhar Neema*

ID No: 2013A8PS228P

Student Write-up

Short Summary of work done during PS-II: Worked to start the functioning of company in Dubai. Role was similar to that of a non-tech project manager. It involved studying the market size, competitors, expected revenue etc. for Middle East, business development and sales in the region.

Tools used (Development tools - H/w, S/w: MS Excel, MS PowerPoint, CRM- VTiger

Objectives of the project: To set up GiftXOXO in Middle East.

Outcomes of the project: We have successfully started with sales in Middle East. Have cracked 2 B2B clients. Apart from this, we have tied up with a couple of aggregators there and now have a catalog offering 250+ experiences & vouchers in Middle East.

Major Learning Outcomes: Learnt how a company functions, the role of various departments. Importance and use of Excel and spreadsheets in data maintaining and analysis.

Brief Description of working environment, expectations from the company: The working atmosphere is very pleasant. Colleagues are always ready to help when needed.

Name: *Satya Teja A*

ID No: 2012B5A1444H

Student Write-up

Short Summary of work done during PS-II: My work was mostly on Front end web development

Tools used (Development tools - H/w, S/w: Html, Css, JS, jQuery, Bootstrap, Ajax

Objectives of the project: Deliver decent web pages on time based on the requirements.

Outcomes of the project: Got to learn a lot about front end web design

Major Learning Outcomes: A to Z functioning of a live Web Site

Brief Description of working environment, expectations from the company: The working environment is quite nice, the employees are always supportive and my lead(UI/UX) taught me a major part of the skills i picked up here.

Name: *Veda Arvind Kumar*

ID No: 2013A8PS371H

Student Write-up

Short Summary of work done during PS-II: GiftXOXO Enterprise Site Development

Tools used (Development tools - H/w, S/w: Zend Framework

Objectives of the project: Learn how to use Zend Framework Solve some real time bugs

Outcomes of the project: Web Site Development using Zend Framework

Major Learning Outcomes: php, Javascript

Brief Description of working environment, expectations from the company: I have been enjoying my work at GiftXOXO as it gives me platform to learn and grow. There is a positive work environment and it feels good to work in such atmosphere. My role in the company is to solve bugs in GiftXOXO Enterprise site and add feature in the same.

Name: Mounika Itikala

ID No: 2013A3PS382H

Student Write-up

Short Summary of work done during PS-II: Worked on two websites using react Javascript in mvc framework. Bug solving in one website using php opencart.

Tools used (Development tools - H/w, S/w: HTML, CSS, AJAX, JQUERY, JAVASCRIPT, React Javascript

Objectives of the project: Creating a website running on react Javascript

Outcomes of the project: Frogo.In website

Major Learning Outcomes: Web development

Brief Description of working environment, expectations from the company: Friendly environment. Company doesn't expect pre-trained interns. The employees are happy to help us learn what we do not know and are open to letting us explore our areas of expertise or even other areas that we would be interested to test ourselves in. Work dedication is expected.

Name: Snighda Singhvi

ID No: 2013A1PS721P

Student Write-up

Short Summary of work done during PS-II: Working at Giftxoxo, a Start-up with varied business branches B2B and B2C marketplace taught us about how businesses work, grow and expand. My dept. was Business Analytics which comprised of handling analysis, reporting and finding insights in the field of Customer Support, Sales and Operations. I also took up HR Recruitment work to find prospects and improving brand visibility. It was a good learning experience; however there are limited profiles for a BITSian to work in the company with limited growth.

Tools used (Development tools - H/w, S/w: MS Excel, Google Analytics

Objectives of the project: Driving Customer Satisfaction

Outcomes of the project: CSAT increase, Process Improvement

Major Learning Outcomes: Usage of analytics to generate Insights

Brief Description of working environment, expectations from the company: Better Organisation, more focussed work.

Name: *Mohammad Arif Khan*

ID No: 2013A1PS507P

Student Write-up

Short Summary of work done during PS-II: The aim was to improve the business development processes in Giftxoxo. I provided Gaps analysis for locations where their was a dearth of Giftxoxo's products. I also assisted the respective category managers with Vendor on-boarding and management. We also worked on a new product catalogue and improvised the vendor dashboard. The final leg of my work included identification of possible B2C customers and analyses their spending behaviors.

Tools used (Development tools - H/w, S/w: Excel

Objectives of the project: To analyses the target user for Forgot and to provide market analytics on vendor management.

Outcomes of the project: Target user analysis for the B2C product Frogo

Major Learning Outcomes: Management Skills, Analytics, Excel, Product Design

Brief Description of working environment, expectations from the company: Giftxoxo provides a healthy work environment with immense potential of learning. The people are approachable and they assist with any queries or doubts. The organization is also flexible in terms of the work an intern can do. I would suggest future interns to figure out the specific domain of their interest to enhance their learning.

PS-II Station: HedgeQuants Capital Advisory, LLP, Kolkata

Student

Name: Anshik

ID No: 2013A3PS350H

Student Write-up

Short Summary of work done during PS-II: The work expanded over many domains, mainly over Algorithmic Trading and Statistics and Natural Language Processing. A Mean Reversion trading strategy was created using CCI Filter, The strategy was robust with good Hit Trade and lower drawdown's. Second project was to test whether Search Databases are indicative of return in Commodities market. Third project was to create a ground up NLP system(Design and Development) which would enable the firm to leverage Quarterly and Annual Filings of the company besides the price information which is primary data for the firm. The fourth project was a Risk Management System based on two measures MTM and Drawdown's of series.

Tools used (Development tools - H/w, S/w: Java, R

Objectives of the project: The work expanded over many domains, mainly over Algorithmic Trading and Statistics and Natural Language Processing. A Mean Reversion trading strategy was created using CCI Filter, The strategy was robust with good Hit Trade and lower drawdown's. Second project was to test whether Search Databases are indicative of return in Commodities market. Third project was to create a ground up NLP system(Design and Development) which would enable the firm to leverage Quarterly and Annual Filings of the company besides the price information which is primary data for the firm. The fourth project was a Risk Management System based on two measures MTM and Drawdown's of series.

Outcomes of the project: 1) A Strategy with Sharpe ratio of over 1.0 was developed,

this would serve as a base strategy as it gave promising results in backtest period.

2) The Design and Development of NLP system was complete.

3) The hypothesis was tested correctly, but Google trends are not strong indicators of commodity returns as Google trends are not static over a look back period and there is limitation as to amount of data available from Google.

Major Learning Outcomes: 1) Market Micro-structure. 2) NLP Systems.

Brief Description of working environment, expectations from the company: The company environment was encouraging for learning. Mentors ensure all round development and it will serve as a good PS for students aspiring for finance exposure.

Name: Nikhil Subramanian Iyer

ID No: 2013A3PS226G

Student Write-up

Short Summary of work done during PS-II: I worked on 3 different projects ranging from (i) the creation of a trading strategy for futures on international financial markets to capture a market inefficiency called retracements, (ii) the creation of an end to end trade analyzing framework that works as a feedback mechanism between the back testing system and the live system and helps in validation of assumptions in back testing, (iii) Optimization of Markowitz mean variance theorem using Machine Learning and Seasonality based predictions of movements in futures prices

Tools used (Development tools - H/w, S/w:Java, R, MySQL, Eclipse, Excel.

Objectives of the project: (i) Creation of a successful strategy that gives superior risk adjusted returns; (ii) An automated system that provides intelligent daily feedback about live v/s back tester comparisons; (iii) Creation of the base Markowitz framework and subsequent comparisons with benchmark performance after applying machine learning models

Outcomes of the project: (i) Post implementation of a variety of strategies, it was seen that sufficient opportunity is lacking in capturing of retracements; (ii) A robust automated framework was created that was added to the company's existing live frameworks; (iii) The benchmark was outperformed for certain rolling windows

Major Learning Outcomes: Knowledge in Java, Algorithmic Trading, Market Microstructure, Machine Learning, Finance theories etc.

Brief Description of working environment, expectations from the company: The learning curve is a little steep at the beginning because the field is new, but the existing company workforce is extremely helpful in seeing you through that. From then on, you are provided with hands on experience of dealing with financial markets and algorithmic trading in general by being handed important and relevant projects. Contributing code/research to the company right at the onset is a little difficult, owing to the research based nature of the work, but persistent research and regular help from company officials helps you to eventually contribute something meaningful. Also, regular brainstorming sessions and sufficient resources enable you to gain experience in a niche field that combines concepts of Machine Learning and Finance.

PS-II Station: Hourglass Research, Mumbai

Mentor

Name: Mr. Ojas Sabnis

Designation: Mr Ojas has been quite satisfied with the quality of the work done by the BITS students. Running patent analytics programs with technical understanding of the concept has always put BITS students on top of other interns. The Organization looks for the students preferably from CS and EEE background and as interns they get a chance to work with clients in helping them understand and file the patents.

Faculty

Name: Pawan Sharma

Comments: Hourglass is a leading Intellectually Property (IP) solutions provider helping organizations around the world secure, manage and monetize their IP assets. The company caters to a global clientele that includes "Fortune" listed corporations, law firms, SMEs, startups and VCs. The company requires students from EEE, CS and Mechanical backgrounds to help clients file patents in respective domains. As such special skill sets or prerequisite courses are not required but students should be well conversant with C/C++, java, JS. The students can be better prepared for the station if they have knowledge on patent analytics, infringement analysis, Patent and technology landscape analyses for various hi-tech domains, Preparation of infringement materials and marketing collaterals for various granted patents and Patentability assessment searches. The industry looks for students with CG 6.5 and above and would normally intake 3-4 students with 15k stipend per month excluding other benefits like accommodation, travel etc.

Student

Name: Rudresh Venkatasubramanian

ID No: 2013A3PS253G

Student Write-up

Short Summary of work done during PS-II: The work here is in the domain of patent analytics. At Hourglass, we as interns have taken up multiple client projects. We have done projects involving included invalidity searches, data analytics and patentability searches (to find out if an invention can be patented), patent technology landscape studies, infringement analysis etc.

Tools used (Development tools - H/w, S/w: Microsoft Office especially excel; search strategies in patent databases like Thomson Innovation, Quested Orbit

Objectives of the project: Different types of searches have different objectives. A patentability search is done to determine if a given invention can be patentable or not, in other word find the prior art. Invalidity searches are done to invalidate the premise or grounds on which patent was granted. Patent technology landscape studies are done to get an overview of a technology domain by studying portfolios of a large number of patents Infringement analysis involves targeting a company's product or service for practicing an invention without giving royalties to the person/company that holds the patent for that particular invention.

Outcomes of the project: After searches are done, reports are made with the outcomes and strategies used. For landscape studies, a thorough study gives the idea of the technology research going going, along with graphs and analytics.

Major Learning Outcomes: I got to learn about a variety of technologies through my prior art searches and landscape studies. I also learnt a few skills in word, excel and using search strategies on Google

Brief Description of working environment, expectations from the company: It is a small company of strength not more than 20. The senior patent associates interact with the clients for new projects. Once the project is given by the client, they assign it to us and they become our project managers (PM). They guide us in our work throughout and check for quality before sending it to the client.

Name: Pavan Thakkar

ID No: 2013A3PS301P

Student Write-up

Short Summary of work done during PS-II:The work mainly revolved around the Intellectual Property arena. A host of searches in various verticals were conducted and reported to clients as per the requirements.

Tools used (Development tools - H/w, S/w: Search Databases: 1) Thomson Innovation patent search 2) Quested orbit

Objectives of the project: Patent Analytics

Outcomes of the project: A set of client related documents, understanding based on Intellectual property domain was created

Major Learning Outcomes: A set of patent searching softwares were learnt. Major search strategy creation aspects were learnt. Client handling situations and a lot of soft skills development was also a part of the learning process

Brief Description of working environment, expectations from the company: The Company is a very small entity and has one of its kind working environments. It promises a dynamic workplace be aise of the startup culture and has a great potential to help the candidate in his/her personal growth.

Name:*Abdul Rehman*

ID No:2013A3PS698G

Student Write-up

Short Summary of work done during PS-II: An attempt was made to cover the basics of Intellectual Property, with the prime focus on Patents. It involved various small scale projects including prior art searches, patentability searches, patent infringement analysis along with large scale projects like patent landscape analysis.

Tools used (Development tools - H/w, S/w: Majorly the searches was conducted on Google Patent Search, InPASS, Espace, WIPO and other native patent searches. Company also utilizes licensed patent database namely Quested Orbit and Thomson Innovation.

Objectives of the project: The assignments were based on the solutions provided to its clients encompassing intellectual property solutions in various fields.

Outcomes of the project: The reports were used by clients in fulfilling various objectives like the overall patent trends using patent landscape analysis, filing lawsuit against companies infringing on patents by patent infringement analysis, assessing the scope of patents using patentability search report and many more.

Major Learning Outcomes: 1. Exposure to clients.2. Generating report in fully understandable format as per the client's requirement.3. Working on projects with no previous knowledge about the technology.

4. Adhering to tight deadlines when working on projects.5. Maintaining quality work throughout the projects.

Brief Description of working environment, expectations from the company: The work culture is more or less same as that of any start-up. People are friendly and moreover, most of them are BITSians. Parties and social outings are extra perks. People in Hourglass are strict to deadlines and expect you to give your 100% as an intern.

PS-II Station: IndustryARC, Hyderabad

Mentor

Name:Mr. Venkat

Designation: Students worked on market research of various segments / products. Preparation of table of components, doing primary / secondary research and preparing the report based on the research



Faculty

Name: Dr.Y V K Ravi Kumar

Comments: Industry ARC: Good analytical skills

Having knowledge in Excel is helpful

Student

Name: *Srigiri Dileep Kumar Reddy*

ID No: 2012A8PS685G

Student Write-up

Short Summary of work done during PS-II: Writing a detailed report estimating market size and future market potential on selected topics

Tools used (Development tools - H/w, S/w: Office, word

Objectives of the project: To write a report

Outcomes of the project: Wrote a syndicate report

Brief Description of working environment, expectations from the company: Hostile working environment. The expectations were huge and it is almost impossible to reach them

Name: *Kaustubha Madhu*

ID No: 2013A3PS386H

Student Write-up

Short Summary of work done during PS-II: Market research, primary calls

Objectives of the project: Syndicate and express reports

Outcomes of the project: primary calls, report writing

Major Learning Outcomes: Not any noticeable outcomes. Technically learnt nothing from the work. Few people could improve their Soft skills

Brief Description of working environment, expectations from the company: Too strict. No flexible timings. Making us come on time and leave after the works are done i.e. late in the evenings. At least 2-3 days a week till 9 or 10 in the night. and expect us to work like permanent employees. Too particular about formals. Even footwear during rainy season. Also few interns were threatened that they will be given bad reviews and grades effected if they don't listen to them. No dignity of labor. Money is deducted for late arrivals even if they stay back till 11 in the night as they have work then

Name:*Siriki S Sai Kiran*

ID No:2012A3PS236G

Student Write-up

Short Summary of work done during PS-II: Market research

Tools used (Development tools - H/w, S/w:Microsoft Word, PowerPoint, excel

Objectives of the project: No project allotted

Major Learning Outcomes: Learnt how to prepare a market report

Brief Description of working environment, expectations from the company: Office looks really good.. Cafeteria needs improvement. Expect to work a lot, Google a lot.You will also learn regarding various markets

Name:*Shubham*

ID No:2013A3PS169G

Student Write-up

Short Summary of work done during PS-II: Market Research, Web Research

Tools used (Development tools - H/w, S/w: MS Office

Major Learning Outcomes: How startups fail

Brief Description of working environment, expectations from the company: Although this company is started by BITSians, it's no good. They have more interns than employees and employees have very little skill set. Students had to teach then things. Stipend is also low. Not a good PS station. I have seen more than 20 employees quitting their job in last two months of my PS. Repetitive work, long working hours and low stipend sums up this internship.

Name:*Siddharth Sharma*

ID No:2013A3PS258G

Student Write-up

Short Summary of work done during PS-II: Market Research - In layman terms, copy pasting stuff from the internet and rephrasing it in your own words and selling that to clientele. Market research report is made available to a client on request fulfilling their needs for details about a new product/technology that the client company wants to deal into(their geographic details, their growth opportunities and many more)

Tools used (Development tools - H/w, S/w: Microsoft Office, Microsoft PowerPoint)

Objectives of the project: To make profit for the company/ to decrease workload on the employees' shoulders' by assigning major work to the interns

Major Learning Outcomes: Creative use of English language to avoid plagiarism

Brief Description of working environment, expectations from the company: The working environment is very hectic, the management expects even the interns to work like full time employees, contributing to the profit of the company. The work given to interns is not for their learning or any sort of growth, but only to lessen the workload of the employees. The management doesn't care about the interns or their learning opportunities, but uses them to fulfill their lack of full-time employees in the company.

Name:*Pankaj Saini*

ID No:2013D2TS990P

Student Write-up

Short Summary of work done during PS-II: I worked as an Intern associate business consultant. I worked for inbound sales where I had to pitch the Market Research Report based on clients' requirements.

Objectives of the project: Inbound Sales

Outcomes of the project: Helped organization in increasing their revenue. Closed a sale of US \$6250

Major Learning Outcomes: Communication Skills, Learnt how to deal with any objection, how to convince someone and clients' requirement.

Brief Description of working environment, expectations from the company: Being a very young start-up, and often has to deliver a lot of information to clients in short notice. To achieve this and keep ahead of the competition in this Market, the company have highly motivated teams of analysts. Hence, I was often encouraged to come up with advanced ways to work. Company gives interns to work in a start-up environment, where even though the work may not be very engaging on the learning curve too steep, interns can still harness their skills to brainstorm, innovate, team work and deliver results under pressure

Name:*Yashvardhan Chamoli*

ID No:2012B5A2712P

Student Write-up

Short Summary of work done during PS-II: Preparation of market research reports using primary and secondary research

Objectives of the project: Preparation of Market Research Reports

Outcomes of the project: Market Research Reports

Major Learning Outcomes: Research, Content Writing

Brief Description of working environment, expectations from the company:Environment needs to be more conducive for work.

PS-II Station: InMobi, Bangalore

Student

Name: Anchal Gupta

ID No: 2013A2PS517P

Student Write-up

Short Summary of work done during PS-II: As a Campaign manager in InMobi Technology our primary roles were 1. Work with sales teams to understand client expectations 2. Day to day management of mobile display campaigns 3. Meet and exceeding campaign goals through campaign strategy and optimization 4. Work with data to arrive at insights and strategies about campaigns 5. Assist in the development of custom creative with internal departments and clients 6. Management of client expectations, communication and reporting metrics 7. Help the product management team in designing better products by communicating market realities and expectations 8. Work with publishing team to secure inventories required for meeting the client objectives.

Tools used (Development tools - H/w, S/w: Excel, PowerPoint)

Objectives of the project: To gain a thorough knowledge about the mobile marketing

Outcomes of the project: Got an Understanding about Digital marketing ecosystem

Major Learning Outcomes: Understanding about Digital marketing ecosystem Trends across Industry Industry Domain experience Communication, Problem solving and critically thinking skills Data analysis and Number crunching Peer to peer Networking Technical skills: Excel, R, XQL Appreciative and rewarding hard work Team spirit

Brief Description of working environment, expectations from the company: working environment is very friendly.

Name: Nitisha Saumya

ID No: 2013A2PS559P

Student Write-up

Short Summary of work done during PS-II: The team is Business Development: Strategy and Operations. It covers:- Strategic analysis for the publisher sales, brand and performance businesses- Sales operations for publisher, brand and performance sales teams- FP&A for the organization- Market intelligence for both supply and demand businesses

Tools used (Development tools - H/w, S/w: Internal products, Excel, PowerPoint)

Objectives of the project: SDK Analysis helps in Business development and extends a helping hand to track top apps which went under monetization so that we can get them on Network. We use a lot of data from Mixrank, AppAnnie and priori and compare the top Apps in various goes month on month.

Outcomes of the project: SDK Analysis helps in Business development and extends a helping hand to track top apps which went under monetization so that we can get them on Network. We use a lot of data from Mixrank, AppAnnie and priori and compare the top Apps in various goes month on month. Increase the business and make it more profitable.

Major Learning Outcomes: Presentation skills, Excel, PPTs, strategic plans and analysis

Brief Description of working environment, expectations from the company: The work environment is very good. Interns as treated as employees and given work accordingly so there is lot of scope to learn.

Name: *Neha Jain*

ID No: 2013ABPS810H

Student Write-up

Short Summary of work done during PS-II: InMobi is a mobile advertising company. My role was of a campaign Manager in the ANZ team (GRID) and it falls under demand side. As a campaign Manager my responsibilities were to understand the Clients need, meet their expectations by proper campaign setup, analysis, optimization, appropriate insights and strategies derived from data and to run the campaign in a very efficient way so as to drive maximum Return on Investment for the advertisers. Along with this working with publishing team to secure inventories required for meeting the clients' objectives was also a part of my responsibility.

Tools used (Development tools - H/w, S/w: Cosmos, Sales force, Unified, Clarity, Excel

Objectives of the project: 1) Campaign setup 2) Campaign Analysis and Optimizations and fulfilling Clients' demands. 3) Campaign Delivery Reports and End of Campaign Reports - Sent to the clients so that they can also monitor their campaign's performance.

Outcomes of the project: As a campaign Manager, I have setup many campaigns and optimized them throughout their duration to ensure efficient delivery. I have done analysis using excel and various reporting tools to learn in detail about the performance of a campaign and how to improve it. As a result I have ensured successful delivery of many campaigns throughout my internship.

Major Learning Outcomes: 1) A detailed insight of how mobile advertising works, what an ad agency is and how it is the link between advertisers and publishers. 2) A detailed knowledge of Marketplace- What the trends are and what is more beneficial. 3) Knowledge of Various brands. 4) Improvement in analysis and optimization skills. 5) Improvement in Communication and Soft skills. 6) Improvement in excel skills

Brief Description of working environment, expectations from the company: The work environment is very friendly. I never felt like an intern and was treated like everyone else in the team. The lead and other members of my team were very helpful and approachable. They were always ready to help me in every possible way. As a result, I have learnt a lot of new things and it was an altogether a different and amazing experience.

Name:G Prasant Sai

ID No:2013A2PS436P

Student Write-up

Short Summary of work done during PS-II: As a Campaign manager in InMobi Technology for EM and NA - Brand Market- we have to Work with sales teams to understand client expectations, do Day to day management of mobile display campaign, Meet and exceeding campaign goals through campaign strategy and optimization, Work with data to arrive at insights and strategies about campaigns, Assist in the development of custom creative with internal departments and clients, Management of client expectations, communication and reporting metrics, Help the product management team in designing better products by communicating market realities and expectations and Work with publishing team to secure inventories required for meeting the client objectives.

Objectives of the project: 1) Campaign Setup2) Monitoring3) Optimization4) Analysis & Reports

Outcomes of the project:1) We are responsible for the ROI of the advertiser.

2) Campaign Manager is responsible for effective utilization of the advertiser's budget.

3) Hence role of a Campaign Manager is critical as it directly impacts the revenue of the company.

4) Effective Campaign Management can lead to additional business from advertiser.

Major Learning Outcomes: 1) Understanding about Digital marketing ecosystem 2) Industry Domain experience 3) Technical skills: Excel, R, Python4) Communication, Problem solving skills

5) Data analysis and Number crunching 6) Team spirit

Brief Description of working environment, expectations from the company: The work environment is very friendly. I never felt like an intern and was treated like everyone else in the team. The lead and other members of my team were very helpful and approachable. They were always ready to help me in every possible way. As a result, I have learnt a lot of new things and It was altogether a different and amazing experience

Name:Nikhil Malhotra

ID No:2013A1PS454P

Student Write-up

Short Summary of work done during PS-II: As a Campaign manager in InMobi Technology for Europe - Performance Market- we have to Work with sales teams to understand client expectations, do Day to day management of mobile display campaign, Meet and exceeding campaign goals through campaign strategy and optimization, Work with data to arrive at insights and strategies about campaigns, Assist in the development of custom creative with internal departments and clients, Management of client expectations, communication and reporting metrics, Help the product management team in designing better products by communicating market realities and expectations and Work with publishing team to secure inventories required for meeting the client objectives.

Objectives of the project: 1) Campaign Setup 2) Monitoring 3) Optimization 4) Analysis & Reports

Outcomes of the project: 1) We are responsible for the ROI of the advertiser.

2) Campaign Manager is responsible for effective utilization of the advertiser's budget.

3) Hence role of a Campaign Manager is critical as it directly impacts the revenue of the company.

4) Effective Campaign Management can lead to additional business from advertiser.

Major Learning Outcomes: 1) Understanding about Digital marketing ecosystem 2) Industry Domain experience 3) Technical skills: Excel, R, Python 4) Communication, Problem solving skills 5) Data analysis and Number crunching 6) Team spirit

Brief Description of working environment, expectations from the company: The work environment is very friendly. I never felt like an intern and was treated like everyone else in the team. The lead and other members of my team were very helpful and approachable. They were always ready to help me in every possible way. As a result, I have learnt a lot of new things and It was altogether a different and amazing experience

Name: Puneet Choudhary

ID No: 2012B3A7512G

Student Write-up

Short Summary of work done during PS-II: My work in the company focuses on learning of how Adtech companies work both on demand and supply sides. My area of work is based on supply side managements for Affiliate Networks. My work involves managing the supply and demand side clients globally to bring in the diversity of campaigns for Wadogo team as well as providing quality users to advertisers, thus fulfilling their KPIs and providing them required ROIs. My area of work requires daily analysis of reports to scale up business and make various optimizations.

Tools used (Development tools - H/w, S/w: MS Excel, Has Offers by TUNE, Sales force & other internal InMobi tools

Objectives of the project: -To learn different terminologies used in Ad-Tech industry.

-The working of affiliate markets.-Supply side partner management.-Optimizations of campaigns.-Generate and analyze profitability reports.-Increase revenue of Wadogo team by 5%

Outcomes of the project: -3 x growths in revenues generated from a self serve platform.

-Reduced time to make weekly profitability report from 2 hours to 15 mins by creating a general template. -Significant increase in revenues by generating additional demand from affiliate partner

Brief Description of working environment, expectations from the company:InMobi as a company has great work culture. It is very professional in its conduct and really takes care of all employees and interns working there. Interns are treated just like employees. It has flexible work timings. Everyone is given responsibility for their work and people here are free to test their ideas. Its a great company to work for.

Name:Avesh Kumar Singh

ID No:2012B5A1680P

Student Write-up

Short Summary of work done during PS-II:InMobi is among world's top mobile advertising companies Currently working on digital marketing ecosystem and delivery managementâ€ Meeting advertisers' demand by properly understanding their needs and fulfilling them through the right publisherâ€ Identified opportunity based on in depth understanding of client requirements and successfully scaled multiple accounts with multi-product solution pitches â€ Analysed user and mobile patterns/trends and developing a deep understanding of data at an account and campaign level

Tools used (Development tools - H/w, S/w: Excel, R, SQL

Objectives of the project: Understanding of Digital marketing ecosystem and Delivery Management

Outcomes of the project: Better Understanding and Familiar with Industry

Major Learning Outcomes: Excel, data Analysis

Brief Description of working environment, expectations from the company:InMobi is among world's top mobile advertising companies Currently working on digital marketing ecosystem and delivery management Meeting advertisers' demand by properly understanding their needs and fulfilling them through the right publisherâ€ Identified opportunity based on in depth understanding of client requirements and successfully scaled multiple accounts with multi-product solution pitches. Analysed user and mobile patterns/trends and developing a deep understanding of data at an account and campaign level

Name:Abhishek Jindal

ID No: 2013A1PS472P

Student Write-up

Short Summary of work done during PS-II:The purpose of my project is to decrease the manual effort of the team by automating the tools. In my project, I have developed dashboards which will help the team to analyze the data. My project also includes the development of an incent app which will directly impact the revenue of the company.

Tools used (Development tools - H/w, S/w: Java, Html, Android, Css, JQuery, Python

Objectives of the project: 1) Conversion Reversal Tool2) Weekly Reporting Tool3) Daily Reporting Dashboard4) Advertiser Demand Dashboard5) API Integration with Advertisers6) Affilitest Integration

7) PokketDeal App8) PokketDeal Website9) POD SnapShots10) Cake Reporting Tool

Outcomes of the project:Increase in Revenue Manual Effort Decreased. Efficiency Increased.

Major Learning Outcomes: Exposure to handle back end Data. Implementation of Algorithms to Synch the Code. Proficiency in Web Development. Proficiency in Android App Development. Exposure to work in all the major CS Languages.

Brief Description of working environment, expectations from the company: InMobi, Bangalore's working environment is really awesome especially the culture of the company. The work is great, people are great, and food is great: Plt was a beautiful journey for me.



PS-II Station: J.P. Morgan Chase, Bangalore

Student

Name: Sourabh Baldwa

ID No: 2013A4PS400P

Student Write-up

Short Summary of work done during PS-II: Overall, the experience at JP Morgan Chase, Bangalore has been Fantastic. It is the perfect place to understand the Back end activities of an Investment Bank and what exactly it takes to serve clients. I can definitely say that this experience has trained me immensely in the skill set, attitude and dedication required to work in corporate life. After working in a firm as huge as JP Morgan, anyone will be able to assimilate with any kind of corporate environment. I worked in the 'Robotics Process Automation Team ' vertical of Automation in the new Business era. My team is specialized in Scripting Bots. The work in my team isn't just related to one Business it deals with a lots of Businesses in JPM, in this team I have explored many Business within JPM, My work isn't repetitive at all, in every process we need to think differently and come up with a different idea to automate a Process. My team was mostly involved Scripting Bots of Client Reference Data team. Hence, I learned a fair bit of their Team's work. In a few tasks, I had to apply concepts of Quantitative methods and basic C programming to script BOTs like Fundamental and Technical Analysis, sampling and various bias like Data Mining, Look forward bias that come with it the code. The biggest advantage of working in big Multinational firms like JP Morgan is that you are groomed really well to handle the rigors of corporate life. An experience like this will definitely help those who aspire to work in coding and financial world in the future. The transition from academics to industry isn't very smooth since on campus, we lead a much laid back, carefree life but industry demands a slightly more intense outlook.

The major take back that I have taken from this internship is that it has widened my knowledge base and awareness of the workings in Investment banking. It will definitely be of a great help in planning my career more pragmatically. Since, I didn't have an academic background in Finance; it did take me some time to catch up with financial jargons but after some time though after some time work at JPM looks mar and more interesting. Working at JP Morgan has helped me realize my interest in Finance.

Tools used (Development tools - H/w, S/w: Automation Anywhere

Objectives of the project: Automation of manual process

Outcomes of the project: Automation of much process

Major Learning Outcomes: Soft skills, client interaction, team work etc.

Brief Description of working environment, expectations from the company: Overall, the experience at JP Morgan Chase, Bangalore has been Fantastic. It is the perfect place to understand the Back end activities of an Investment Bank and what exactly it takes to serve clients. I can definitely say that this experience has trained me immensely in the skill set, attitude and dedication required to work in corporate life. After working in a firm as huge as JP Morgan, anyone will be able to assimilate with any kind of corporate environment. I worked in the 'Robotics Process Automation Team ' vertical of Automation in the new Business era. My team is specialized in Scripting Bots. The work in my team isn't just related to one Business it deals with a lots of Businesses in JPM, in this team I have explored many

Business within JPM, My work isn't repetitive at all, in every process we need to think differently and come up with a different idea to automate a Process. My team was mostly involved Scripting Bots of Client Reference Data team. Hence, I learned a fair bit of their Team's work. In a few tasks, I had to apply concepts of Quantitative methods and basic C programming to script BOTs like Fundamental and Technical Analysis, sampling and various bias like Data Mining, Look forward bias that come with it the code. The biggest advantage of working in big Multinational firms like JP Morgan is that you are groomed really well to handle the rigorous of corporate life. An experience like this will definitely help those who aspire to work in coding and financial world in the future. The transition from academics to industry isn't very smooth since on campus, we lead a much laid back, carefree life but industry demands a slightly more intense outlook. The major take back that I have taken from this internship is that it has widened my knowledge base and awareness of the workings in Investment banking. It will definitely be of a great help in planning my career more pragmatically. Since, I didn't have an academic background in Finance; it did take me some time to catch up with financial jargons but after some time though after some time work at JPM looks mar and more interesting. Working at JP Morgan has helped me realize my interest in Finance.

Name: *Rishabh Sharma*

ID No: 2013B3PS969P

Student Write-up

Short Summary of work done during PS-II: Had regular meetings with operations teams and prepared BRDs on the processes discussed. Worked on various issues faced by the operations teams and their respective solution.

Objectives of the project: To increase efficiency and productivity

Outcomes of the project: Processes Automation

Major Learning Outcomes: Improvement in Soft skills

Brief Description of working environment, expectations from the company: Working environment was as per expectations, people were helpful. Guidance was provided whenever it was necessary.

Name: *Akash Agarwal*

ID No: 2013A2PS752P

Student Write-up

Short Summary of work done during PS-II: Automation of report generation in Excel, Breaks Analysis and trend on daily basis, Recertification of Mis

Tools used (Development tools - H/w, S/w: Excel, Visual studio

Objectives of the project: To automate repetitive tasks

Outcomes of the project:Automation of several major processes

Major Learning Outcomes: Excel, Visual basic.

Brief Description of working environment, expectations from the company: Good

Name: *Adithya S Bhat*

ID No: 2012B3A1533P

Student Write-up

Short Summary of work done during PS-II: With improvement in technology, it has become imperative for companies to cut down costs in order to compete along with maintaining or enhancing the quality of service provided. Automation of the repetitive steps in the generation of reports helps bring down costs, reduces the time required, and enhances the quality by reducing the possibility of human error. This forms the foundation of my project. It involves two phases; documentation of all the steps involved in production, followed by analysis of the feasibility and extent to which automation is possible. Creation of templates in order to eliminate unnecessary processes in report generation forms another part of the project. Over 80% of the processes can be eliminated and 74% of the time required for the processes can be saved by the implementation of the projects. These projects have therefore aided in the elimination of unnecessary steps and provided value addition to the company.

Tools used (Development tools - H/w, S/w: Microsoft Office, Internal softwares of the company

Objectives of the project: The objective of the project is to collate and document the automatable steps of each of the processes, analyse each process for feasibility of automation, and to automate the feasible processes.

Outcomes of the project:Out of 93 reports, 92 reports were automatable up to some extent. 21 reports were 90% automatable, while over 50% of the steps involved in production were automatable in 86 of the 93 reports. It was found that an average of 82% of the steps involved in the production of these reports could be eliminated via automation. Templates were created in internal software which resulted in a reduction of 30% of the steps and time required.

Major Learning Outcomes: The project helped develop soft skills, through the productive interaction with employees during the projects. It also helped develop other skills such as time management, prioritization and multitasking. A tremendous amount of analysis was required during the course of the projects, which helped in sharpening analytical skills.

Brief Description of working environment, expectations from the company: The working environment is a professional corporate environment. The company has a strict hierarchical structure, with clear guidelines about the behavior and conduct of the employees. The company is one of the largest financial institutions in the world. One is expected to work a minimum of 9 hours every day, and meet deadlines without any delay at the company. The environment is healthy and is one of the reasons for the company's success.

Name: Shubank Reddy Eda

ID No:2013A1PS714H

Student Write-up

Short Summary of work done during PS-II: I've worked on two project i.e. Data CoE and ROBOTICS. In Data CoE sub project we were asked to find the efficiency of using Automated UTs compared to the manual ones with the help from cognizant. We were able to find put that we were able to stay 50% efficient by using automated UTs. In robotics where the reporting processes are automated I've been asked to make word documents which represent even the minute details and help in coding.

Objectives of the project: To make the reporting process easier for the Ops teams.

Outcomes of the project: More efficient and time saving on preparation of these reports.

Major Learning Outcomes: Python.

Brief Description of working environment, expectations from the company: The team ive been assigned could possibly be the best in there. They have given us great help and support in every aspect while we were working in J.P Morgan. The timings are not that strict, we have a great office, good breakout area and also good amount of work to do. Great place and good environment.

Name:Chirag Batra

ID No:2013A4PS287P

Student Write-up

Short Summary of work done during PS-II: During this internship I did lots of assignments and project but majorly I worked on Broker Score Card. Essentially the Broker Score Card was developed to understand the stats of ever broker for a massive client of JP Morgan Chase, working and developing on how to make it easier and faster to clear the exceptions from the broker side. Being the Broker Facing Team it was important to develop a good relationship. I prepared this for 8 brokers and learnt many things from my practice school. From this I Improved my Excel Knowledge got to know the corporate

environment, speaking and e-mail etiquette and how to prepare & compare massive data in different fields.

Tools used (Development tools - H/w, S/w: Microsoft Office, Company's Internal Software

Objectives of the project: Objective of this project is to describe the response and performance of brokers. As broker Score Card is a newly introduced marker for Broker Facing Team wherein, performance of brokers, trends of exceptions and response behavior gets captured manually.

Outcomes of the project: This project is very important for broker facing team. As this explain how this particular team helps to provide value added services to the client. This project describes the performance of the individual broker.

Major Learning Outcomes: 1. Improving Excel Knowledge 2. Got to know the corporate environment

3. Got to know the opportunities available in the field of finance 4. Speaking and e-mail etiquette

5. Preparing and comparing massive data in different fields

Brief Description of working environment, expectations from the company: Working environment of the company is good and the employees are also very friends and helpful in nature. Our practice school was delayed by one month due to some delayed in on-boarding process, which was not expected from this firm. Otherwise overall experience was good.

Name:*Rohit M*

ID No:2013A8PS520H

Student Write-up

Short Summary of work done during PS-II: The study project was pertinent to the field of robotics process automation, employed at JPMorgan Chase. Being one of the biggest banks in the world, the lines of businesses are voluminous both in terms of number and in terms of the amount of work carried out. In order for the smooth and cost effective execution of the many varied tasks in their back-office unit, the company has now begun to employ automation of several of their otherwise manually performed tasks, the aim being to reduce the labor costs to the company and the time consumed to get their tasks executed, as well as to redirect the skills of the labor force to more meaningful, rewarding and less mundane tasks, where the employment of automation is not feasible. The project dealt with the concept of automation and the tasks at JPMorgan Chase that are being automated. The benefits and the limitations of automation of processes were also analyzed.

Tools used (Development tools - H/w, S/w: Automation Anywhere, Ms Excel

Objectives of the project: Robotics Process Automation

Outcomes of the project: Robotics Process Automation

Major Learning Outcomes: Robotics Process Automation

Brief Description of working environment, expectations from the company: The internship at JPMorgan Chase facilitated an insight to the corporate culture. The project allotted gave ample learning opportunities with regard to the concept of automation and its programming.

Name:Rahul Mittal

ID No:2013A2PS609P

Student Write-up

Short Summary of work done during PS-II: Document Preparation. Trade operations.

Objectives of the project: To learn more about Global trade finance

Outcomes of the project: Enhanced knowledge of operations and trade.

Major Learning Outcomes: Corporate Culture

Brief Description of working environment, expectations from the company: Good supportive environment. People are helpful.

Name: Lohiya Kushal

ID No: 2013A1PS592G

Student Write-up

Short Summary of work done during PS-II: I worked for technological implementation for my line of business

Objectives of the project: Technological advancements for all the teams

Outcomes of the project: Project still in progress

Major Learning Outcomes: Working culture of Cooperate world

Brief Description of working environment, expectations from the company: Working environment is good. It has outmatched my expectations.

Name:Prudhvi Sai Ram Potluri

ID No:2013A1PS552H

Student Write-up

Short Summary of work done during PS-II: Overview of business done in JPMC. Projects in reconciliation and automation.

Tools used (Development tools - H/w, S/w: Smart stream TLM, Excel.

Objectives of the project: To reduce the straight through processing time.

Outcomes of the project: Reducing the volume of breaks by 28 percent.

Major Learning Outcomes: Work culture in JPMC.

Brief Description of working environment, expectations from the company: Flexible and friendly work environment.

Name:*Ishita Mishra*

ID No: 2013B5PS607G

Student Write-up

Short Summary of work done during PS-II: Project management and financial consulting type of work. Strategising the projects for efficiency and cost saves

Objectives of the project: Handling operating model changes, digitization projects for bringing about cost saves and productivity enhancements

Outcomes of the project: Efficiency and cost saves

Major Learning Outcomes: Effective project management and people management skills, multi-tasking, patience, perseverance, smart business

Brief Description of working environment, expectations from the company: Work culture is very nice. My team had hectic work schedule but in general 9 working hours per day. Helpful and interactive environment. On boarding procedures generally delayed (our PS started 3 weeks late). Opportunity to network well.

Name:*Varun Bajpai*

ID No:2012B1A1703G

Student Write-up

Short Summary of work done during PS-II: i was aligned towards false positives which comes under data mining i was supposed to mine payment files for false hits against sanctioned countries

Objectives of the project: False positive for hit mitigation

Outcomes of the project: Proposed a strategy for better deployment of the process

Major Learning Outcomes: Banking sector and investment banking

Brief Description of working environment, expectations from the company: Dynamic working environment. Peer group is excellent. Company encouraged new ideas and if process can be optimized further.

Name: Shashikant jangir

ID No: 2013B3TS963P

Student Write-up

Short Summary of work done during PS-II: Work comprised of Collateral management between counterparties and shaving of trades and sensitivities.

Tools used (Development tools - H/w, S/w: Ms Excel

Objectives of the project: Strategic Market Infrastructure

Outcomes of the project: Trade sharing between Counterparties.

Major Learning Outcomes: Idea about derivatives and collateral.

Brief Description of working environment, expectations from the company: JP Morgan Chase is one of the biggest banks in the world. It was a great opportunity for me to have an internship with such a multinational firm. JP Morgan Chase in India primarily has all its back offices to support the work being done in New York, London etc. The major learning from working at JP Morgan is that I have a good understanding of how Trade Finance works and the various financial products that are used in the same.

Name: Ayushi Bansal

ID No: 2013A4PS390P

Student Write-up

Short Summary of work done during PS-II: 1. Data CoE team: GMRD (reference data interface) replaced by GIM and directly mapped with fund accounting platforms or the various user interface like WINs, Hi Port etc. Decommission Multisource that acted as a bridge between GMRD and the various user interface. 2. Robotics Process Automation: I was a part of the following teams A.) Demand Management Check feasibility of process: i). File should be digitally readable ii). Channels through which the files are processed should be readable iii). The task should be benefitted from automation in terms of FTEs saved, time reduced, efficiency improved, cost reduced etc. iv). The process should be defined systematically

and require minimum human intervention B). Automation Build: Scripting the operations team receives requests on daily basis which includes: Downloading client data Validating the data Updating the data STEPS: i). Scripting ii). UAT “User Acceptance Testing iii). Production Parallel

Tools used (Development tools - H/w, S/w: Automation Anywhere (Software)

Objectives of the project: Automation of repetitive manual work for improved efficiency

Outcomes of the project: Automated the routine tasks for efficiency. Reliable and more accurate work. Provides time to employees to work on less mundane things.

Major Learning Outcomes: Automation Anywhere software, Soft skill development, team work, Handling and interacting with clients

Brief Description of working environment, expectations from the company: Good working environment, Great team. Very supportive people all around. Good facilities for pickup and drops. Variety of food options to keep your taste buds happy. JP Morgan Chase, Bangalore delivered to the high expectations that I had from them. A good manager is pivotal in the success of a team and I believe that my manager has been amazing as a mentor, a guide and a supervisor. Whenever I have faced a problem I have approached him and he has helped me out, no matter how busy he was.

Name:*Siddhant Kalra*

ID No:2013A8PS411P

Student Write-up

Short Summary of work done during PS-II: Developed dashboards for the Reconciliations team pertaining to break count data. The work was mainly report automation and data reporting using BI tools

Tools used (Development tools - H/w, S/w: Cognos

Objectives of the project: Remove manual touch points from several reports and dashboards being created by the firm on a daily basis

Outcomes of the project: The automation helped to save up to 4-5 hours of a full time employee involved in creating reports on excel by extracting data manually using macros

Major Learning Outcomes: Hands on training in Cognos reporting and a thorough knowledge of the reconciliation processes in banks

Brief Description of working environment, expectations from the company: The working environment was pretty much similar to what you expect in multinational corporate firms. The work hours are flexible, you are allowed to think freely and independently and numerous facilities such as sports, TV, good food, transport etc. The only drawback was the unplanned assigning of interns into teams which did not even need interns. It took almost a month to settle in and get a project in hand. Also, many of us

expected a PPO after working hard. Even the team seniors were satisfied but they could not offer us a job because there were no vacancies. This was a direct result of allotting the wrong teams. There were teams who needed new people but there were no interns there.

Name: Ruthwik

ID No: 2013A4PS349H

Student Write-up

Short Summary of work done during PS-II: Excel based tools development

Tools used (Development tools - H/w, S/w: Excel-VBA)

Objectives of the project: Create tools to track, analyze and report data in a convenient manner

Outcomes of the project: Reduction in time for analyzing data

Major Learning Outcomes: Excel, Trade Finance

Brief Description of working environment, expectations from the company: Nice working experience, professionally dealt

Name: Sekharamahanti Lakshmi Lavanya Kumari

ID No: 2013ABPS732H

Student Write-up

Short Summary of work done during PS-II: I have played a pivotal in the second phase of the project which required extensive coordination between multiple teams and various sets of data.

Tools used (Development tools - H/w, S/w: MS office, internal office applications)

Objectives of the project: Design advanced tool to help work happen smoothly and accurately.

Outcomes of the project: The tool is in testing stage, which would help the processes that are held manually to a great extent

Major Learning Outcomes: Deep dive data analysis

Brief Description of working environment, expectations from the company: Good working experience. Managers are very supportive

Name:*Sayontini Chowdhury*

ID No:2013A3PS325P

Student Write-up

Short Summary of work done during PS-II: 1. Automating the process of reconciling headcount data between Finance, HR, Location Strategy and PMO, across all 3 businesses Alternatives, Client Reference Data and Custody Middle Office. Created a comprehensive analytical tool on MS Access to highlight mismatches in the data from all 4 sources. 2. Setting up the Location Strategy Governance File and automating the creation of the Executive Summary, with a Macro on Excel 3. Acquiring Transport Affirmation and ensuring compliance with the Secure ZIP Email Program from all employees within Alternatives

Tools used (Development tools - H/w, S/w: MS Excel, MS Access, and Company's internal Web Applications

Objectives of the project: 4-Way Headcount Reconciliation across Alts, CRD and CMO

Outcomes of the project: Automation led to 87.5% reduction in time spent

Major Learning Outcomes: Became well-equipped with MS Excel and writing Macros

Brief Description of working environment, expectations from the company: People are quite amicable and friendly but the working hours might not be very flexible - depends on your team, mainly. I liked working with my team but some others were not very satisfied with the work they were given.

Name:*Ajay Sodhi*

ID No:2013A3PS384H

Student Write-up

Short Summary of work done during PS-II: Tech Team- Worked on a BI Tool -Qlik View, Learnt java core for business coding, various other software's like Informatica

Tools used (Development tools - H/w, S/w: BI Tool-Qlik View

Objectives of the project: To test if team can replace existing Cognos with Qlik View as a BI tool

Outcomes of the project: Yes Qlik view is much better than Cognos. We researched on Qlik View.

Major Learning Outcomes: Business coding, Using and learning Business tool

Brief Description of working environment, expectations from the company: Working environment is pretty bad; Apart from the tech team work is very bad. And also PPO chances is high but the work is extremely bad and also ppo offered is very less.

Name: *Rajat Lodha*

ID No: 2013A2PS746P

Student Write-up

Short Summary of work done during PS-II: Analysis: Did regression analysis using excel, to find the work load co-relation with holidays and predict future incoming transactions for various regions.

Automation: Used VBA to automate various excel activities to reduce work load of employees and increase their efficiency.

Tools used (Development tools - H/w, S/w: VBA, Excel

Objectives of the project: Worked in the Trade Finance department of JP Morgan Chase, understanding the working of international trade. Analysis: Did regression analysis using excel, to find the work load co-relation with holidays and predict future incoming transactions for various regions. Automation: Used VBA to automate various excel activities to reduce work load of employees and increase their efficiency.

Outcomes of the project: Used VBA to automate various excel activities to reduce work load of employees and increase their efficiency

Major Learning Outcomes: VBA, Basic Trade finance, Excel

Brief Description of working environment, expectations from the company: The people in the company were very friendly, even VP's were easily approachable. We could ask for the type of work which we wanted helping us to sharpen our skill set.

PS-II Station: J.P. Morgan Chase, Mumbai

Student

Name: Maninder Goyal

ID No: 2012B1A4821P

Student Write-up

Short Summary of work done during PS-II: I had an opportunity to work with Equities MIS Middle office. I was given an opportunity to perform BAU and work on projects. My project was to Suggest and implement Excel and Access based Automation to streamline process and increase efficiency. The major time spent was on Coordination and Management of requirements with the teams for the Automation of processes.

Tools used (Development tools - H/w, S/w: MS Office)

Objectives of the project: Release team capacity by eliminating manual reports. Reduce potential errors from manual intervention. Enhance business report and control

Outcomes of the project: There advantages of the implementation of this project are saving of 0.5 full time employees in terms of time and reduced error potential and reduced control steps.

Major Learning Outcomes: It's been a great learning experience. Being from engineering background with very less knowledge about investment bank, the internship gave me an opportunity to understand financial world. I learnt the financial report making procedure and how it is performed at JP Morgan Chase. I have learnt how to work effectively along with the team to meet the deadlines. It helped me grow both professionally and personally and will definitely help me as I step into the corporate world.

Brief Description of working environment, expectations from the company: JPMorgan has a great working environment. Everyone was very supportive right from the day one. They gave an opportunity to perform BAU and work on the projects. They were supportive and encouraging throughout and helped me tackle any problems i faced throughout my internship. For my Projects and BAU, I liaised with many other teams throughout the globe and everyone was very helpful.

Name: Jaipal S Rathore

ID No: 2012B3A1706G

Student Write-up

Short Summary of work done during PS-II: Automated few processes with the help of web based tool and macros. And created databases on Microsoft access to save the paper, provide the audit trail and to reduce the dependency of operations on HR during attrition period

Tools used (Development tools - H/w, S/w: Web based tool provided to JPMC by third party, Microsoft excel (Macros,VBA),Microsoft access (VBA access)

Objectives of the project: To cut the daily hours of manual labor, increase operation efficiency, save paper, provide audit trail to senior management, reduce dependency of operations on HR during attrition

Outcomes of the project: 3 hours of manual labor is saved daily, paper is saved, reduced dependency of managers on other managers, reduced dependency of ops on HR,increased ops efficiency

Major Learning Outcomes: learned various processes and systems and functioning of ops.

Brief Description of working environment, expectations from the company: Employees are friendly and approachable and great place to work

Name:Anuj Agrawal

ID No:2012B1A4797P

Student Write-up

Short Summary of work done during PS-II: Robotic process automation - Project involved automating manual process using automation tool. Basic scripting and coding skills required.

Objectives of the project: Automating manual project.

Outcomes of the project: Many processes which were redundant were automated.

Major Learning Outcomes: Project management. Basic Coding skills.

Brief Description of working environment, expectations from the company: Working environment is good. Deadlines can be bit hectic. Company offers PPO depending on the vacancies with them. Work culture is really nice.

Name:Sai Anudeep Bodaballa

ID No:2013AAPS062H

Student Write-up

Short Summary of work done during PS-II: Documenting the process which need to be automated, raising the access for the BOTS created and testing the created BOTS

Tools used (Development tools - H/w, S/w: Excel and WORD

Objectives of the project: To automated the processes of the department

Outcomes of the project: Automating the processes

Major Learning Outcomes: Learnt Excel, Macros and Word.

Brief Description of working environment, expectations from the company: Working environment is supportive approachable and friendly

Name:*Ujjwal*

ID No:2013B1TS982P

Student Write-up

Short Summary of work done during PS-II: I use to do scripting to automate the operations work which was done by the ops team. Basically, the type of work which is rule based and also repetitive we can automate that work by writing scripts and deploying them through bots in this way we can use manpower for doing more cognitive and productive work.

Tools used (Development tools - H/w, S/w: Automation anywhere

Objectives of the project: To automate various processes

Outcomes of the project: Reduced manual workload and time consumed for doing repetitive work

Major Learning Outcomes: Learned how to do scripting using some of the software's also knowing various processes which are perfumed in the back office.

Brief Description of working environment, expectations from the company: I think the work environment in JPMC is very good here you would learn all the culture of the corporate world meeting work related deadlines taking seminars and meetings with higher managers and stakeholders also people in JPMC are very helpful they doesn't differentiate you as an intern they accept you as a part of their team and you can even joy some lite moments with them to.

Name:*Rajat jain*

ID No: 2012B3A2582P

Student Write-up

Short Summary of work done during PS-II: Most of the work was associated with raising access and documenting work flows. So mainly some in-house tools word and excel were used.

Tools used (Development tools - H/w, S/w: Ms Office and ms excel

Objectives of the project: Documentation

Outcomes of the project: Processes were automated using the documents structured by us

Major Learning Outcomes: Gained fluency and in depth knowledge of excel and word

Brief Description of working environment, expectations from the company: Got an experience in MNC

Name:Kshitiz Sethi

ID No: 2013D2PS961P

Student Write-up

Short Summary of work done during PS-II: I was part of technical project management team and my work comprised of setting up deadlines for delivery of different projects by interacting with the management and the actual scripter's. It also included managing a batch of 20+ interns and keeping a track of all the work done by them.

Objectives of the project: Automating Manual Tasks

Outcomes of the project: Automated Tasks

Major Learning Outcomes: Learned soft skills such as working in pressure and interacting with a lot of people and getting the work done.

Brief Description of working environment, expectations from the company: The Company provided a great working environment with all the required things.

Name:Chinmay Pratyush

ID No: 2013B4PS975P

Student Write-up

Short Summary of work done during PS-II: Overall, the experience at JP Morgan Chase, Mumbai has been holistic. It is the perfect place to understand the back end activities of an Investment Bank and what exactly it takes to serve clients. Now i can say that this internship has trained me immensely in the skill set, attitude, dedication and devotion required to work in corporate life .After working in such a huge firm, anyone will be able to assimilate with any kind of corporate environment. Initially i worked in Collateral Management Hub of Business Architecture and Transformation team where i used my Finance knowledge into the working environment. I used to raise margin calls to counterparty through a user interface called Acadia soft. Later on I got shifted to solutions team of Robotics Process Automation where our work is to bridge the gap between operations team and Scripting team. Whenever any process comes for automation then we see whether that process is feasible or not, what are the complexities involved in that process. we look into any process by BOTs Perspective .we then simplify

that process and then forward that process for scripting. The Major take back that I have gained from this internship is that it has widened my knowledge base and awareness regarding working in Investment bank. it will definitely be of great help in planning my career more pragmatically.

Objectives of the project: Automation, Raising Margin call

Outcomes of the project: Manual process Automation

Major Learning Outcomes: Learnt Automation Anywhere, VB Script, writing Macros, Advanced Excel and Communication Skills.

Brief Description of working environment, expectations from the company: The working environment at JP Morgan Mumbai is really awesome .all the teammates are highly cooperative .They helped me to apply my technical knowledge into practical scenarios, transitioning from learning in college to its application in the firm. I think of working at JP Morgan as more than just a job The biggest advantage of working here is that we are groomed really well to handle the rigors of corporate life. An experience like this will definitely help me a lot in future. The transition from academic to industry was not smooth since on campus, we lead a much laid back, carefree life but industry demands a slightly more intense outlook

Name: Tauras Marwaha

ID No: 2013A1PS683H

Student Write-up

Short Summary of work done during PS-II: The experience in JP Morgan for me was enlightening. As engineering student I always thought that it will take some time to get adjusted in finance world, however the skills inculcated in me during college were put to good use. I was in the Projects team where I was given the responsibility of handling the foreign exchange side of trades. I worked on certain tools which helped me to automate the non standard statements into a standard format and further reconcile it with the data received from accounting platform. As a part of the Projects team it was my responsibility to communicate with people in different parts of the world, attend meetings, understand business as usual. This helped me develop a pragmatic approach at tackling issues, enhance my soft skills and to understand the importance of team work. The work at JP Morgan Chase for me was not entirely finance related though and more on automation of operations side, but on the management front I got to learn a lot and I am overall satisfied with my PS station.

Tools used (Development tools - H/w, S/w: Automation and Reconciliation Tools

Objectives of the project: The program was aimed at elimination of manual extraction of details from non standardized statements and converting them to a standardized output and further elimination of its manual reconciliation.

Outcomes of the project: Reduction of manual work, elimination of human error, speed-en up the whole process

Major Learning Outcomes: Project Management, FFX Operations

Brief Description of working environment, expectations from the company: The work environment in JP Morgan helped me grow as an individual and understand the nuances of working for a multinational corporation. Just the on boarding process was bit delayed which I expect to be worked upon soon, anything else other than that was commendable. The overall facilities and working environment at JP Morgan was very good.

Name:Aman Shrivastava

ID No:2013A1PS85H

Student Write-up

Short Summary of work done during PS-II: My basic job at JP Morgan was Reconciliations of different process to see that the daily activities are being performed without any error other than that I also provided calculations of Coupons of Bonds and swaps to different clients and as part of my Project I was asked to make Process template of different process which are being performed by my team on daily basis

Tools used (Development tools - H/w, S/w: MS-Excel, MS-Office

Objectives of the project: Automation of Processes in JP Morgan

Outcomes of the project: 2 process in my team were automated reducing time consumed to perform those activities

Major Learning Outcomes: Reconciliations and Trade life cycle

Brief Description of working environment, expectations from the company: They have very high expectations from us and from the very first day they train us to face the finance world, people are very good and co-operative, they will help you in each and every step whether it's a major or minor issue and no matter how many times you ask them the same problem People are very approachable whether he is an VP ED or MD itself no such manager hierarchy found. Overall a good Experience

Name:Shailesh Upadhyay

ID No:2012B3A8567G

Student Write-up

Short Summary of work done during PS-II: Robotics process automation is used to automate the processes that use no cognitive ability to perform and are highly repetitive in nature. Process evaluation is first done for the processes involved. After the initial scoping and evaluation, in the solution and design phase the process is re-engineered to increase efficiency. After this the scripting is done as per

the specifications. The processes moves into production after the testing is successfully completed. I was involved in the process evaluation and the solution and design phase of the automation process.

Tools used (Development tools - H/w, S/w: S/w

Objectives of the project: Automation of repetitive processes

Outcomes of the project: BOTS deployed for feasible processes

Major Learning Outcomes: I was involved in the process evaluation and solution and design phase for many new processes. I learnt regarding the specifications, constraints and changes involved while automating a manual process.

Brief Description of working environment, expectations from the company: The work environment is very good. The management and co-workers are very helpful. Typical day at work used to be very structured with employee centricity as the main approach towards driving performance and achieving goals. Might have to work long hours to meet deadlines.

Name: Ankush Sharma

ID No: 2013A1PS637P

Student Write-up

Short Summary of work done during PS-II: I was in the Robotics team, so I was involved in some extent of scripting. I was also a part of the Infrastructure team.

Tools used (Development tools - H/w, S/w: They had their own application and software, whose name cannot be disclosed as under the company's privacy policy

Objectives of the project: To automate different process which were done by the Operations team.

Outcomes of the project: Was able to complete some projects within the deadline. I was later shifted to the infra team where I had a completely different role.

Major Learning Outcomes: I learnt to do scripting on completely different software, during my time in Infrastructure team, got to know basically how the team works.

Brief Description of working environment, expectations from the company: The on-boarding process took more than a month. During my initial days, I was in the operations team and then later shifted to the tech team, without consulting me. In the operations team, working environment was good, since we don't have to stay in office for more than 9 hours. But in tech team, the case was completely opposite. We used to work for more than 10 hours daily (10 being the least), and sometimes on Saturdays too. I would expect better conditions for students in near future.

Name: Akshay Sharma

ID No: 2013ABPS551H

Student Write-up

Short Summary of work done during PS-II: Automated the Reconciliation process for Non standardized broker statements.

Objectives of the project: To eliminate manual intervention and errors thereby also producing cost effectively.

Outcomes of the project: Project will serve as a guide to other automation projects going on and has already provided various ways to increase process efficiency.

Major Learning Outcomes: Project Management skills. Technical Management skills

Brief Description of working environment, expectations from the company: Working environment was terrific. I enjoyed working at JPMC.

Name: Abyn Mathew Scaria

ID No: 2013A8PS712H

Student Write-up

Short Summary of work done during PS-II: *Was an Intern in Athena Rates migration project• which involved suggesting strategic improvements/initiatives after analysis of process flows and products (Swaps/Derivatives/Bonds), also received hands-on experience on JP Morgan's trading and risk Management Software. Reviewing PnL analysis Reports (Desk-wise) as part of ERM to facilitate risk mitigation. *Selected for the High Visibility Project Robotics and Process Automation Solution• team which involved Business Analysis, reduction of repetitive and mundane activities inherent in operations. *Was nominated by my manager to work in Data-Cap Project•, which involved Operational structure Analysis and Automation of JP Morgan's mutual fund business.

Objectives of the project: * Athena Rates migration project• :- Suggesting strategic improvements/initiatives after analysis of process flows and products (Swaps/Derivatives/Bonds), Reviewing PnL analysis Reports (Desk-wise) as part of ERM to facilitate risk mitigation. * Robotics and Process Automation Solution project" :- Business Analysis, reduction of repetitive and mundane activities inherent in operations. * Data-Cap Project• :- Analysis of the Operational structure and Automation of JP Morgan's mutual fund business.

Outcomes of the project: The project helped in enhancing risk mitigation and providing strategic advantage. It also reduced the repetitive and mundane activities inherent in operations. Robotics is the future of banking system, further collaboration in terms of sponsorship will be a win-win situation for both the Interns and Firm as interns will be exposed to the cutting edge technology of automation and the firm benefits by reduction and mundane activities inherent in operations.

Major Learning Outcomes: Learned to work in time bound high priority projects and gained relevant soft skills, which will be crucial in future, jobs.

Description of working environment, expectations from the company: Standard working hours in operations (9 hours), though in robotics the hours can be long (10-12 hours). Managers and HR are supportive. Good facilities and compensation commensurate with work done.

Name: Saransh Chandak

ID No: 2013A3PS429H

Student Write-up

Short Summary of work done during PS-II: I was a part of Operational risk management team at JPMorgan Chase. The detailed description of my project is to create a Continuous Monitoring Framework that helps to mitigate the operational risks by doing robust mechanisms that insures quality assurance and quality checks for all high and medium risks processes in all middle offices across the world. We may define continuous monitoring as continuing alertness or awareness of Information and operational vulnerabilities throughout the product processing life cycle at various stages within the Market Business. My purpose was to create a CMF Model that is accurate, efficient and timely.

Tools used (Development tools - H/w, S/w: Excel, Word, Klickview, Automation Anywhere

Objectives of the project: To create a Continuous Monitoring Framework that helps to mitigate the operational risks by doing robust mechanisms that insures quality assurance and quality checks for all high and medium risks processes in all middle offices across the world.

Outcomes of the project: As a part of Operational risk management team I now have an insight of all the high and medium risks processes across all middle offices. I got to know how each process are carried out by their respective control performers on an end to end basis. I can now bridge the gap between the front, middle and back office as I coordinated with them on a daily basis as a part of continuous monitoring framework. As a part of senior management meeting I got to know how a corporate organization works. By working in an investment bank I have learnt the importance of excel and all the brilliant things which excel enables us to do, in fact I can even relate the knowledge that I got from college. So overall I am honored to work at JPMorgan Chase as my first corporate Internship and I hope after my internship gets completed I was able to deliver at the best of my capabilities.

Major Learning Outcomes: As a part of Operational risk management team I now have an insight of all the high and medium risks processes across all middle offices. I got to know how each process are carried out by their respective control performers on an end to end basis. I can now bridge the gap between the front, middle and back office as I coordinated with them on a daily basis as a part of continuous monitoring framework.

Description of working environment, expectations from the company: As my first corporate internship I was thrilled to work for JPMorgan Chase. As their 'Business Principles' make clear, that building a great

team and a winning culture means fostering a work environment of respect and inclusion. The culture of JPMorgan is where individuals of any ethnicity, nationality, culture, gender, sexual orientation, gender or other attribute that makes a person unique“have the opportunity to excel based on their performance and contribution to the firm. I hope, I have delivered to the best of my capabilities to the firm and I wish that after completing my graduation I could come back to the firm for more opportunities to work and excel my career to great heights.

Name:Utkarsh Tiwari

ID No:2012B3A1414G

Student Write-up

Short Summary of work done during PS-II: Process automation of Operations' task that is repetitive and does not require much human intervention or cognitive thinking.

Tools used (Development tools - H/w, S/w: VB Scripts, Automation API, Excel, Mainframes

Objectives of the project: Process automation

Outcomes of the project:Saved human resources that can be used up for other important decision-making tasks

Major Learning Outcomes: Learned to work with SQL queries, VB Scripts and automation APIs.

Description of working environment, expectations from the company: The working environment is okay with constant support from the employees and managers although the work hours can be hectic. The company name is a good addition to your resume but the compensation provided doesn't always feel commensurate with the efforts put in.

Name:Partho Mukherjee

ID No:2013A1PS504P

Student Write-up

Short Summary of work done during PS-II: My work was initially related to the Excel Operations and Report creations. It was the first time I realized the importance such analytical tools play in big Banking firms. Next I was changed to the Robotics division; here I was responsible for scripting for various processes in Banking Operations. Robotics in Banking is in embryonic stage and is the next big thing of tomorrow. To save the employees from daily adversity of laborious mundane jobs the Robotics was brought in action. Typical work involved use of Front End Automation Tool along with script languages like VBS and Excel Macros.

Tools used (Development tools - H/w, S/w: The Tools utilized were Front End Automation Tools and Excel/Notepad+ for the Script Parts.

Objectives of the project: Major objectives of the projects were to automate the repetitive and mundane jobs where human intellect and intervention is not involved. The basic aim behind the projects were to utilize the humans in a more intellectual matter and leave up the mundane jobs to the bots which as a matter of facts can perform them with high accuracy even at odd times of the day.

Outcomes of the project: The outcomes of my projects were that we were successful in automating three different projects. The bots saved a lot of human efforts which were now utilized in a more intellectual side.

Major Learning Outcomes: 1) Learned how important analytical tools like Excel are in the Banking Industry 2) How different languages can help automate huge laborious tasks. 3) Learned the Corporate Culture, how to interact with client, how to meet steep deadlines and how the work life and social life go hand in hand.

Description of working environment, expectations from the company: JPMC has one of the most interactive and growth supportive environment compared to any investment banking firms. The Managers here are always ready to help the employees in case of any issues which help in sustaining an ever learning culture which works both ways out. The work is great with a lot of opportunities of nurture oneself. I had similar expectations from the company before coming and frankly speaking JPMC has not failed any of those. It was a great learning experience and how to utilize the learned skills in the future.

Name: Aseem Baji

ID No: 2013ABPS685H

Student Write-up

Short Summary of work done during PS-II: Worked with Financial Reporting Luxembourg. Helped with Business As Usual Activities. Involved in RPA (Robotics Process Automation) Project.

Tools used (Development tools - H/w, S/w: MS Excel, MS Word, Macro, JPMC Private Software's

Objectives of the project: To automate the manual and repetitive processes to reduce workload of employees.

Outcomes of the project: Automated processes and reduced manual work involved in process.

Major Learning Outcomes: Practical knowledge about preparation of Financial Statements. Learned the in depth working of various operations processes.

Description of working environment, expectations from the company: Working environment was excellent. All employees were friendly and easily approachable. Manager was very supportive and helpful.

Name:*Sajal Gupta*

ID No:2013A1PS656P

Student Write-up

Short Summary of work done during PS-II: I was in the robotics team, so I was involved in the scripting team. I worked on various projects using automation tools and VBS

Tools used (Development tools - H/w, S/w: we used JPMC's owned application, whose name can be disclosed under the company's policy

Objectives of the project: To automate different processes which were done by the operations team.

Outcomes of the project: Was able to complete 2 projects within the deadline, which almost saved the effort of nearly 2-3 Full Time Employee.

Major Learning Outcomes: I learnt to do scripting on completely different software and VBS. Also learnt about the corporate life and the working of various team at J P Morgan.

Description of working environment, expectations from the company: The on-boarding process took more than a month. Even after on-boarding it took me another 15-17 days to get access to the desktop. During my initial days, I was a part of the operations team and then later shifted to tech team, without consulting me. I was not very interested in coding and has chosen JPMC to learn about the finance sector. Also, the working condition at the robotics team was also not very great, we have to work for nearly 12-14 hours and sometimes even on Saturdays and Sundays. I would expect better working conditions for students in future and the freedom to choose their field of interest.

Name:*Aravind Bairi*

ID No:2013A2PS801H

Student Write-up

Short Summary of work done during PS-II: Robotics process automation automating the manual tasks done by the operations employees such as excel processing and fetching data from websites

Objectives of the project: To remove the manual intervention of processing data to prevent any manual errors

Outcomes of the project: A

Major Learning Outcomes: VB script, JavaScript, SQL

Description of working environment, expectations from the company: Employees are welcoming but the working hours are more than the agreed and heavy load of work with stringent timelines.

Name:Shipra Jain

ID No:2013A3PS227G

Student Write-up

Short Summary of work done during PS-II: Automate multiple process of various LOB's by first understanding their process and then scripting it through a third-party software bought by JPMC.

Tools used (Development tools - H/w, S/w: Software

Objectives of the project: Automation of various LOB processes.

Outcomes of the project: Automated process worth 8 FTE's (Full Time Employees).

Major Learning Outcomes: Understanding the functioning of various back end process and the entire process of automating it.

Description of working environment, expectations from the company:JPMC provides with various facilities like cab/nodal services and food coupons to all the interns.

Name:Amey Nandedkar

ID No:2012B3A8478G

Student Write-up

Short Summary of work done during PS-II: I was assigned to 3PDP team which basically does fund accounting for OTC(Over-the-counter) derivatives. Their work primarily dealt with creating platforms for automating the tasks. My work involved doing certain strategic migration tasks using certain proprietary software tools used by the company. The work involved knowledge of financial accounting and MS excel.

Tools used (Development tools - H/w, S/w: MS Excel, SQL, Babel.

Objectives of the project: Automation of certain strategic processes in CFD.

Outcomes of the project: The project resulted in considerable saving in time for several processes because of automation.

Major Learning Outcomes: The project resulted in significant learning outcomes including understanding how corporations work and also knowledge of fund accounting and tools like excel.

Description of working environment, expectations from the company:The working environment in JP Morgan is very good. Working hours are 8 hours (1:30 to 9:30). There is open communication policy.

Name:*Saket Kandoi*

ID No:2013A1PS397H

Student Write-up

Short Summary of work done during PS-II: I worked on Process Automation. As part of Asset Servicing Project Team, i was given the responsibility of finding the possibilities of automation in AS domain. It was one of the key initiatives for the higher management of AS which involved researching and understanding of a vendor product and determining how it may be used to minimize manual workload and reduce risks.

Tools used (Development tools - H/w, S/w: Xceptor

Objectives of the project: Automation of Daily Reports

Outcomes of the project:Around 45 minutes were saved for every member in a team of 24 people.

Major Learning Outcomes: Project Management

Description of working environment, expectations from the company: I remember that before my Practice School got started, I had completely different expectation of the kind of work. I got feedback from my seniors that you will only get copy pasting work and don't expect too much in terms of Analytical in PS-II. But this isn't the feedback that i will give to my juniors. My experience at PS-II was never ending learning exposure. The culture is open and you can approach anyone at any time. They encourage BITS Intern allot. Some out of the box ideas will be expected from you. One special thing that i saw in JPMorgan was that as people move up ladder in their career, they become more humble and generous. Lastly, I got the clear mind of how to proceed further in my career.

PS-II Station: J.P. Morgan Services India Pvt. Ltd, Mumbai

Mentor

Name: Adwaith Naimpally

Designation: HR Associate (Could not meet the mentor)

They find BITS students very competent. And recruit only from the interns.

Faculty

Name: Shekhar Rajagopalan

E&Y: Course Requirements: 1. Financial Statement Analysis,
2. Derivatives (including different models for option pricing, Greeks),
3. Financial markets

Soft Skills: 1. email etiquette, 2. Telephonic conversations

Technology skills: Word, Excel (not necessary but Excel VBA programming may help)

Student

Name:*Nikhita Shetty*

ID No:2012B3A3525G

Student Write-up

Short Summary of work done during PS-II: Post the financial crisis of 2008 there has been a fundamental change in our understanding of the financial market and investment strategies. We have seen a shift from the mere return based thinking to a risk return based assessment of the investment opportunity. Indices are structured based on different strategies to suit client needs and to mitigate market risk. This discussion paper talks about Services provided by JP Morgan, my course of work at the PS station and my contribution to the activities of the company. As a part of J.P. Morgan Equity Structuring Team, we design products using different algorithms developed based on market trends

Tools used (Development tools - H/w, S/w: Athena Studio, Qtrade,Qlib,Bloomberg,Pricelinks,Excel,Factset

Objectives of the project: To Understand the process of Index creation and maintenance and Improvising the process by developing automation tools and technique to make it more efficient.

Outcomes of the project:learned new strategies for index structuring, got a better understanding of different derivative structures and their pricing, worked on Athena Platform

Major Learning Outcomes: learned new strategies for index structuring, got a better understanding of different derivative structures and their pricing, worked on Athena Platform

Description of working environment, expectations from the company: The work Environment is extremely healthy. People are very helpful and solve all your queries and it was overall a decent experience to work here

Name:*Chirag Bansal*

ID No: 2013A4PS463H

Student Write-up

Short Summary of work done during PS-II: It was a great learning experience. I learned a lot about the financial market, especially its impact in the Technology, Media and Telecom sector in which I was interning. I was to do the valuation of companies and make short to long profiles on their business according to the client needs

Tools used (Development tools - H/w, S/w: Computer, PowerPoint, Excel, Databases

Objectives of the project: To do the Industry overview of Augmented reality and Virtual reality industry and explore potential opportunities for J P Morgan

Outcomes of the project: Investments and Industry growth over the recent years and exploring the played ecosystem to find companies that are ripe for acquisition

Major Learning Outcomes: Deep knowledge about how the industry is growing and what are the major demand driver and the potential challenges for the industry

Description of working environment, expectations from the company:The working environment was very chill and professional at the same time. The quality of work should be improved and more exposure should be given

Name:Ishita Deshmukh

ID No: 2012B3AA863H

Student Write-up

Short Summary of work done during PS-II: The work involved conducting equity research and analysis of stocks in various sectors and geographies. I worked with three teams over the course of the internship each covering a different sector and geography. each team covers a universe of stocks belonging to a certain sector and valuates the stock both quantitatively and qualitatively. Each team publishes reports on the analysis conducted on a periodic basis which in turn is used by investors to invest in those stocks. I worked for the Asia and Emerging Markets Strategy team which covers stocks belonging to all the sectors and gives a holistic view on their performance. I have also worked for the European ManTech and ASEAN Consumer sectors.

Tools used (Development tools - H/w, S/w: MS Excel, Financial Modeling

Objectives of the project: Valuate stocks of different companies from different sectors

Outcomes of the project: Arrive at a price target for the companies covered

Major Learning Outcomes: Analyze the financial statements of companies, qualitatively and quantitatively analyze various industries and arrive at forecasts for future performance.

Description of working environment, expectations from the company: The working environment is enriching. Interns are treated like employees and are given the same kind of responsibilities as others. The exposure to various geographies and sectors is a rich learning experience.

Name:Abhishek Bhatia

ID No: 2013A1PS518P

Student Write-up

Short Summary of work done during PS-II: Centralized Research Group is the Investment Banking research division of JPMorgan. It is the support office to the front offices worldwide. Our internship involved BAU operations

Objectives of the project: To effectively manage the debt of a company

Outcomes of the project: Debt buyback will help in improving the credit ratings

Major Learning Outcomes: Debt buyback execution tactics and structures

Description of working environment, expectations from the company: Very good learning area and working operations involve core finance knowledge

Name:Sakshi Gupta

ID No:2012B3AA713H

Student Write-up

Short Summary of work done during PS-II: Annual credit reviews of investments in municipal bonds held by Chief Investment Office and Treasury at J. P. Morgan. The credit analysis including but not limited to financial statement analysis, business analysis, industry analysis and peer comparison.

Tools used (Development tools - H/w, S/w: MS-Excel

Objectives of the project: Complete monthly target of annual credit reviews of municipal bonds

Outcomes of the project: Successfully completed the monthly assignments of annual reviews within the stipulated deadline.

Major Learning Outcomes: Financial statement analysis, sector analysis and business analysis from credit perspective.

Description of working environment, expectations from the company: The team is based in Mumbai with direct reporting to London. The wider team is across three locations namely New York, London and Hong Kong closely working to manage credit risk of investments of J.P. Morgan.

Name:Mihir Wadekar

ID No:2012B3A3556G

Student Write-up

Short Summary of work done during PS-II: PS here at JPMS reflects an apt resemblance to your entry into the Finance Sector. The work here is mainly associated with pricing of fixed income securities. Various strategies for structured products is devised and is pitched to the clients for hedging or profit making purposes.

Objectives of the project: Project is not allotted, you tend to work on the daily flows

Outcomes of the project: Immense exposure to the finance industry

Major Learning Outcomes: Time Management and optimum utilization of resources

Description of working environment, expectations from the company: Working environment here can be very stressful as on an average the company expects you to work for 12hrs a day. As, it is impossible to grasp the concepts and intricacies involved in the working without putting in such efforts from your end.

Name:Garima Vaswani

ID No:2013ABPS522H

Student Write-up

Short Summary of work done during PS-II: Worked on various projects in the TMT industry across EMEA region

Tools used (Development tools - H/w, S/w: Major work on power point and broker reports.

Objectives of the project: Idea generation for M&A activities

Outcomes of the project: Enlisting few potential targets for Automobile companies to enter into IoT

Major Learning Outcomes: Growth of the automotive companies to be driven by big tech companies by 2020

Description of working environment, expectations from the company: Great working environment, with very supportive mentors

Name:Nirali Kansara

ID No:2012C7A1841P

Student Write-up

Short Summary of work done during PS-II: Working as a part of the Equity Derivatives Group, I was involved with structuring and product development division. My team primarily dealt with the Asia Pacific market. The objective was to develop strategies for clients to invest in, that is, after analyzing the

markets, suggest suitable industries for investment and the positions to take in those markets. This project involved developing different indices with the help of algorithmic trading on which clients can trade. It engages clients from all over the world, but my team specifically deals with clients from Asia (Hong Kong, China, Japan, Singapore etc.). Also, another part of our work comprised of pricing the derivatives that have been structured for the clients. We develop structures based mostly on options and forwards. A complex combination of these simple derivatives is produced to minimize the risk and maximize the returns for the clients. Depending on this structuring, the products are priced.

Tools used (Development tools - H/w, S/w: Major part of our work was involved in Excel, using advance formulas to create the strategies. We also had to code the strategies, for which we used Python. Apart from that, we were involved in pricing of derivatives, for which we used a JP Morgan proprietary software.

Objectives of the project: My initial weeks went into learning the concepts and my team members explained how everything worked here. As time, progressed, I was being taught the various ways in which structures are developed. In very simple terms, an index such as NIFTY or Sensex is taken as the underlying and then various modifications are done on them depending on the implied volatility that is being targeted as well as how much returns the investors are expecting. First this process of structuring an index using various indices is carried out in Excel. Then it is coded into Python. And then it is uploaded on Bloomberg. A variety of back tests are carried out on the index before and after it is published on Bloomberg, which forms a major part of the work which I was working on.

Outcomes of the project: My work was more of involved with the daily tasks, rather than a project. I have priced various derivative structures. I have automated various reports using Python and Excel VBA. Apart from these, I was mostly involved with the BAU tasks of my team.

Major Learning Outcomes: From the work that I am currently involved in, I have realized the practical implications of the theoretical knowledge that I have gained from my classroom courses. I felt that the concepts taught in Derivatives and Risk Management, Financial Engineering, Security Analysis and Portfolio Management, C Programming and Object Oriented Programming have been very useful. At the same time, I am also learning a lot of new things which has not been taught in the courses.

Description of working environment, expectations from the company: The best part of the PS-II program is that it gives you a chance to explore the industry for 6 months. I had a chance to work in one of the biggest financial conglomerate, and this has served as a very good opportunity for me to explore the financial industry, and get a peek into their working culture and what they expect from their employees. Interacting with people at different levels teaches you the basic communication skills which is must for working in such a professional environment. For me, my team members have become a constant source of inspiration and I always look up to them. They have been extremely patient with me, and have always encouraged me to be inquisitive and take initiatives. In a nut shell, it has been a really good industrial exposure for me.

Name:Aditya Gogri

ID No:2012B3A4541P

Student Write-up

Short Summary of work done during PS-II: I am working with the Indian Equity Research team. I support my mentor to cover India FMCG for J.P. Morgan. We provide research reports and investment thesis to our clients to help them make rational investment thesis

Tools used (Development tools - H/w, S/w: MS Excel, other MS Office Tools

Objectives of the project: Cover the India FMCG sector for J.P. Morgan

Outcomes of the project: Help my mentor do her job better.

Major Learning Outcomes: Helped me to understand how to work in a big bank like J.P. Morgan. Helped me gain industry knowledge.

Description of working environment, expectations from the company: Working environment is very formal and serious. Nonetheless everyone is very helpful and encourage learning more and more. Work hours are long but if interested, it doesn't matter and work becomes fun

Name:Rohit Nagpal

ID No:2013A1PS856H

Student Write-up

Short Summary of work done during PS-II: I worked in CRG department of JP Morgan, I worked in Debt Capital Market team where I used to do financial analysis of companies which wanted a credit rating which is very important for a company if it wants to raise capital from market

Tools used (Development tools - H/w, S/w: Excel, PowerPoint

Objectives of the project: Distribution Policy

Outcomes of the project: Trends in industry and pitching a company to improve its distribution policy

Major Learning Outcomes: Industry knowledge, sector specific metrics for different companies, corporate finance

Description of working environment, expectations from the company: It was a great experience working in CRG department of JP Morgan, people around are very helpful, one gets to experience team work, work was really good

Name:Arundhati Dongre

ID No:2012A3B3243H

Student Write-up

Short Summary of work done during PS-II: The aim of the project is to forecast and estimate the future performance of various stocks of companies belonging to different sectors. The financials of companies are analyzed and the future performance of the company is estimated using financial modeling in MS Excel. The analyst summarizes the analysis in a report and gives an opinion on the future value of the stock by setting a price target and assigning a rating to the stock. These reports are used by investors while deciding in which stocks to invest.

Tools used (Development tools - H/w, S/w: Excel

Objectives of the project: To understand the proceedings which go in Equity Research, how it is done in different sectors and how the research impacts the organization.

Outcomes of the project: Day-to-day workings of the organization

Major Learning Outcomes: Understand how equity research is done in practice.

Description of working environment, expectations from the company: The work environment at JP Morgan is professional. In GRC, each person supports a team abroad, so there is very little interaction related to work between people.

Name:Sai Sree Harsha Aechuri

ID No: 2012B3A3555H

Student Write-up

Short Summary of work done during PS-II: Equity Research- Fundamental Analysis Valuation Techniques, Updating Valuation Models. Supporting team for various reports/publications. Daily News Collection and publishing reports.

Tools used (Development tools - H/w, S/w: Excel, PowerPoint, Bloomberg and Euro Monitor

Objectives of the project: Contributing and helping the front-end team, services and Research

Outcomes of the project: Daily support to the team and working on any client requests.

Major Learning Outcomes: Excel, Financial modeling, Valuation and importance of organizational behavior.

Description of working environment, expectations from the company: Work environment is decent, company expectations are little high. It will definitely improve your skills at the end of the day. Resources are plenty.

Name: Rishabh Mundhada

ID No: 2013ABPS555H

Student Write-up

Short Summary of work done during PS-II: As a trainee, I am a part of J.P. Morgan CIB (Corporate and Investment Bank) CRG (Centralized Research Group) department. CRG Mumbai team is an integral part of J.P. Morgan Investment Banking business working closely with the firm IB teams across the globe. The internship started off with a week-long training period where we went through a steep learning curve. We were introduced to the company ethics, compliance training, basic finance, accounting principles, basic and advanced excel and an introduction to the various databases used by the company. After the training period we were allotted specific teams. I am a part of the FIG (Financial Institutions Group) team for APAC (Asia-Pacific) region. Our work is mainly centered on making presentations and back up excels for all the deals that were happening in the sector. Making presentation was dependent on the type of deal. It could be an ideation project for internal use, an ongoing pitch or even a live deal. Every presentation involved a lot of in-depth analysis of the company we were working on and whether it was sell-side or buy-side. As a junior analyst intern, I got to attend structured training programs at different stages of my tenure with the firm. It helped me build excellent corporate finance and valuation skills along with enriching global industry insights. I got a chance to work directly with front-end bankers in the APAC region on innovative and challenging Investment Banking assignments every day. I got to exchange ideas and inputs with senior most minds of J.P. Morgan and work with them to build proposals. I got to speak to specialists across regions on areas I was working on. Interacting with people from different cultures was a new learning experience in itself.

Objectives of the project: Fintech opportunities on Asia

Outcomes of the project: Finding the various Fintech opportunities in Asia

Major Learning Outcomes: Fintech

Description of working environment, expectations from the company: As a trainee, I am a part of J.P. Morgan CIB (Corporate and Investment Bank) CRG (Centralized Research Group) department. CRG Mumbai team is an integral part of J.P. Morgan Investment Banking business working closely with the firm IB teams across the globe. The internship started off with a week-long training period where we went through a steep learning curve. We were introduced to the company ethics, compliance training, basic finance, accounting principles, basic and advanced excel and an introduction to the various databases used by the company. After the training period, we were allotted specific teams. I am a part

of the FIG (Financial Institutions Group) team for APAC (Asia-Pacific) region. Our work is mainly centered on making presentations and back up excels for all the deals that were happening in the sector. Making presentation was dependent on the type of deal. It could be an ideation project for internal use, an ongoing pitch or even a live deal. Every presentation involved a lot of in-depth analysis of the company we were working on and whether it was sell-side or buy-side. As a junior analyst intern, I got to attend structured training programs at different stages of my tenure with the firm. It helped me build excellent corporate finance and valuation skills along with enriching global industry insights. I got a chance to work directly with front-end bankers in the APAC region on innovative and challenging Investment Banking assignments every day. I got to exchange ideas and inputs with senior most minds of J.P. Morgan and work with them to build proposals. I got to speak to specialists across regions on areas I was working on. Interacting with people from different cultures was a new learning experience in itself.

Name:Prakhar Joshi

ID No: 2013A4PS413P

Student Write-up

Short Summary of work done during PS-II:The investment banking research carried out at the firm includes thorough run through the company- both target and the client. This generally deals with creating a generic business overview profile which focuses on the company operations. In addition to it there this lookout for recent news for the company giving details about what the company management is presiding over and possible opportunity of investments. The public market overview(PMO) is generally the most important part of a typical pitch book briefing about the financials of the firm (for public only); this includes valuation of a company based on various parameters like Discounted cash flow, EV/EBITDA multiple, EV/EBIT multiple, P/E multiple, sum of the parts, free cash flow, etc. The valuation is specific to a particular broker and the prediction is generally based on a combination of valuation models. The skeleton of a PMO comes from a regularly revised data sheets called trading comparable (trading comps), which serves as a complete domain for the financials of the company and all possible peers. A third-party software is used to spread the comps by pulling all the information; but in addition, a manual cross check adjusts the figures for any advanced precision and/or customer demand. Transaction comparable look into the historical transactions of the company, outputting historical multiples for easy reference. Board and management page looks into the board of directors and the management for the company. For public companies the share price chart is rebased to the underlying index and trend is observed for its performance. A detailed company profile includes avid study about the company and its segments, key end markets served their distribution, key products, geographical distribution, etc. Other research includes indexing, annotations, NTM/LTM charts, analysis at various price(AVR), target screening, case studies, broker commentary, valuation, etc. As a part if the team we occasionally prepare hot-sheets which is a daily news run for the all the companies across the globe falling under industrials and transportation. It briefs about the overall snapshot of the industry. We work across all

these concepts to present our research in form of a pitch book with regular follow ups with the banker in the front office. The pitch book is then at the executive boards hand to freeze the deal for JP Morgan.

Tools used (Development tools - H/w, S/w: Company specific software's, Bloomberg, MS Excel, MS PowerPoint

Objectives of the project: To get a deep dive into the HVAC industry, understand its trends, drivers and challenges; and pitch a strategic M&A idea for the key players in the industry

Outcomes of the project: Thorough know-how about the HVAC industry and suggested strategic M&A pitch for the key players in the industry

Major Learning Outcomes: Investment banking

Description of working environment, expectations from the company: The company has a very comforting working environment, all apexes towards benefiting its employees. Working hours can be hectic at times but it all add up the learning. Overall a very enriching experience in the firm and perfect booster for the ones looking for exposure in investment banking.

Name:Naresh Tatarwal

ID No:2013A2PS514P

Student Write-up

Short Summary of work done during PS-II:Work at JP Morgan is pretty good for an engineer who wants to start his career in investment banking. After coming here, you realized that one doesn't need to have a finance background to break into IB, moreover you can learn a lot on the job. One gets to work actively with the onshore bankers. You get to work on live projects and are in loop when execution is going on. You are working along with some of the brightest minds. After coming here, you realized that there is a lot to learn and this place definitely makes you an ambitious person. The brand name you get after pursuing a 6-month internship is invaluable. The name speaks for itself.

Tools used (Development tools - H/w, S/w: MS PowerPoint, MS excel, market databases, Bloomberg

Objectives of the project: Comparison of EQL market in APAC ex-Japan, North America and EMEA. Find reasons for any disparity, if it exists and also find new business opportunities for JP Morgan

Outcomes of the project: Projects helped JPMS to tap new business opportunities and target few sector and country which remain yet to be approached. This in turn increases the firm revenue and moreover gets first mover advantage in some areas. Company will try to make its roots in the emerging markets by approaching the target clients and also tap some neglected sectors.

Major Learning Outcomes: Learned about the current situation of equity linked market across three major regions. Their key market drivers and how to go about targeting potential business opportunities

Description of working environment, expectations from the company: Working environment is cordial. All your seniors are easily approachable and even the executive director, who has been in the system for 15 years or more is easily approachable. The work culture and reward system is very transparent in JP Morgan. One of the best part of working full time here is mobility. They support mobility within departments if the employee is interested. Moreover, the rotation (where you get to work in front office role for a span of 2-3 months) is a great learning opportunity. Only drawback is long working hours. But if you want to work at an investment bank, then you need to be mentally prepared to work continuously for long hours as it is how the whole industry works.

Name:*Shashikanth reddy Boreddy*

ID No:2013A8PS572H

Student Write-up

Short Summary of work done during PS-II:Industry research, Market research, analyzing the scope of Investment Banking opportunities in the market

Tools used (Development tools - H/w, S/w: Excel, Power-point, Fact-Set

Objectives of the project: To show the potential investment banking opportunities in Permian basin

Outcomes of the project: Project helped JPMS to actually know about what happening in Permian and the trends and opportunities in Permian

Major Learning Outcomes: Helped me understand the Oil & Gas industry, the metrics used to analyze various sectors under it and finally where and when to apply them to bring out the specific analysis that I'm interested in

Description of working environment, expectations from the company: The company would be expecting you to maintain flexibility in your work hour timings and "attention to detail" would be one of the important aspects considered in this department of the firm. And as any other firm they would also expect good communication skills as your typical work on any given day would be assisting the senior bankers in their analysis

Name:Ankit Gupta

ID No:2013A2PS622H

Student Write-up

Short Summary of work done during PS-II:Work exposure includes BAU tasks like trading comps, transaction comps, profiling, strip profiles, weekly update etc. I also got staffed on various projects for finding business opportunities for companies in terms of expansion either by M&A or IPO

Tools used (Development tools - H/w, S/w: Excel, PowerPoint

Objectives of the project: Artificial intelligence-industry overview and Investment banking opportunities for J.P. Morgan in AI

Outcomes of the project: Explored the AI companies for Samsung Ventures

Major Learning Outcomes: Corporate experience, Investment banking overview and a good platform to decide for future

Description of working environment, expectations from the company: Working hours are long, roughly 12-13 hours daily and 15-16 hours on a busy day. People are helping in nature and will encourage you to learn more but only if willingness is to spend this much time daily

Name:Giriraj Gorani

ID No:2012B3A4454G

Student Write-up

Short Summary of work done during PS-II:Research work related to stock analysis using Fundamental analysis and knowledge of financial statements

Tools used (Development tools - H/w, S/w: MS Excel, Bloomberg

Objectives of the project: Equity research

Outcomes of the project: Recommendation about Overweight, Under Weight and Neutral

Major Learning Outcomes: Learnt about practical application of the financial statements and how they are used in fundamental analysis

Description of working environment, expectations from the company: Work culture is good, mentors and peers are approachable, but working hours are relatively high

Name:Shashender Singh

ID No:2012B3A3580H

Student Write-up

Short Summary of work done during PS-II:Structuring and Pricing FX derivatives and structured products. Learn't customizable products structuring. Cash Equites Specialist sales research

Tools used (Development tools - H/w, S/w: S/w

Objectives of the project: Specialist Sales

Outcomes of the project: Structured derivatives

Major Learning Outcomes: Pricing and structuring

Description of working environment, expectations from the company: The working environment was quite student friendly and conducive for a good learning experience

Name:Raunak Sharma

ID No:2013A1PS692H

Student Write-up

Short Summary of work done during PS-II:Company profiling, trading comps, transaction comps, daily updates, valuation

Tools used (Development tools - H/w, S/w: Pitch pro, Excel, Bloomberg, Factset

Objectives of the project: Diamond sector opportunities

Outcomes of the project: Diamond sector opportunities

Major Learning Outcomes: Diamond sector opportunities

Description of working environment, expectations from the company: Good, team member, mentors, HR department is unprofessional a bit, but otherwise the whole experience was good

Name:Arihant

ID No:2013A1PS420P

Student Write-up

Short Summary of work done during PS-II: Middle office for investment banking division, Help Front office in ongoing projects and marketing projects

Objectives of the project: overview of debt purchasing companies in Europe

Outcomes of the project: Research

Major Learning Outcomes: Detailed economy outlook of countries in Europe and financial ratios of debt sector

Description of working environment, expectations from the company: Great

Name:Dhiraj Kapgate

ID No:2012B3A1607P

Student Write-up

Short Summary of work done during PS-II: I was part of the global equity research team. In my time, there, I supported the US Tech, European Telecom, European Software and Asia Insurance team. Work involved preparing daily, building and updating financial models, doing data research, writing for reports and attending to client requests. The objective was to publish reports on the Morgan Markets after major announcements like earnings, mergers, etc. soon after the announcements, so that the reports are available to the investors as soon as possible.

Tools used (Development tools - H/w, S/w: MS Office, Bloomberg

Objectives of the project: To publish equity research reports on the Morgan Markets.

Outcomes of the project: Reports published on the Morgan Markets

Major Learning Outcomes: Financial Modeling, DCF and multiples valuation

Description of working environment, expectations from the company: Being part of the global equity research team, you are working with a Senior Analyst who covers companies within a particular sector. So one member of the GRC team is the Analyst, so having good communication skills is important. The company expects the interns to be knowledgeable about the basic principles of finance, valuation and accounting. The company provides the interns with a 5-day training related to the work that is expected to be performed by us.

Name:Aditi Joshi

ID No:2012C7B3853P

Student Write-up

Short Summary of work done during PS-II: I worked with equity research team. Over the period, I supported teams such as US mid-small cap banks, European Consumer goods. My work majorly included attending company earnings calls and updating quarterly models based on earnings release; I also updated company charts and tables for future periods. Major part was done using tools such as MS excel and MS word.

Tools used (Development tools - H/w, S/w: MS excel, MS word, Bloomberg database

Objectives of the project: To issue buy/sell recommendation on stocks; to do company analysis and valuation and determine future target price of the stocks. Also, included determining impact of M&A and forex on company valuation.

Outcomes of the project: Research reports published on Morgan markets

Major Learning Outcomes: Financial modeling and relative valuation

Description of working environment, expectations from the company: Interns at equity research get to work with senior analyst based abroad. It is expected that students have understanding of finance and valuation. Interns are also given 5-day training program before the commencement of the internship which is very relevant. Efficiency in MS excel is a plus point, knowledge of the Indian equity markets will ease your job to great extent.

PS-II Station: Klientas, Trivandrum

Faculty

Name: Sindhu S

Klientas was initially started as a one-man law tuition service in 2008 from the basement of London School of Economics, which eventually translated. Law pundits now organizes online law certification programs and courses, legal conferences, summer law schools, legal training programs, law exhibitions, continuous legal education and professional development programs. The firm initially started in London and then later was shifted to Trivandrum, India. It also has a representative office in Dubai. The clientele of Law Pundits/ Klientas is very diverse ranging from law schools around the world, law firms, legal professionals, HR professionals, law students, entrepreneurs, top management professionals, companies both small and medium enterprises. As mentioned Law Pundits LLP holds various events targeted at specific audiences which helps them to advance their careers and also makes them better working professionals. There is no specific course requirements other than soft skills like communication, capacity to manage events, marketing skills etc.

Student

Name:*Bhakta Pande*

ID No: 2011B2A1562G

Student Write-up

Short Summary of work done during PS-II: Marketing, Event Analysis and Management

Tools used (Development tools - H/w, S/w: Marketing, Event Analysis and Management

Objectives of the project: Long term growth of the company

Outcomes of the project: Brand and Company Promotion

Major Learning Outcomes: Handling events, managing people and keeping up with deadlines.

Description of working environment, expectations from the company: Working environment is apt for a city like Thiruvananthapuram. Company is relatively new therefore more committed people would contribute towards its growth in a positive way.

PS-II Station: KPMG, Bangalore

Faculty

Name:*Sandeep Kayastha*

KPMG- Writing skills, presentation skills, Excel, market analysis, Financial statement analysis

Student

Name: Manaswi Sankrityayan

ID No: 2013A1PS734P

Student Write-up

Short Summary of work done during PS-II: Worked with the Strategy and Operations team on developing entry level strategy and growth strategy for various corporate as well as government bodies with focus on retail, manufacturing and food.

Tools used (Development tools - H/w, S/w: MS Office Suite (Word/Excel/PowerPoint)

Objectives of the project: Assess feasibility and accordingly design an effective strategy to meet the client's demands.

Outcomes of the project: Compiled a report based on research and primaries that was submitted to the Company and appreciated by them.

Major Learning Outcomes: Communication and negotiation skills, market sizing, competitive benchmarking and conducting primaries.

Description of working environment, expectations from the company: I got to be part of a very helpful and accomplished team and learnt a lot from them. Everyone encouraged enterprise and I feel like PS II was a great value addition to my education.

Name:Yashoraj Tyagi

ID No:2013A8PS286G

Student Write-up

Short Summary of work done during PS-II: I worked with the Strategy and Operations team of the Management Consulting Division at KPMG. The work focused on projects dealing with either market research, market entry strategies or on expansion strategies. The projects were focused in the category of Food, Agriculture, Retail and E-Commerce. I worked with the Australian Government and the World Gold Council on different projects, with the objective of developing a white paper according to their requirements besides this, I also worked on market entry projects with an England based seals and bearings manufacturer as well as a Netherlands based Nutraceuticals manufacturer. These focused on creating the effective strategy for facilitating the entry of these firms in the Indian market and enable to

establish a competitive presence in the same. Overall the work was very insightful and provided a great learning experience of how business strategies are adopted across different industries.

Tools used (Development tools - H/w, S/w: Software - MS Excel, MS PowerPoint, MS Word, Outlook, CRISIL(Database), Euro monitor(Database), Canadian Research(Database)

Objectives of the project: Providing Corporate Growth Strategy Solutions to clients in India and Abroad

Outcomes of the project: Gave effective recommendations to clients on how to plug operational gaps and embark on an expansion strategy in the Indian markets. Also, collaborated on white papers for different industries

Major Learning Outcomes: Market Assessment, Market Sizing, Financial Research, Financial Modelling, Competitive Benchmarking

Description of working environment, expectations from the company: The company has a very friendly and flexible working environment, focusing more on getting the work done by the employee rather than asking him/her to mandatorily devote a specific number of hours in office every day the teams are very supportive and I never found any hesitation on the part of any team member to provide support during research on projects. My expectations from the company were duly met as my internship did not fall short in providing me with a holistic exposure to the business development practices adopted across business domains and the effective strategies to circumvent major business problems

Name:*Owais Parvez*

ID No:2013A3PS311G

Student Write-up

Short Summary of work done during PS-II: I was a part of the Forensics - Contract Compliance Services team at KPMG. Although there are various custom services provided by the Forensic team, the Software Licensing Review (SLR) and License Compliance Advisory (LCA) form the biggest part. The major steps which I have been involved in carrying on these reviews are: Generating a database to reach out to the potential partners Profiling of the accounts with the Point of Contact (POC) details Raising and clearance of the sentinel Lead generations through calling and follow up emails NDA clearance followed by on-site review execution Analysis and validation of the data collected Post review report generation Saying that,

most of my work involved researching and profiling of the live accounts. The profiling for the firms confirms about the company size, revenue and other details. Researching on all these aspects requires and develops good search optimization skills along with the knowledge about new websites containing huge company databases and also, takes help from the Ministry of Corporate Affairs online resources for the same. The most difficult aspect of this research is finding the relevant point of contact (POC) details. This project has developed my research skills and helped me to know where to search for the right data for the POC emails and phone numbers.

Objectives of the project: KPMG Forensics - Contract Compliance Services (CCS) helps member firms clients identify potential licenses misreporting and establish the compliance baseline. My objective was to work with the CCS team to improve the review process and learn about the licensing industry.

Outcomes of the project: The team aims at helping its clients to ensure their business partners comply with contract terms related to royalties, licenses and incentive-based marketing programs. In the past five months, I have been a part of a variety of processes at all levels and helped the team in successfully executing these reviews.

Major Learning Outcomes: Domain knowledge acquired: Risk Consulting/ Compliance, Licensing Research, Sales and marketing Skills acquired: Data Analysis using Excel, Financial Research, Database management. Soft Skills - Written/ Verbal communication, Negotiation skills, Formal Presentation and Reporting

Description of working environment, expectations from the company: The past five months at the PS II station KPMG in Bangalore have been a great learning experience. Apart from the technical learning about the compliance and legal industry, this has prepared us about the corporate culture and given a basic idea of what we can expect when working as an employee after the placements. The team was supportive of our ideas on various projects, although I must specify that there is a certain restriction on us being interns and we were not allowed to be a part of some of the tasks like on-site review execution for the same reason. In terms of the professional learning, I have listed below the things learned during my internship at this PS station: Have had basic understanding in conducting investigations/ data analysis/ compliance reviews • Developed strong analytical and problem solving skills. Learnt strong data analytics skills and knowledge of advanced data analytical tools • Developed strong written and verbal communication skills Basic understanding of IT systems, Knowledge of MS office (MS Excel, PowerPoint, Word etc.), network, information security and Microsoft products such as SQL server, XP home and XP professional Knowledge of conducting compliance check on the Software Publisher products deployed in the client organizations. Further experience in conducting software license compliance review, channel review, deployment and usage reviews

Name:Srajan Kulshrestha

ID No:2013A8PS325G

Student Write-up

Short Summary of work done during PS-II:Work majorly involved Market Research and analysis of the industry. Also, case studies on major players in that market was also done. We contributed to a number of projects and proposals, understanding the entire industry as well as its key growth drivers. Some additional research also involved studying the impacts of government schemes and regulations.

Objectives of the project: To provide growth strategy and market entry solutions

Outcomes of the project: Giving recommendations to the client

Major Learning Outcomes: Understanding of various domains in business development Gaining insights out of the market trends Postulating hypotheses and justification using data points and forecast values

Description of working environment, expectations from the company: The work environment was very good. All managers and other senior members of the team were really helpful and supported us throughout the PS2 program and ensured that we made the most of our time there. Learning experience was really good and the interactions were pretty much open and informal

PS-II Station: KPMG, Gurgaon

Faculty

Name: Sandeep Kayastha

KPMG- Writing skills, presentation skills, Excel, market analysis, Financial statement analysis

Student

Name: Garvit Aggarwal

ID No: 2013A8PS517G

Student Write-up

Short Summary of work done during PS-II: 1. Intellectual Property - research, proposals, coursework formulation, domain knowledge 2. Sales Excellence - Data Analysis on excel, trainings, reports, decisions

Tools used (Development tools - H/w, S/w: Excel advanced tools, PowerPoint

Objectives of the project: Help organizations to identify and commercialize their Intellectual Assets. Respecting others' IP, becoming legally compliant to the licenses of a large IT client.

Outcomes of the project: 2 organizations on board for IP projects. Sales excellence team has reached the half yearly target in the first quarter itself.

Major Learning Outcomes: Corporate ethics and etiquettes, VBA, Management of resources

Description of working environment, expectations from the company: Nice people all around. Politics. Interesting work (not always). Chances of a PPO are slim.

Name:Samir Ahmad

ID No:2012B1A8631G

Student Write-up

Short Summary of work done during PS-II:I started off with my first project on AIMA -LMA awards evaluation which entailed handling a large quantum of data and nifty handling of excel sheet. The second project involved a high priority project for RailTel, a subsidiary of India Railways, for setting up, design, and installation of IP based CCTV surveillance at 1000 different A1, A, B, and C category railway stations in India. This involved preparing architecture for servers and cameras, station design for setting up cameras, cost budget preparation, and preparing terms and conditions for the selection of best OEM and SI for the project.

Tools used (Development tools - H/w, S/w: Excel, Word, PowerPoint

Objectives of the project: 1. Evaluation of different LMAs for AIMA. 2. Procuring best SL and OEM for RailTel

Outcomes of the project: 1. successfully evaluated. 2. Budget and proposal under scrutiny from Director of Finance RailTel.

Major Learning Outcomes: Major Learning included: 1. handling of large quantum of data. 2. Budget preparation. 3. Architectural design. 4. Live client handling

Description of working environment, expectations from the company: Working environment is conducive for learning and developing consulting skills. the work may sometimes appear to be sluggish sometimes but it would give you a perspective into the real-world handling of clients. Managers are amicable and would assist in all ways possible.

Name: Arpit Gupta

ID No:2012B3A8559P

Student Write-up

Short Summary of work done during PS-II: Intellectual property valuation tool development for financial analysis of clients' intellectual asset portfolio.

Tools used (Development tools - H/w, S/w: Excel, VBA, Access

Objectives of the project: Development of intellectual property valuation tool using legal technical financial parameters to bridge the gap between business strategy and IP strategy.

Outcomes of the project: Developed tool is currently being used in 2 of the client engagements.

Major Learning Outcomes: VBA coding, Excel Developer mode, Intellectual property basics

Description of working environment, expectations from the company: Working environment was good. Especially coordination among team members was outstanding. Great learning experience.

Name: Kushal Jasoria

ID No:2012B1A8852P

Student Write-up

Short Summary of work done during PS-II: Business Consulting and Management Services for clients from various sectors in the economy, from India and abroad.

Tools used (Development tools - H/w, S/w: Excel, Word, and PowerPoint

Objectives of the project: Solve complexities and make it easier for the client to take business decisions

Outcomes of the project: With my help, the projects could be done faster in terms of data collection, modeling and analysis.

Major Learning Outcomes: Working on Excel, PowerPoint tools, business presentation, and a broad understanding of different manufacturing industries in the economy.

Description of working environment, expectations from the company: The office was world class, and so were the people that I could find around me. Most of them were IIM graduates! So, this was obviously a dream place to work in, in terms of the environment. There's not much more that I can expect in terms of the working environment. My expectations from the company are also more than fulfilled. I was given work on the projects that were in sectors that I needed to get the exposure in. The exposure was smartly designed step by step. In the beginning, I was only able to collect data, but not analyze. Later I could analyze too but not make financial models. And by the end of the internship, I was well equipped to even make financial models for clients. Work was on various projects and of different natures, which again was a great thing because it allowed me exposure to various sectors, clients, businesses and developed a more holistic understanding of different businesses. Work was not only on Indian markets, but also international.

Name:*P.Vamsee Krishna*

ID No:2013A8PS374G

Student Write-up

Short Summary of work done during PS-II: As the aim of the project is the performance improvement of the client, we interacted with Operations, Marketing, Finance, Human Resources teams of client for problem identification and resolution. Identified gaps in as-is system and ideated section wise multiple initiatives. Assisted KPMG project team in market research, data analysis and co-ordination with stakeholders. Analyze the recent performances of the client and all the adverse events to identify cause of the problem and suggest ways to resolve them.

Tools used (Development tools - H/w, S/w: MS Office

Objectives of the project: Performance improvement of the client in Operations, Finances, Sales and Human Resources aspects.

Outcomes of the project: Project is divided into two stages - Strategy and Implementation. As the implementation stage, has recently started and more of it is yet to be done (scheduled for the upcoming months). However, project is running as per timeline and outcomes of the KPMG's strategy are clearly

visible. There is improvement in client's performance in all the aspects i.e., Operations, Finances etc. (I am not supposed to disclose the details of results as they are confidential)

Major Learning Outcomes: Competitive bench-marking, Market research, Data analysis

Description of working environment, expectations from the company: I have been deployed to client place for the entire duration. It's a great experience to work directly with the client (along with 2 MBA graduates form top tier universities) as one get to learn a lot by working directly at the client place. Insights of the seniors are really helpful throughout the period which helps to correct one's line of thought to identify the problem and resolve it.

PS-II Station: KPMG, Mumbai

Faculty

Name:Sandeep Kayastha

KPMG- Writing skills, presentation skills, Excel, market analysis, Financial statement analysis

Student

Name:Shobhan Krishan Mishra

ID No:2012B3A8613H

Student Write-up

Short Summary of work done during PS-II: Having been allotted the Contract compliance advisory department, the work revolves around software licensing using various metrics.

Objectives of the project: 1) Knowing about various methodologies in licensing. 2) Knowledge about big data and software life cycles.

Outcomes of the project: Software licensing

Major Learning Outcomes: License compliance advisory and Software license advisory

Description of working environment, expectations from the company: All those interested in brand value early in the career can prefer KPMG, good healthy working environment.

Name:Shaik AyeshaFraheen

ID No:2012B2A8712H

Student Write-up

Short Summary of work done during PS-II: Financial ratios comparison and detailed comparison with peer banks, NBFC marketing and branding strategies.

Tools used (Development tools - H/w, S/w: Excel,VBA

Objectives of the project: Market study

Outcomes of the project: Cost optimization and process efficiency

Major Learning Outcomes: Practical applications of Excel,VBA,soft skills

Description of working environment, expectations from the company: Decent

Name:Ananya Majumdar

ID No:2013A8PS486G

Student Write-up

Short Summary of work done during PS-II:Working under the Management Consulting branch of KPMG, I was interning in the CIO Advisory team. As a member of this team, it was my job to assist my mentors to create strategies and develop execution plans for a digital transformation of clients existing operations. This involved using technology to facilitate the fulfillment of clients' needs, whether that is an e-commerce market entry, cost cutting of existing practices or introduction of new ways of doing business.

Tools used (Development tools - H/w, S/w: Invasion, Unmetric

Objectives of the project: To fulfill the clients' needs by creating a strategy entered around the concept of digital transformation.

Outcomes of the project: Successfully worked on three different client projects, as well as a client engagement exercise.

Major Learning Outcomes: I was introduced to consulting, and got a true taste of what it takes to work in a major consulting firm. Working at KPMG helped enhance my communication skills, problem solving skills, analytical skills and also introduced me to various new technologies like Invision and Unmetric, among others.

Description of working environment, expectations from the company: KPMG, being a big 4 firm, has a very formal environment, and expects its interns to be appropriately dressed.

Name:Arnav Gupta

ID No:2012B2A3757P

Student Write-up

Short Summary of work done during PS-II: I worked with the supply chain team in the strategy and operations division of the management consulting vertical at KPMG Mumbai. I worked on multiple live assignments over the PS2, I worked with 2 companies in the pharmaceutical sector to optimize their supply chain post GST implementation. My task was to develop a model based on the demand centers of the company and identify optimal locations to source supply. This was primarily Excel based modeling.

Tools used (Development tools - H/w, S/w: Excel, PowerPoint

Objectives of the project: To optimize the supply chain of the client based on GST implementation to reduce costs

Outcomes of the project: Reduced supply chain costs by about 15% annually for two clients

Major Learning Outcomes: Exposure to modeling and management consulting

Description of working environment, expectations from the company: The working environment at KPMG was quite professional. The firm has a huge base in Mumbai and diverse sets of teams work out of the same office. This gives an exposure colleagues from different backgrounds. Though most of the consulting teams are composed of engineers. The company does send interns on client projects. I had an exposure to two large pharmaceutical companies in Mumbai.

Name:Priyanka Tata

ID No:2012B1A1669G

Student Write-up

Short Summary of work done during PS-II: I have been a part of the Management Consulting division, most of the work being providing financial services to a plethora of clientele. The work comprised of extensive market research in BFSI and IT sectors and performing competitive benchmarking of various cost heads with peers (of the client) and thereby finding the potential opportunity that the firm has. After the analysis, we helped in providing cost optimization strategies for the clients.

Tools used (Development tools - H/w, S/w): Excel sheets were used for number crunching and making trends

Objectives of the project: 1. making a financial database for 42 scheduled commercial Banks in India for FY2015-16 2. Market research and making proposal decks for few banks and IT firms 3. Scoping for a client

Outcomes of the project: 1. completion of the database which has been circulated in the firm, that helped client acquisition through the research and proposal decks made 2. Scoping performed for one of the clients and project to kick start soon

Major Learning Outcomes: 1. Gained immense domain knowledge in several industry segments

2. Hands on learning experience with real time client projects 3. Soft skills developed through client interactions and partner meetings 4. Learnt how to make effective PowerPoint presentations and working with excel (which are important for consulting)

Description of working environment, expectations from the company: Fortunately, working environment has been highly flexible and the higher management was quite supportive and encouraging. The ideas and inputs given were considered during the projects and were implemented. However, the compensation was low for the amount of work done. But keeping that aside, for a first job/internship in the field of consulting, it's a great place to start with, in terms of learning.

PS-II Station: Market Forecast, Hyderabad

Mentor

Name: Chaitanya Inampudi

Designation: People Operations, Managing Partner

The previous batch of interns we took in to the program we offered the role of associate market research analyst. They were quite good at performing their duties and did well to adapt to the organizational culture given we had little time to train them. Their responsibilities included various ground level building blocks of our business-like domain building, secondary research etc. I like to reiterate that they did well which is evident by the rapid growth in no of reports we have been offering. Occasionally they participated in the report making itself working on syndicated reports for renown clients like Bayer, McKinsey, Sanofi etc. Only thing that might have been lacking is the punctuality which got sorted over time as they learnt to pick up their mistakes and complete the tasks given to them in

time. As a group, I would say they're well bonded and as an individual they upheld their duties with a flair of professionalism which I think is the prime motive of the PS-II program.

We would like to see those qualities in the next batch as well, which I believe will happen as they are coming out of one of the premier institutes in India. The only concern is how quick can they realize and adopt to the circumstances outside their academics and learn to work together to achieve the set targets. On a side note, there were little issues like accommodation, distance of travel and holidays which I believe are common across all the companies because after all they are students and it is upon us to mold them. This time around we have offered multiple positions across different roles (Research, BDE, Content Writer etc.) which I think would be beneficial for all the parties involved.

Faculty

Name: Anjani Srikanth Koka

Market Forecast Hyderabad: Project Areas: Writing Market Research Reports; Not much technical skills needed but Basic Excel and strong English skills are very much needed. Students need to generate Report Descriptions by researching on a particular industry.

Student

Name: Preethi Ramesh Narayan

ID No: 2013B5PS851H

Student Write-up

Short Summary of work done during PS-II: The nature of work includes writing market research reports. Markets like Healthcare, agriculture and food & Beverages are thoroughly analyzed in a forecast period, and top market player companies are profiled as a part of the report. Some of the other elements of the report include PESTLE Analysis, SWOT Analysis. Also, the Report Description and Blog Article writing were part of the work profile.

Tools used (Development tools - H/w, S/w: MS-Excel

Objectives of the project: To perform a detailed analysis of market dynamics of the current market landscape globally. To perform detailed research of various topics in the healthcare and agricultural domain

Outcomes of the project: An intricate knowledge of the consulting & market research sector. Comprehensive knowledge of various market research techniques, competitive intelligence, business strategies of various conglomerates

Major Learning Outcomes: Learned to write market research reports and blog articles

Description of working environment, expectations from the company: The working environment didn't meet the expectations. There is no diversity in the background of people working in the company. It was extremely regionalism-centric. Also, the company authorities are immature and didn't follow any corporate ethics in running the company. The HR policy for interns is not transparent. The company rules were very rigid and the working environment is not welcoming. I personally do not suggest this company to proceed further as a PS station.

Name: Isha Yadav

ID No:2013B2PS967P

Student Write-up

Short Summary of work done during PS-II: The company is a market research company, which prepares reports for several markets. I have learned to write various components of a report by doing secondary research in the Healthcare, Agriculture and Food & Beverages domains.

Tools used (Development tools - H/w, S/w: MS Excel

Objectives of the project: To perform a detailed analysis of market dynamics of the current healthcare and Agriculture landscape globally. To perform detailed research of various topics in the healthcare and Agriculture domain.

Outcomes of the project: An intricate knowledge of the consulting & market research sector. Comprehensive knowledge of various market research techniques, competitive intelligence, business strategies of various conglomerates.

Major Learning Outcomes: Learned to write research report

Description of working environment, expectations from the company: Company is very much low as expected, working environment is worse and not at all safe. I have wasted my whole PS2 duration in meeting the demands of the company and learned nothing. This PS station should be cancelled because there is nothing for BITS students to learn here. The HR policies are nil and the company not at all listen to students query neither professionally nor personally.

Name:*I.Vamshidhar Reddy*

ID No:2013A3PS321H

Student Write-up

Short Summary of work done during PS-II: So far in the project I have done several report description for various markets in healthcare, agriculture and food & beverages domains. We have also done company profiling on several companies from healthcare and agriculture domains. Few report description titles are probiotic market, bio bank market, nutraceuticals market, bio pesticide market, wheeled tractor market, portable ultrasound market, Laparoscopy device market etc. Report description include Global, North America, Europe, Asia-Pacific, Latin America and Middle East & Africa regions report description, Table of contents, List of figures, Press release, promotion and icons for the report. Report also includes DROC and PESTLE which was also done and included in this report

Objectives of the project: The objective behind this project is to attain information and experience in the field of market research analysis, to learn consulting and learn how to make a report for markets in healthcare, agriculture and food & beverages domain.

Outcomes of the project: The project helped us in learning much about market research and report making. The work done by all of us has contributed in a large extent to the company as their growth has increased and they are getting new deals and projects based on our writings which are uploaded on the company website.

Major Learning Outcomes: Has helped me understand the startup culture and provided me with experience in the field of market research analysis

Description of working environment, expectations from the company: The working culture is good in the company. Just like all the startups, the work load changes from one day to another. The company expects the student to have a good work ethic and proper report writing skills.

PS-II Station: Morningstar, Mumbai

Faculty

Name: CA.Dr. Mahalakshmi Mudliar

Morning Star - Knowledge of SQL, Angular JS, basic programming skills, ability to communicate and present. Aptitude and willingness to learn is a must.



Student

Name:S Chetak

ID No:2012B4A4522G

Student Write-up

Short Summary of work done during PS-II: Developing new Index methodologies leveraging Morningstar research Ecosystem. Automating and testing various tools and financial metrics on research platform for improved efficiency during back tests. Proposed exclusion screens for best in class sustainable investing solutions. Understand various Morningstar index methodologies like Factor Tilt, Moat Foc, Dividend Leaders, Best in class indexes etc., Analyzed various climate change risks being implemented by various index providers in their products. Refresh fundamental and derived data points for updated back tests using python and SQL. Performed basic QA checks

Tools used (Development tools - H/w, S/w: Python, SQL, Excel, Morningstar Direct

Objectives of the project: To come up with new strategies for responsible investing using ESG factors for upcoming index launch in US and developing markets. Work together with team to come up with ESG related index methodologies and understand recent trends in sustainable investing.

Outcomes of the project: Proposed product involvement exclusion screens for best in class sustainable(ESG) investing, which was incorporated in all their benchmark ESG indexes. My research on CDP was highly appreciated as it helps them understand various jargon in ESG investing and incorporate climate change risks in their future product developments. Monthly data refresh of fundamental and derived data points helps them run updated back tests for different investment solutions

Major Learning Outcomes: Understand various Morningstar index methodologies like Factor Tilt, Moat Foc, Dividend Leaders, Best in class indexes etc., proposed exclusion screens for best in class sustainable investing solutions. Analyzed various climate change risks being implemented by various index providers in their products. Worked on different proprietary tools and software to test different financial metrics on research platform. Recent trends in ESG investing and ETF industry.

Description of working environment, expectations from the company: Morningstar has a great working environment which encourages students to take initiatives and develop great understanding of business by actually involving students during research stage of the product development. Company expects students to have a minimum understanding of financial concepts with a basic knowledge of coding. They expect you to work on their existing projects supporting team members with daily tasks. Having a good understanding of statistical techniques helps you to provide valuable suggestions on their business and improve the efficiency of their back-test models.

Name: *Saeed Mandlekar*

ID No: 2013A1PS609G

Student Write-up

Tools used (Development tools - H/w, S/w: MS Excel, SQL

Objectives of the project :- Monitoring comprehensive data receipt and data delivery of all Morningstar indexes - Vendor - File - Index - Client mapping - Vendor/client- data configuration - Adding many useful features to the dashboard to make it a complete, all-inclusive tool for file monitoring Data clean up- Maintaining uniformity in information available on all Morningstar platforms Index Launch: - Launching the whole index family right from generating tickers, updating portfolio history to publishing the levels on different platforms Daily QA Reports: - Making a list of indexes that are missing levels and finding out

the reasons - Making a list of all the constituent drops or adds and finding out the reasons - Comparing levels of Morningstar's country indexes with competitors levels

Outcomes of the project: Projects have helped Morningstar save many hours of daily QA by automating the manual processes. The Ops Dashboard provides an interface, accessible to all teams, that gives detailed information about data receipt from all vendors and data delivery to all clients. QA reports give a clear over-view of all of Morningstar's active indexes on a daily basis.

Description of working environment, expectations from the company: Very comfortable working environment Everyone is approachable Great work ethics Employees are happy and satisfied with work

Name:Anurag Cheruvu

ID No:2012B2A4752P

Student Write-up

Short Summary of work done during PS-II: Part of the Data Management and Analytics division as well as the New Product Development division of the Indexes team. Worked on Index maintenance activities like Market Classification, Global Security Mapping and the Reconstitution/Rebalancing process. Also, got to work on an article for the Morningstar magazine distributed to readers in the US. Also, I am one of the business resources for a long-term project for the company. I am also working under the head of Indexes for a new Emerging market suite of Indexes that we've planned.

Tools used (Development tools - H/w, S/w: MS Office, SQL, Python

Objectives of the project: Annual exercise to determine the investible universe and to reclassify countries within the universe as developed or emerging based on market accessibility measures, macro factors, investor friendliness, etc.

Outcomes of the project: Classified countries as EMs and DMs and created the eligible universe which was the starting point for the Index Maintenance process.

Major Learning Outcomes: A great deal learnt about how the Indexing business works, coding languages like SQL and Python, and MS Office applications too.

Description of working environment, expectations from the company: It's a great place to be and the work is really challenging. Working hours are perfect and the people are wonderful too!

Name:Kartik Yadav

ID No:2013A8PS863G

Student Write-up

Short Summary of work done during PS-II: Being in technology we had to work on various improvements in ongoing/finished projects like OPS Dashboard, bug fixes in Publisher and automation to reduce manual dependency of business team on technology team so that business can go seamless.

Tools used (Development tools - H/w, S/w: MS-SQL, .Net, AngularJs

Objectives of the project: Create a UI for centralized file monitoring system for Indexes Operations team so for the ease on both file level as well index level

Outcomes of the project: Operations team can now successfully monitor those files and can send mail to vendors and clients about the missing files if such case happens on just click of a button.

Major Learning Outcomes: Got hands on web development with ASP.NET MVC, AngularJS and MSSQL

Description of working environment, expectations from the company: Working environment is good. Interactive team, individual would get to learn many new stuff and would have interactions with business team as Indexes team being on same floor, technology team would not face or have halt in their work in building what is needed for business without any interruptions. Well you will expect friends rather than colleagues, age/designation doesn't matter as there is policy of calling by their first names.

Name:Dhananjay Gupta

ID No:2012B5A4493G

Student Write-up

Short Summary of work done during PS-II: I was in the Morningstar Indexes Technology team. I worked on the Ops Dashboard project where we had to create UI for the Ops team to view the database and make changes to it. This would save Operations time by not writing SQL queries every time. I worked on the Index Launch Wizard Project where we had to created UI for the Operations/Product Management/Clients to work their way through various stages of Index Launch Wizard. Our job was also

to take care of support requests raised by Data Management Team and New Product Development team.

Tools used (Development tools - H/w, S/w: JavaScript(AngularJS), C#, LinQ

Objectives of the project: To develop and support technological products as per request by various Morningstar teams.

Outcomes of the project: Ops Dashboard Project was completed. Many support requests were debugged, tackled and documented.

Major Learning Outcomes: I can now develop a fully functional website from back-end to front-end. Got familiar with the .NET framework, AGILE methodology and Entity framework.

Description of working environment, expectations from the company: The working environment has been good enough to provide the transition from academic scope to professional scope. Timings are fairly flexible. In terms of work, I got to develop new technological products and also had to do lot of debugging due to support requests. There are many technological projects since there is a movement towards new technology for existing project but when they will be taken up, that is situational. The work allotted is equivalent to any normal employee and it is manageable. My manager and tech lead were considerate and approachable. And, Morningstar is in Navi Mumbai and not Mumbai.

PS-II Station: National Entrepreneurship Network, Bangalore

Student

Name: Varun Iyer

ID No: 2012B5AB659P

Student Write-up

Short Summary of work done during PS-II: Worked with the SDN team, helping with course content and secondary market research

Objectives of the project: Helping develop more jobs in the country

Outcomes of the project: My contribution to the project will be used in the FEP programs conducted throughout India

Major Learning Outcomes: Understood how the Indian ecosystem is working at the moment

Description of working environment, expectations from the company: Working environment is quite relaxed. There Isn't much to learn here

Name:*Akash Shahi*

ID No:2013A5PS874P

Student Write-up

Short Summary of work done during PS-II: Managing the workshops, programs and events conducted by NEN/Wadhwani Foundation in Malaysia and Indonesia. Providing the backend support for the programs, like email campaign, online registration forms and feedback analysis.

Tools used (Development tools - H/w, S/w: Excel, MailChimp, Wufoo Forms,

Objectives of the project: To successfully conduct the programs and workshops by providing the online support

Outcomes of the project: Conducted 8 programs in two countries (Malaysia and Indonesia)

Major Learning Outcomes: Professional behavior, work ethics, excel, MailChimp, Wufoo Forms,

Description of working environment, expectations from the company: The environment was good. Can't complain. The mentor assigned was very guiding and helpful. She was always teaching us new things and making us learn the work ethics. She was definitely a good mentor.

Name:*Vikas Kataria*

ID No:2013D2TS955P

Student Write-up

Short Summary of work done during PS-II: I am working as a video editor. Wadhwani foundation offered course for entrepreneurship which is complete 3-year curriculum including 6 course name wfne100 to wfne105. so i am part of 1st two course wfne100 orientation program in entrepreneurship and wfne101 basic program.so my job is recording video than edit it as script required and upload it on YouTube and Wadhwani foundation officially page edcastcloud.

Tools used (Development tools - H/w, S/w: Adobe Premier Pro, Adobe Photoshop, Adobe After Affect, Powtoon, Videoscribe

Objectives of the project: Empower student to pursue a challenge and successful entrepreneurial career through certified program. Empower student to pursue a challenge and successful entrepreneurial career through certified program.

Outcomes of the project: My technical skills were used for shooting the videos. The edited videos will reach the students and they will gain immensely from them. The videos were edited to suit the targeted audience who are all the students aspiring to become entrepreneurs

Major Learning Outcomes: Focus on editing speed, how we use color and text fonts, how we use effects and custom effects.

Description of working environment, expectations from the company: environment of organization is better than my expectation. Everyone are ready to help and friendly environment. no time restriction no dress code.

Name:Aditya Gupta

ID No:2013A1PS533G

Student Write-up

Short Summary of work done during PS-II: The work was in the field of development of entrepreneurship. I contacted a lot of people including entrepreneurs, principals, directors, faculty. Helped the team to launch programs such as SmartE contest, Learn wise, EEP programs etc.

Tools used (Development tools - H/w, S/w: excel

Objectives of the project: development of entrepreneurs. Launching programs and events for budding entrepreneurs to grow and learn.

Outcomes of the project: Increasing number of entrepreneurs over India with better knowledge and skills.

Major Learning Outcomes: event management, soft skills.

Description of working environment, expectations from the company: friendly and frank environment. they are willing to help. you can learn if you want to. don't expect anything technical to learn here but more of presentation skills, soft skills.

Name:Jyothir Ghosh

ID No:2012B2A1760P

Student Write-up

Short Summary of work done during PS-II: Created a competency mapping document showing the increase in complexity of different learning outcomes as one progresses from level 1 to level 7 of NSQF

Objectives of the project: To create a competency pregression document

Outcomes of the project: A new product was built.

Major Learning Outcomes: Excel, understood skill sector in India

Description of working environment, expectations from the company: The working environment was pleasant. The staff are really friendly.

Name:Harshit Raghuwanshi

ID No: 2013A8PS430P

Student Write-up

Short Summary of work done during PS-II: Selection, Briefing, Curation and Posting Of Startup Ecosystem News For Posting Online On The Nen Portal.

Tools used (Development tools - H/w, S/w:Excel, Internet

Objectives of the project: Selection, Briefing, Curation and Posting of Startup Ecosystem News

Major Learning Outcomes: Excel experience

Description of working environment, expectations from the company: This company does not deserve BITSians, even if they have a low CGPA.

Name: E Vishnu Vardhan Reddy

ID No: 2013A2PS498H

Student Write-up

Short Summary of work done during PS-II: The work I have done is the research work for ongoing project which is starting off their operations in south east Asian countries. my done is doing research on top institutes. Organisations to collaborate.

Tools used (Development tools - H/w, S/w: Microsoft excel spread sheet

Objectives of the project: The South-East Asia team was starting off their operation in Philippines and Bangladesh which require market research to be done on the institutes and organizations to collaborate

Outcomes of the project: As this is an ongoing project, the data I researched will be helpful for all the future projects of the South East Asia team.

Major Learning Outcomes: I learned how to convince the people, Microsoft excel

Description of working environment, expectations from the company: It is an excellent platform to learn. I learned a lot of things which will benefit me in future. The mentor is very supportive they helped me a lot

Name: Abhinav Jain

ID No: 2013A2PS686P

Student Write-up

Short Summary of work done during PS-II: The project involves designing the facilitator empowerment program for the ITI, secondary market research about the investment in Indian manufacturing sector

Objectives of the project: Global Skills Network (GSN) aims to equip non-college-bound high school graduates with sufficient work-skills to command family supporting wages. GSN is also working with the Central and State Governments to transform ITIs to modern manufacturing training hubs and multi-skill institutes, and with employers to engage in providing adjunct faculty, internships, and apprenticeships.

Outcomes of the project: The videos we made are used in the FEPs conducted by Wadhvani foundation. These videos will help the ITI trainers as they will get to know about the soft skills their students should possess to become good interviewees. My market research on the current scenario of Indian manufacturing sector would help the Wadhvani foundation as they would get to know about the state of art technologies used by the manufacturing companies and accordingly they can look forward to tie up with the companies by offering online vocational training to their new employees. Matching of IT courses with the skills mentioned in the NOSs would help the Wadhvani foundation as they will get to know about the courses which they need to make for the unmatched skills.

Major Learning Outcomes: I got to learn different software's like MS Excel, Visual Studio, Movie maker and programming languages like C#, SQL and PHP. I got to learn about how to work in a team in a professional manner and completing work before deadline. I also learned to do effective market research in various fields.

Description of working environment, expectations from the company: Wadhvani foundation has a great working environment. It will surely help the non-college-bound graduates to get into entry level jobs by equipping them with sufficient work skills.

Name:Poonam Brar

ID No: 2013A2PS535P

Student Write-up

Short Summary of work done during PS-II: Being a part of the Global Skills Network team, I was responsible to make mock interview videos and video resumes. I also worked on E-Content development, reviewing the online lectures and editing them. For the Orissa project, I scripted the video lectures for translating them to Odiya. I also developed feedback forms and did analysis for various FEP program.

Objectives of the project: To understand the Skills Development Network across India. The government schemes for the same. Problems faced and possible solutions.

Outcomes of the project: Understood the scenario of skills development in India. The feedback forms were used for various FEPs held in Himachal Pradesh, Jharkhand and Delhi. The scripted lectures will be used for transcribing in Odiya language.

Major Learning Outcomes: Professional Skills. Mastered Excel and Word. Gained good Analytical Skills. Learnt video shooting techniques.

Description of working environment, expectations from the company: The working environment was very comfortable and friendly. There were continuous assignments given and the deadlines were appropriate though strict. The work pressure was not much and I could give my 100 percent.

Name: *K N Sangeeth*

ID No:2013A3PS033P

Student Write-up

Short Summary of work done during PS-II: I worked in the Content Development team , helping create content for the Entrepreneur Orientation course developed by our organization.

Objectives of the project: Orientation Of Entrepreneurs

Outcomes of the project: The Entrepreneur Orientation courses would be used by over 100 colleges

Major Learning Outcomes: Research, Writing

Description of working environment, expectations from the company: Not at all similar to what was mentioned in the PS description. Work was simple and light.

***Name:*Ashish Kumar Sharma**

ID No:2013D2PS986P

Student Write-up

Short Summary of work done during PS-II: Our main focus was on the SEO and organizing different campaigns on Google Adwords.

Tools used (Development tools - H/w, S/w: Buffer, Adwords, Analytics

Objectives of the project: To improve the ranking of the website on the search engine.

Outcomes of the project: Website ranking improved and the amount of traffic got increased.

Major Learning Outcomes: Knowledge of different tools and strategies used for marketing a product or service.

Description of working environment, expectations from the company: The working environment was good, it was great working with the employees and the team.

***Name:*Avinash Acharya**

ID No:2013A2PS730P

Student Write-up

Short Summary of work done during PS-II: Excel work, research work and data analysis work

Objectives of the project: To redesign a curriculum for an ITI institute

Outcomes of the project: A curriculum was redesigned

Major Learning Outcomes: Learnt to become creative, think out of the box, and work hard

Description of working environment, expectations from the company: The company expects all interns to behave professionally and participate in office activities. The work environment is friendly and cooperative

**PS-II Station: Nomura Global Markets & Global Finance Analyst
Division, Mumbai**

Mentor

Name: Nitin Gupta, Nishant Sharma

Designation: BITS students are technically sound. They are looking at BITS interns for hiring. Interns need to mix with the others on the floor to understand the full picture

Student

Name: Vipul Sharma

ID No:2012C7A1804P

Student Write-up

Short Summary of work done during PS-II: Studying the behavior of various economies in the Asia ex Japan region and focus on the factors that affect the movement of interest rates of various tenors. Creating a pitch book for clients and daily interaction with sales and trading desks.

Tools used (Development tools - H/w, S/w: Excel, VBA, In-house software's, PowerPoint

Objectives of the project: Handling daily pricing requests for sales and trading desks

Outcomes of the project: Business as usual

Major Learning Outcomes: In depth understanding of markets, financial derivatives and product pitching

Description of working environment, expectations from the company: The working environment is very competitive. The company has pretty serious expectations from the intern and fulfilling them is a difficult task. If you're expecting a PPO, then you should not consider this station as it is not a safe option because of the extremely competitive environment. However, if landing a job is not the top priority, then this has a great learning opportunity.

Name:Ayush Goyal

ID No:2012B4A3364P

Student Write-up

Short Summary of work done during PS-II: Assisting the on-shore trading desk at Hong Kong by providing them with various financial analysis, Profit and loss statements, and Marking their positions as to calculate that.

Tools used (Development tools - H/w, S/w: In house developed software's and MS Excel

Objectives of the project: Product Control

Outcomes of the project: Product Control

Major Learning Outcomes: Product Control

Description of working environment, expectations from the company: Work Environment is very competitive in a fine good way as well as friendly and welcoming people.

Name:Avidipto Chakraborty

ID No:2012B3A7506G

Student Write-up

Short Summary of work done during PS-II: I worked with the credit structuring team (EMEA). I was handling all daily work. Two main work divisions were pricing and structuring. Mainly derivatives.

Objectives of the project: Replicate a full-time employee

Major Learning Outcomes: Soft skills, VBA, banking industry ethics, knowledge of structured products

Description of working environment, expectations from the company: Very comfortable work environment with long working hours.

Name:Geet Kalra

ID No:2012C7A2858P

Student Write-up

Short Summary of work done during PS-II: Working as a part of Financing Risk team which takes care about the Risk Management for Nomura's Repo, SFT, OTC and Prime Business. My work involves building models, pricing and margining of different products across various asset classes including FX, Rates and Credit.

Tools used (Development tools - H/w, S/w: MS Excel, VBA, SQL, Nomura's own proprietary software's.

Objectives of the project: Involved in day to day activities of the team.

Outcomes of the project: As a part of team achievements in their day to day activities.

Major Learning Outcomes: Proficiency in Excel, VBA and SQL, understanding risk management models, different regulatory procedures, banking as a business.

Description of working environment, expectations from the company: Nomura is definitely the finest start you can give to your banking/finance career. The best part about its working culture is the small team sizes, which allows you to explore almost everything about the business. Working hours remain flexible but Nomura always looks for hard working professionals to support its high context Japanese work culture. Team usually consist of students from premier institutes like IIT's, BITS, IIM's and Indian Statistical Institute. I did my internship at Global Risk Division of Nomura as a Financing Risk Manager. The opportunity helped me learn about different businesses in which the bank operates and how various macroeconomic events are correlated with its risk exposure. Through my 1 year internship at Nomura, Practice School at BITS Pilani has provided me with the best possible industrial exposure at an undergraduate level.

Name:Saumya Upadhyay

ID No:2012B4A4262P

Student Write-up

Short Summary of work done during PS-II: Product Control team is responsible for monitoring of trades in the portfolios they look after and act as a primary control function, monitoring trading activity to ensure it is within a specified remit. They provide clean P&L to the Risk team, which enables the calculation of Value at Risk as well as back testing exceptions.

Tools used (Development tools - H/w, S/w: Excel,Cobra,Citrix.

Objectives of the project: 1. Production of P&L for the trading desk 2. Substantiation of P& L numbers 3. Explaining different risk attributes of the P& L to both, traders and onshore controllers.

Outcomes of the project: Daily P&L is accurately reported to the front Office & reconciled between P & L tools & ledger/management reporting tools.

Major Learning Outcomes: Digging into P&L's helped me learn more about the hedging in portfolios.

Description of working environment, expectations from the company: Working environment is a bit rigid. Company expects you to be as efficient as an employee. The communication is a bit poor among the firm as my onshore controller got to know the last day that I am an intern and not a new Joinee. She was feeling sorry for being too strict with me. Other than that, there are a lot of facilities like morning pick up for odd shift, subsidized breakfast, free bus service.

Name: Divya Taori
ID No: 2013A8PS388P

Student Write-up

Short Summary of work done during PS-II: Enhanced the Employee Recognition Application (web based) of the firm.

Tools used (Development tools - H/w, S/w: S/w)

Objectives of the project: Enhanced the Employee Recognition Application (web based) of the firm.

Outcomes of the project: Successfully completed.

Major Learning Outcomes: Learned Java, JavaScript, Ajax, SQL

Description of working environment, expectations from the company: Working environment is cool. People are nice but kind of workaholic.

PS-II Station: Nomura Information Technology Division , Mumbai

Mentor

Name: Nitin Gupta, Nishant Sharma

BITS students are technically sound. We are looking at BITS interns for hiring Interns need to mix with the others on the floor to understand the full picture

PS-II Station: Quality Council of India , Delhi

Faculty

Name: R K Tiwary

The students work on various projects assigned to them. The various projects are Smart Embedded Solar Streetlight, Design validation of C2C on FPGA, Enhancement the Full-Custom Flow to Mitigate Post-Layout Challenges in Advanced Technology Nodes. All the projects are electronics based.

One of project is embedded system-based and requires STM32 Micro-controllers. The idea is to design a smart embedded solar streetlight which can be used mostly in rural areas. STM32 Micro-controller have all the peripherals like GPIO, Timer, ADC, RTC, Interrupts, Low Power mode, Watchdog timer, etc. The

value line micro-controller used is STM32F030 which is cheapest in all the variants of STM32 microcontrollers

Student

Name: Anukool srivastava

ID No: 2103A1PS532H

Student Write-up

Short Summary of work done during PS-II: Work was related to excel comprising of collecting of a data from various states coordinating it on the ground and analysis the work via analytics. we used to frequently contact Vcs of different universities. our team travelled throughout India to make the project successfully, the main aim of the project was to estimate the gap between the demand and supply gap of teachers for the NCTE across various states and universities.

Tools used (Development tools - H/w, S/w: Excel, word etc.

Objectives of the project: Estimation and demand supply gap of teachers for NCTE

Outcomes of the project: Data collection is still going on and analysis being done

Major Learning Outcomes: Different Areas in India suffered from various shortages of depending on the location and development it helped us to develop team spirit

Description of working environment, expectations from the company: Work environment was cordial and friendly all contributed to the best of their ability, company was great

Name: Krishna Bhatnagar

ID No: 2013A1PS468P

Student Write-up

Short Summary of work done during PS-II: Played an integral role in the planning and implementation of various projects under the Swachh Bharat Mission.

Tools used (Development tools - H/w, S/w: Microsoft Word, Microsoft Excel, Microsoft PowerPoint

Objectives of the project: To carry out a Third-Party Inspection of The Open Defecation Free Status as claimed by the 4041 ULBs of India

Outcomes of the project: By the end of the PS-2 around 300+ ULBs had been inspected and declared as Open Defecation Free

Major Learning Outcomes: The work that I did during my tenure at Quality Council of India has definitely increased my interpersonal skills, my command over excel (which is widely used data analysis tool) has increased many fold and I have matured as a person.

Description of working environment, expectations from the company: The working environment at QCI is that like of a Start-up. A lot of responsibility is entrusted upon every member of the team and they are expected to live up to these expectations.

Name:Aditya Khanduja

ID No:2013A1PS667G

Student Write-up

Short Summary of work done during PS-II: My work comprised of coordinating and planning with governing heads of municipal bodies in the state of Gujarat. I played a key role in stakeholder management of the inspection bodies (that conduct survey), municipal bodies and data verification team at QCI.

Objectives of the project: To perform impact analysis of effectiveness PM Modi's Swachh Bharat Abhiyan and the status of open-defecation in the urban local bodies of Gujarat.

Outcomes of the project: The results of the project survey can't be disclosed without required approved being sought by the Ministry of Urban Development (MoUD).

Major Learning Outcomes: Got a little exposure to inner workings at a government organization.

Description of working environment, expectations from the company: A very healthy work atmosphere comprising of self-driven young individuals wanting to experience working in government sector while still getting the benefits of a startup-ish environment in the form of company of passionate employees.

PS-II Station: Report Garden Technologies Pvt. LTd. , Hyderabad

Faculty

Name:Anjani Srikanth Koka

Report Garden Hyderabad: Project Areas: Digital Marketing & Advertising; Testing, Coding, Bug-fixing etc.; Basic technical skills like C, C++, OOP are sufficient. Knowledge of internal tools will be given by mentors.

Student

Name:Sai Hemantha Chowdary Papineni

ID No:2013A3PS359H

Student Write-up

Short Summary of work done during PS-II: Being a Digital marketing Intern you are responsible, at the end of the day, for building awareness, providing research to prospects, and driving qualified prospects to conversions. That job is much more difficult today than it was even a year ago, Because the platforms are developing into integrated marketing hubs, big data, and streaming data are providing real-time opportunities for marketing adjustments, and a diversified audience across a spectrum of channels and devices is adding infinite complexity to get the right message to the right person at the right time.

Over these 5.5 months ,at Report Garden I have extensively learned Search Engine Optimization, PPC Marketing ,Content & Social Media Marketing and building Digital PR. I learned to focus on dialing in the right balance of strategies. With PR outreach to various Digital Marketing Agencies, we brought experts to the table to help with the integration, automation, communication and execution of those strategies and insights on how they deal with their clients at these Agencies.

Tools used (Development tools - H/w, S/w:Hubspot , Mailchimps , Google AdWords , AdRoll , Facebook & Twitter Ads Manager , Buffer , Hootsuite

Objectives of the project: Assist in Inbound marketing and advertising promotional activities (e.g. social media, direct mail and web)

Outcomes of the project: Functioning of a B2B SaaS Start-up , Inbound Marketing Key Concepts , Growth Hacking and Lead Generation Process

Major Learning Outcomes: PS-II helped me acquire marketing skills and provided me with the knowledge of various marketing strategies. Ultimately, there is a scope to gain broad experience in marketing and also preparation to enter any fast-paced work environment.

Description of working environment, expectations from the company: ReportGarden is a very friendly organization. Being a BITSian start-up any person not just BITSians could fit right in here. The CEO and Team Leaders are very approachable. All they expect from any intern/employee is they give their 100% effort and try. The whole work environment is always positive and stress-free. You never feel bored or under pressure for a day. I really liked how they provide every learning resources possible. Team meetings are frequent and are good opportunities to learn about the different roles and how they work together to come up with an end product.

Name: *Bijesh*

ID No: 2012B2PS960P

Student Write-up

Short Summary of work done during PS-II: In during PS-2, I worked as a marketing executive in outbound market. in outbound market, I learn about how to approach a targeted prospect by cold mailing. first I extract the contacts of prospect from LinkedIn, after that I send cold mails to approach them and tell them about service. If prospect is interested in service, then I will schedule a meeting with sales team.

Tools used (Development tools - H/w, S/w:Excel, Hubspot, klenty, chargbee, mail tester, email hunter, rapportive

Objectives of the project: Performance Analysis of Outbound market.

Outcomes of the project: fill the sales pipeline and convert them.

Major Learning Outcomes: marketing strategy

Description of working environment, expectations from the company: I worked with outbound marketing team, they teach me about outbound process. i got everything about outbound marketing like- work knowledge, group behavior which I expect from company, I got that.

Name:Ankur Singh

ID No:2013A3PS155G

Student Write-up

Short Summary of work done during PS-II: At ReportGarden my project was based on Data analytics and predictive modeling. We gather data regarding our customers which helps sales, marketing and support to generate leads and take decisions based on the data. Further we process the data, cleanse it, and feed it into our databases which were designed based on requirements, this is done by running dag specifically designed for a particular table. Data in those databases can be then visualized by writing SQL queries. I learnt some cutting-edge technologies as a part of this project which will definitely help me in my future prospects. Apart from my core discipline knowledge, I gained knowledge regarding technologies like docker, SQL,Python,PgAdmin,Excel etc. which are used even in my core branch EEE (Electrical and Electronics Engineering) not just the theoretical knowledge, but a hands-on experience.

Tools used (Development tools - H/w, S/w:docker, SQL,Python,PgAdmin,Excel

Objectives of the project: Repricing of product plans using Data analytics

Outcomes of the project: Improved growth of the company and reduction in customer churn

Major Learning Outcomes: Making data driven decisions

Description of working environment, expectations from the company: ReportGarden provided us a healthy environment to work in and also good amount of industrial exposure. Whenever we were stuck

at some problem help was provided by both our mentors and colleagues. Another good thing is the flexibility that management shows towards its employees and their needs. For example, we had flexible work timings, the company is not so picky about simple things like expenses, work from home, vacation times etc, however interns were not allowed work from home. The hierarchy is flat so that means anyone can approach the CEO or high level manager .The company had monthly AMA's in which anyone can anonymously ask the organization any question they wanted to ,this increased transparency in the company and also provided a platform for interaction between client and non-client facing teams.

The company has shown remarkable growth since it's inception and its performance is likely to improve quarter by quarter since they are the leaders in their field with not many competitors providing the same services.

Name:Dhaval Chaudhary

ID No:2013A1PS673G

Student Write-up

Short Summary of work done during PS-II: I was allotted work in technical support and the customer success team. My project required me to add features to the web application and help customers in onboarding process and solving their issues. My project required me to migrate some portion of the application from html and CSS views to React components, integrate algolia search in the application and help customers in onboarding process.

Tools used (Development tools - H/w, S/w:ReactJS, BackboneJS, Algolia

Objectives of the project: The objective of this project is to enhance the overall experience of the users of the web application by making it faster, adding a search feature and helping customers in onboarding process.

Outcomes of the project: Helped many customers with the onboarding process and added features in the application.

Major Learning Outcomes: Overall knowledge of ReactJS and customer success.

Description of working environment, expectations from the company: The PS station had good work culture and it gave me the opportunity to interact with a lot of professionals who have many years of experience in their chosen field, and their constructive feedback helped us in developing new skills as well as refining other skills.

Name:Ishita Subhash Karbelkar

ID No:2012B5TS959P

Student Write-up

Short Summary of work done during PS-II: The work at ReportGarden Technologies Pvt. Ltd. included working on Ruby on Rails for writing the automation test script using Selenium Capybara. Along with automating the testing process the work also included the manual testing of the company application

Tools used (Development tools - H/w, S/w):1. Ruby on Rails 2. Selenium 3. Capybara

Objectives of the project: Understanding the concepts of Quality Assessment and Software Testing of ReportGarden Application.

Outcomes of the project:The project helped the company in setting up a new Quality Assessment process in order to make the application more efficient and bug-free. It also introduced in the company test automation.

Major Learning Outcomes: The PS-II experience was a must to enrich my knowledge and helped me direct in the right direction of my career. It helped me gain experience in the IT sector and also gave me an understanding of how start-ups work. It helped me learn new tools like Selenium, Capybara, Ruby on Rails.

Description of working environment, expectations from the company: Working at a startup surrounded by numerous BITS Pilani Alumni is itself a great experience to gain at such an initial stage. The work environment focused majorly on training and was development-focused. The mentors were very patient and always ready to help when blocked.

PS-II Station: TESCO Hindustan Service Centre, Bangalore

Student

Name:*K.V.P.Revanth*

ID No:2013ABPS606H

Student Write-up

Short Summary of work done during PS-II: Automated the Daily Demand Tracker onto Tableau, Rolling out Regular Reports related to GMO sector

Tools used (Development tools - H/w, S/w):Teradata, EXCEL, Tableau

Objectives of the project: Automation of Reports onto Tableau

Outcomes of the project: Better visualization of Data and reduction of Non-Value added steps and manual intervention

Major Learning Outcomes: Tableau, SQL, coding in Teradata, EXCEL, R language basics

Description of working environment, expectations from the company: It was a good experience working here, learnt quite a few new things. The working environment is good and pressure free

Name:*Niharika Chalmeda*

ID No:2012B4A4829H

Student Write-up

Short Summary of work done during PS-II: Apart from the regular reports sent out by the team worked on identifying the reasons for under performance and the opportunity areas by analyzing the required metrics at the postal area level for TESCO Grocery and Home Shopping business.

Tools used (Development tools - H/w, S/w:Hadoop, SQL,Excel, Tableau

Objectives of the project: To identify the reasons for under performance and the opportunity areas by analyzing the required metrics at the postal area level for TESCO GHS business.

Outcomes of the project: Gained insights into the shopping behavioral patterns at a postal area level across UK

Major Learning Outcomes: General Understanding of the Retail Business,Tableau, SQL, Excel,Hadoop

Description of working environment, expectations from the company: Work environment is inclusive and friendly

PS-II Station: Zinnov Management Consulting Pvt. Ltd., , Bangalore

Student

Name:*Mithilesh Mundhada*

ID No:2013ABPS424H

Student Write-up

Short Summary of work done during PS-II: Project 1: Analyzed global Automotive start-up landscape based on various parameters like technology, funding, location, Payment models etc. Project 2: Mapped R&D Business and Product lines of top R&D spenders in automotive and ISV vertical followed by opportunity analysis of various accounts based on the out-sourced deals. I also helped the team in account mining few automotive and ISV companies.

Objectives of the project: Global Engineering Insights Platform (GEIP): Empowers organizations with real time, in-depth analysis of the global innovation landscape comprising of R&D spenders, Start-ups, Universities and Partner ecosystem. It has 3 modules G500 R&D Spenders, Start-ups & Universities which we track across 250 plus locations, multiple verticals & technology areas.

Major Learning Outcomes: Market Scenario, Exposure to consultancy

Description of working environment, expectations from the company: People are very friendly over here. Workload is neither very high like in start-ups and not very low too.

Name:Aditya Kulkarni

ID No:2012B5A4411P

Student Write-up

Short Summary of work done during PS-II: Worked in multiple management consulting projects requiring different types of deliverables. The projects included a specific market analysis, location analysis and an internal project. Work was done in multiple fields including Market Research, Primary Research, Secondary Research, Market Analysis, etc. Also inclusive was creation of decks in .ppt format and creation and maintenance of sheets using advanced excel functions.

Tools used (Development tools - H/w, S/w:Microsoft Office

Outcomes of the project: Delivery of required data and insights to clients for the respective projects. Project details confidential.

Description of working environment, expectations from the company: Very conducive working environment. You are not considered an intern but an employee and given responsibilities. Good

amount of work and insights are well taken. Friendly colleagues and mentors who respect you and value your viewpoints.

PS-II Station: Zinnov Management Consulting Pvt. Ltd., , Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: Yash Tambi

ID No: 2012B4A1634P

Student Write-up

Short Summary of work done during PS-II: Front-end projects and the work involved researching, data entry and deck-making.

Tools used (Development tools - H/w, S/w): Excel and PowerPoint

Objectives of the project: To engage with the clients and work towards our project

Outcomes of the project: Successfully finished the project for the client

Major Learning Outcomes: Everything about the consulting industry

Description of working environment, expectations from the company: The working environment was very hectic - we interns were expected to work as full time associate consultants. But there was plenty to learn so overall it was a good experience.

Name:Pooja Soni

ID No:2013B4TS962P

Student Write-up

Short Summary of work done during PS-II: To identify the opportunity for the growth of Indian companies in emerging markets. . It was a secondary research on Indian companies , elaborating their opportunities for the growth of companies in emerging markets. Sources like annual reports, blogs, press releases were refereed for deep insights into company s' performance. 2. Based on the secondary data collection frameworks were developed and insights were made.

Tools used (Development tools - H/w, S/w: Excel and PowerPoint

Objectives of the project: This POV elaborated huge opportunities for the growth of Indian companies in emerging market where private equities can invest. This Point of View was pitched to the clients to attract projects for the company.

Outcomes of the project: The client signed a contract with Zinnov

Major Learning Outcomes: 1. worked on secondary data collection for companies. 2. Data analysis, framework building, Deriving Insights. 3 Frameworks and modeling in Excel sheets. 4. Exposure to MS Office and worked on building decks and excel sheets.

Description of working environment, expectations from the company: Great but a bit hectic. Zinnov proved to be an ideal choice for our stepping in the corporate world.

Name:Shriprada Mishra

ID No:2013B2PS964P

Student Write-up

Short Summary of work done during PS-II: Zinnov relies heavily on extensive primary and secondary market research for the projects. Throughout the course of my PS-II, I was involved in various projects for the Digital team in Zinnov and used various internal and external databases for data as well as reached out to industry experts in order to gain better insights into the projects. All the projects that I have been part of pertain to different verticals, and building a basic understanding of the industry is essential in order to understand the business pain that the client has. I have also assisted in writing various blog posts about technologies/products that are causing digital disruptions.

Tools used (Development tools - H/w, S/w: MS office suite including Excel, Power Point

Objectives of the project I have been part of various projects for the digital team in Zinnov. The projects that I was involved with for majority of my time were pertaining to industry/market analysis & compete analysis for various clients. With digital disruptions taking place at breakneck speed due to growth in Telematics, IoT & AI, Big data analytics, I mapped various start-ups and analyzed various industry trends in order to come up with suggestions for the client(s).

Outcomes of the project: The digital team helped analyze various technology trends that are being observed to come up with suggestions for product enhancements, Go-To-Market (GTM) strategy, Location analysis in order to set up an ODC etc.

Major Learning Outcomes: Gained experience of both primary and secondary research methodology, understanding of Clinical Trials, ALM/PPM, SDLC, Auto Insurance to gain better insights into the projects.

Description of working environment, expectations from the company: PS- II at Zinnov Management Consulting has been an interesting experience. I had been interested in working for a consulting company to gain better understanding of non-core jobs/corporate environment and Zinnov proved to be a good choice.

Domain: Electrical Electronics

PS-II Station: Analog Devices , Bangalore

Mentor

Name: Mrs. Gauri Mittal

Designation: Technical Lead

Mentor

Students are doing good. They are able to learn concepts well. ADVD course was helpful for the student to work on the project. It would be good if students are aware of tools but not a mandatory one as they can learn in few days. The interns should be proactive and should have the enthusiasm to learn new concepts to work on the project and deliver the things.

Name: Raka Singh

Designation: Senior Engineering Manager

Mentor

The student is working in the area of Image processing, Machine learning. The students are able to ramp up with the concepts well and start contributing. Overall good work.

Faculty

Name: Rekha.A

Expectations from industry:

At Analog Devices students are working on the various projects like simulation of an auto zero comparator for 14-bit Successive Approximation ADC, Verification of chip using Verilog and UVM, chip configuration and application, simulating a linear voltage to current converter, Electromagnetic compatibility testing on the Analog DSP processor (SHARC Processor).

Digital Design , Analog Circuits / Logic, Basics of Analog /Spice simulation, Knowledge of Processors , Programming , C, C++, Operating Systems, computer organization and Architecture, Microprocessors, Verilog, basic knowledge of embedded systems are some of the skill set expected by the organization.

The skill gap training sessions will help the student to be better prepared for PS II. They can brush up the basic concepts before they come for internship.

Student

Name: Katthula Vipanchi Reddy

ID No: 2013A3PS401H

Student Write-up

Short Summary of work done during PS-II: Human interaction with any technology includes analog signals. With the rapid development of the technology, the need for the high-speed conversion of analog signals to digital signals is becoming high. I worked on simulation of an autozero comparator for 14-bit Successive Approximation ADC. The comparator gets the analog input from the internal DAC which amplifies the differential input signal.

Tools used (Development tools - H/w, S/w): Cadence Virtuoso, Adsim, F10,

Objectives of the project: To understand the design and the schematic simulation of the SAR ADC in the process of IC Fabrication

Outcomes of the project: Understood the design flow for analog simulation

Major Learning Outcomes: Understood the design flow for analog simulation

Brief Description of working environment, expectations from the company: Lively work environment with encouraging colleagues.

Name: *Manu Chillapuram*

ID No: 2012B2AA946H

Student Write-up

Short Summary of work done during PS-II: The project mainly focuses on testing whether transceiver AD9361 can be used in Base Station for 4G-LTE Application. It includes testing the chip using hardware components like signal generator, Real time Spectral analyzer and checking whether the measured results conform to 3GPP standards or not. It includes testing of transmit parameters like Base station output power, Adjacent Channel Leakage Ratio (ACLR), Error Vector Magnitude (EVM) etc. Overview of the signals paths present in transmit and Receiver portion is obtained and components present like LNA (Low Noise Amplifier), Transimpedance Amplifier, Mixer, working of PLL synthesizers was understood. The project served the purpose of giving the exposure and understanding about the implementation and real time application of the Basics learned in college.

Tools used (Development tools - H/w, S/w): Vector Generators, Filter wizard, Real time Spectrum Analyzer, Signal Generator, PLL Synthesizer

Objectives of the project: To test whether the AD9361 transceiver can be used in Base Station for 4G LTE Application

Outcomes of the project: Transmit Parameters were measured and checked whether they for conforming to 3GPP standards

Major Learning Outcomes: Got idea about the Mixed Signal Architecture in transceiver, overall working of it, how it receives its clocks for processing of the signal and what parameters are actually measured for testing the performance

Brief Description of working environment, expectations from the company: Work environment is excellent and all the colleagues were very co-operative. It has a great learning atmosphere and I got an opportunity to know state of art projects in semiconductor industry. Overall it left a good impression and very glad to have got an opportunity to be a part of it.

Name: Ambareesh S J

ID No: 2012B3A8561G

Student Write-up

Short Summary of work done during PS-II: Digital Verification for ADXL261 (dual axis accelerometer) meeting customer needs.

Tools used (Development tools - H/w, S/w): System Verilog, UVM, Cadence Incisive

Objectives of the project: Complete tasks of verification (Functional Coverage, Verification Plan making from Design specs)

Outcomes of the project: Completed coverage coding for DSI3 protocol, Verification plan made for certain features of the design to be implemented.

Major Learning Outcomes: Digital Verification, Object oriented Programming principles learned.

Brief Description of working environment, expectations from the company: Very friendly atmosphere, conducive to learning. Professional mentor, was really helpful and encouraging. Tasks were surely challenging and I had to spend quite some time learning to start on the work.

Name: Akshat Saxena

ID No: 2013A8PS437P

Student Write-up

Short Summary of work done during PS-II: I worked in the field of Image Processing and Machine Learning. Since I already had some experience in these fields, from the courses done in college, I was allotted to this team. The work involved development of new tools for existing products. It was immensely interesting. The team was very helpful and are at the top of their field. They expect their interns to be of the same caliber as well, so the initial few days were overwhelming. But once you get the understanding of how and what you're supposed to do, the work proceeds smoothly.

Tools used (Development tools - H/w, S/w): Blackfin processor, Visual Studio, Linux, Caffe framework

Objectives of the project: Developing a car parking occupancy detection system using deep learning

Outcomes of the project: The car parking occupancy detection system was integrated into one of their existing products, ADZS-BF707-BLIP2 platform. It is now ready for deployment.

Major Learning Outcomes: Learnt the application of neural networks and deep learning to real world scenarios. Learnt how to work in a professional environment and collaborate with others. Gained knowledge on the topics I worked in from experts firsthand.

Brief Description of working environment, expectations from the company: Analog Devices is a great place to work at. Everyone is of the highest caliber in their respective domains. They give you complete freedom to explore your interests and never force you to get involved in something you don't want to. The mentors are busy a lot of time, but when they're free, they never hesitate to help you out. They also ensure you're not wasting time and learning something instead. There are no perks as such from the company apart from flexible hours. As long as you don't miss meetings or deadlines, there is no in or out time which has to be followed.

PS-II Station: Cadence Design Systems India Pvt Ltd. , Pune

Student

Name:Shashank Gokhale

ID No:2013A8PS089G

Student Write-up

Short Summary of work done during PS-II: I worked as a part of the CAD group. The work included automation in their existing flow. Data from different Vendors (TSMC, ARM) was originally used from several different files. I automated the flow to use one single consolidated file. All work was done in PERL.

Tools used (Development tools - H/w, S/w): Cadence Digital Design and Sign Off tools, PERL

Objectives of the project: Modify current flow to unify Vendor data in a single data structure

Outcomes of the project: Perl module VendorLibSpec.pm created which contains all parameters stored in a multi-dimensional hash with technologies ranging from 180nm to 10nm

Major Learning Outcomes: Digital Full working proficiency in PERL, Linux environment.

Brief Description of working environment, expectations from the company:Motivated and challenging environment. Constant focus on innovation.

PS-II Station: Endless Robotics Pvt. Ltd. , Hyderabad

Faculty

Name:Naga Vamsi Krishna Jasti

Expectations from industry:

We need to offer more industrial Engineering and Manufacturing Systems courses to enhance their knowledge in the respective field.

Student

Name: Virinchi samineni

ID No: 2013AAPS215H

Student Write-up

Short Summary of work done during PS-II: MATLAB IMPLEMENTATION OF ROBOTIC MANIPULATOR, ANDROID APPLICATION DEVELOPMENT

Tools used (Development tools - H/w, S/w): MATLAB, ANDROID STUDIO

Objectives of the project: WRITING MATLAB CODE FOR IMPLEMENTATION OF ROBOTICS MANIPULATORS

Outcomes of the project: TORQUE OPTIMIZATION FOR REACHING DESIRED POSITION FOR ROBOTIC MANIPULATOR

Major Learning Outcomes: MATLAB IMPLEMENTATION, ANDROID PROGRAMMING

Brief Description of working environment, expectations from the company:Endless Robotics Pvt. Ltd. has helped provide a link between theoretical knowledge and practical one. I realized that Industry functions in a completely different way, especially a Start-up like Endless Robotics where we got the chance to see a start-up to become a complete organization. Further I felt that the concepts taught in Control Systems, Power Electronics, Object Oriented Programming and Technical Report Writing have been very useful in grasping things better and faster. Working on reports in project-type courses also benefits me tremendously. The work environment is friendly and our mentors help us a lot during our internship

Name: K Tapan Reddy

ID No: 2016AAPS304H

Student Write-up

Short Summary of work done during PS-II: Implementation of CRM

Tools used (Development tools - H/w, S/w): S/w

Objectives of the project: Implementation of CRM

Outcomes of the project: CRM helps manage customer interactions effectively. Good database of the firm's market can be maintained using CRM.

Major Learning Outcomes: Learnt how an organization works and how a startup works and grows to become an organization. Learnt to use excel for database management. Having worked in the marketing sector, got to know how the construction market works.

Brief Description of working environment, expectations from the company:Endless Robotics is an robotics startup providing painting services through process automation. Having worked in the marketing field of the firm, I got to introduced to the construction market.

Name: Sudarshan Konge

ID No: 2013A7PS128H

Student Write-up

Short Summary of work done during PS-II: My work was more research oriented than practical. It involved reading research papers in Machine Learning, Statistics and Computer Science. It involved building 3D worlds in a software called Unreal Engine. All in all, Good learning experience.

Tools used (Development tools - H/w, S/w): Unreal Engine, C++, Python

Objectives of the project: Build 3d Worlds for Robot.

Outcomes of the project: Built a 3D world for simulation of robot.

Major Learning Outcomes: Proficiency in C++, python gained

Brief Description of working environment, expectations from the company: Nice working environment. Good and talented colleagues. Also, interacted with people from research side and not just software development.

Name: *V V Sesha Phani*

ID No: 2013A3PS370H

Student Write-up

Short Summary of work done during PS-II: My work is mostly on coding skills need to write a MATLAB code for robot manipulators and Android Development.

Tools used (Development tools - H/w, S/w): MATLAB and Android Studio

Objectives of the project: WRITING MATLAB CODE FOR IMPLEMENTATION OF ROBOTICS MANIPULATORS

Outcomes of the project: TORQUE OPTIMIZATION FOR REACHING DESIRED POSITION FOR ROBOTIC MANIPULATOR

Major Learning Outcomes: MATLAB IMPLEMENTATION, ANDROID PROGRAMMING

Brief Description of working environment, expectations from the company: Endless Robotics Pvt. Ltd. has helped provide a link between theoretical knowledge and practical one. I realized that Industry functions in a completely different way, especially a Start-up like Endless Robotics where we got the chance to see a start-up to become a complete organization. Further I felt that the concepts taught in Control Systems, Power Electronics, Object Oriented Programming and Technical Report Writing have been very useful in grasping things better and faster. Working on reports in project-type courses also benefits me tremendously. The work environment is friendly and our mentors help us a lot during our internship

PS-II Station: Infinera , Bangalore

Faculty

Name: Satya Sudhakar Y

Expectations from industry:

ECE with Perl/Python/Java Scripting skills.

Student

Name: Rahul Susheel Vasudevan

ID No: 2013A3PS245G

Student Write-up

Short Summary of work done during PS-II: I was assigned to the testing team. There I made a database comparison tool using Java and SQL. I implemented multi-threading and connection pooling for optimization.

Tools used (Development tools - H/w, S/w): Java, SQL

Objectives of the project: To compare and verify databases after migration

Outcomes of the project: Successfully completed a working tool

Major Learning Outcomes: Learnt a lot about IT environment, Java, making functional tools, etc.

Brief Description of working environment, expectations from the company: It was a pleasant working environment. Employees were friendly. If you get a good manager, your project goes smoothly. However, they did not offer any PPOs.

Name: Shraddha

ID No: 2012B3A32G

Student Write-up

Short Summary of work done during PS-II: Serdes is a key component of serial communication architecture for high-speed servers and communications networking systems and point to point communication links. It is a vital building block for high-speed data communications. The Project involves Serdes tuning which requires the emphasis values to be set by an iterative process.

Tools used (Development tools - H/w, S/w): Pycharm as Python editor and JMP for data analysis

Objectives of the project: The Project involves Serdes tuning which requires the emphasis values to be set by an iterative process.

Outcomes of the project: Pre-emphasis alters signal frequency characteristic to reduce effect of jitter by increasing magnitude of high frequency signal as compared to low frequency signals. It was inferred from the tests conducted that with main 0, lower values of pre and post give better result in terms of BER, VGA and CTLE cap values.

Major Learning Outcomes: Python, few DSP concepts like FIR

Brief Description of working environment, expectations from the company: Cordial working environment, helping employees who are eager to help

Name: Gaurav Mittal

ID No: 2013A8PS433P

Student Write-up

Short Summary of work done during PS-II: Contribute towards Verification and Test Plan automation. Explore Requirement Tracing support through Verdi. Optimize Simulation performances for Gen5 Test-benches. Enable Smart regression reporting. Create UVM based test-benches with focus on HDLC protocols.

Tools used (Development tools - H/w, S/w): System Verilog (UVM)

Objectives of the project: Gen5 ASIC Verification Process - Performance optimization and Automation

Outcomes of the project: simulation performance improvement

Major Learning Outcomes: System Verilog (UVM)

Brief Description of working environment, expectations from the company: good working environment

Name: Mane Aniket Chandrakant

ID No: 2012B2A3833H

Student Write-up

Short Summary of work done during PS-II: modularization of sequential build processes

Tools used (Development tools - H/w, S/w): Perl, SQL, Java

Objectives of the project: To develop a tool for the simplification of internal processes of Infinera

Outcomes of the project: Successful deployment of the tool

Major Learning Outcomes: Learnt different ways to incorporate different tools to solve a problem

Brief Description of working environment, expectations from the company: Working environment was good. Mentors helped a lot. We were not pressurized to do brute work but encouraged to do smart work.

Name: Sairam Ganti

ID No: 2013A3PS378H

Student Write-up

Short Summary of work done during PS-II: Development and Redesigning a log visualization tool. Added features to the tool to suit needs of the company. Developed visualizations and dashboards in the tool to analyze logs. Parsed and segregated logs from network elements by writing various patterns to differentiate between logs.

Tools used (Development tools - H/w, S/w): AngularJS, NodeJS, JAVA, RESTful Web Services, ELK stack

Objectives of the project: To provide this tool as a part of internal suite to analyze the logs from equipment manufactured by the company

Outcomes of the project: Additional features were added to the tool with the log parsing being more specific to match the company requirements

Major Learning Outcomes: Introduction to Software development, production code. Introduction to coding in general. Concepts of networks. JAVA and JavaScript.

Brief Description of working environment, expectations from the company: The workplace was a delight. People are extremely friendly and helpful. They gave us enough time to gel in and get familiarized with our work. Although the crux of the project started off pretty late into the PS, major work was completed without much hassle.

Name: *Gorripati Sai Sriramya*

ID No:2013A3PS861H

Student Write-up

Short Summary of work done during PS-II: Submitted APIs that automate the GUI manual clicks on the tester used by Infinera. Worked on code documentation using freeware called Doxygen which is one of the tools widely used by the industry

Tools used (Development tools - H/w, S/w): Doxygen

Objectives of the project: To improve the Verification and Validation flow and its efficiency

Outcomes of the project: Helps reduce the operating time of the tester being used and maintaining a proper structure of code uniform across all the projects

Major Learning Outcomes: Python

Brief Description of working environment, expectations from the company: Good work environment.

PS-II Station: Intel India Technology Pvt. Ltd. , Bangalore

Faculty

Name: *Swapna Kulkarni*

Expectations from industry:

Intel India works in various areas like Motherboard chipsets, Network interface controllers and integrated circuits, Flash memory, Embedded processors, Software development, Biomedical Signal processing, Verification and Validation, Testing and Digital Image Processing and many more. A student can be prepared for PS II with willingness to work and learn, work as good team member and give attention to details of projects. Student has to do basics of the courses/areas in which they are working.

Student

Name: Abhimanyu Zala

ID No: 2013A8PS490G

Student Write-up

Short Summary of work done during PS-II: I Given the architecture, my work is to write the RTL code for the same in Verilog and System Verilog Language. Once the block of module is ready, I have to integrate it and send it to the verification team which in turn will test the test bench for the same. Once I get my code verified and reviewed, I feed the code in a Power Artist Tool which in turn gives me the Power Numbers and the potential areas where my code can be optimized for achieving lower power numbers. Finally I'll be optimizing my code.

Tools used (Development tools - H/w, S/w): Power Artist, Spyglass.

Objectives of the project: RTL Designing.

Outcomes of the project: Designed RTL.

Major Learning Outcomes: System Verilog, Software's, Assertions.

Brief Description of working environment, expectations from the company: The working condition of the office is quite elegant and apt. You can enjoy various Sports amenities and snacks at no cost. The colleagues are quite friendly and you'll get to enjoy various team outings.

Name: Meghana Gupta

ID No: 2013A7PS042G

Student Write-up

Short Summary of work done during PS-II: Automation scripts to reduce workload on employees

Tools used (Development tools - H/w, S/w): Python

Objectives of the project: Automate code template generation and project report generation.

Outcomes of the project: Learnt scripting

Major Learning Outcomes: System Verilog, Software's, Assertions.

Brief Description of working environment, expectations from the company: Need better project allocation for computer science students

Name: Rajee Gupta

ID No: 2012B1A8736G

Student Write-up

Short Summary of work done during PS-II: worked in formal verification using jasper tool and on power estimation using power artist tool

Tools used (Development tools - H/w, S/w): Power artist, jasper tool, spyglass

Objectives of the project: power number of different modules in a chip.

Outcomes of the project: generated power numbers for the modules

Major Learning Outcomes: learned system Verilog assertions and understood how the exactly different tools work

Brief Description of working environment, expectations from the company: the working environment is very good and we get to enjoy lots of perk which intel provides. Colleagues are really helpful and very hard working which helped me to have a better understanding of things.

Name: Venkatesh Jonna

ID No: 2013AAPS326H

Student Write-up

Short Summary of work done during PS-II: Developed an algorithm for anomaly prediction.

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: Algorithm development.

Outcomes of the project: Anomaly prediction

Major Learning Outcomes: MATLAB

Brief Description of working environment, expectations from the company: Very relaxed. High quality work

Name: Sai Mahesh V

ID No: 2013AAPS205H

Student Write-up

Short Summary of work done during PS-II: Pre-Silicon verification in Modem Debugging.

Objectives of the project: Verify the system is working through software debugging.

Outcomes of the project: Knowledge on Mobile communications

Major Learning Outcomes: Knowledge on Mobile communications

Brief Description of working environment, expectations from the company: Working environment is good. They expect some knowledge on scripting languages.

Name: Ashish Anand

ID No: 2013A8PS396P

Student Write-up

Short Summary of work done during PS-II: Flotherm CFD simulations for wireless sensor network and MATLAB coding and Algorithms development for a GPS sensor network to cut data traffic and save energy. Invention disclosure form to be filed with my mentor Dr. Venkat Natarajan.

Tools used (Development tools - H/w, S/w): Flotherm, MATLAB

Objectives of the project: To reduce data traffic and energy consumption in a wireless sensor network.

Outcomes of the project: Data traffic cut by 20 times, ~90% energy conservation.

Major Learning Outcomes: Working of wireless sensor network, signal processing, CFD analysis

Details of papers/patents: Invention disclosure form to be filed.

Brief Description of working environment, expectations from the company: Working environment was good. People were helpful. Intel cared about us. Managers and mentors wanted results. Sometimes they asked us to stay home and work and just mail the results. Experience was excellent.

Name: *bharath kumar reddy*

ID No: 2013A3PS034H

Student Write-up

Short Summary of work done during PS-II: Designing 3d models for the sensors and bots

Tools used (Development tools - H/w, S/w): PTC Creo Parametric

Objectives of the project: To design 3d models.

Outcomes of the project: Learnt 3d designing and many other topics related to our project.

Major Learning Outcomes: 3D designing and how to communicate with my seniors and learnt a lot from them.

Brief Description of working environment, expectations from the company: Intel is a good place to work and the main expectation from them is you do something from them and also learn something that will be useful for your future before you leave.

Name: *Raahul Saxena*

ID No: 2013A8PS402H

Student Write-up

Short Summary of work done during PS-II: I learnt about Verilog designing in UNIX environment, after learning the basics of DSLDOs(Digitally Synthesizable Low Drop-out voltage regulators). I designed basic

flip-flop and a sequence detector in System Verilog and also made the test benches for them. Then, I read a lot of literature on Voltage regulators, linear and switching, various topologies and their advantages and disadvantages. After this, I studied about Dynamic comparators, their various characteristics and also designed a pre-amplifier based comparator in LTSpice 4 environment.

Tools used (Development tools - H/w, S/w): Verilog, System Verilog and LTSpice IV

Objectives of the project: To learn the basics of designing in System Verilog in UNIX environment and the functioning and architecture of dynamic comparators.

Outcomes of the project: Successfully designed a basic pre-amplifier based comparator in LTSpice IV. Also designed a Moore sequence detector in System Verilog with a test bench for verification.

Major Learning Outcomes: Learnt designing in Verilog and hardware designing in LTSpice IV. Also, learnt about voltage regulators and comparators, which are highly essential units in the wide world of analog electronics.

Brief Description of working environment, expectations from the company: The working environment was highly engaging and encouraging. I, as an intern, was never treated like a newcomer and the mentors were also never soft on me while assigning work. This helped me adapt myself to the working ethics and conditions of Intel, as a pioneer of the hardware and software industry. I was lucky enough to be exposed to various aspects of Intel, be it Software or Hardware. I assumed the role of a Verilog designer and also an analog engineer, having the best of tools at my disposal.

Name: *Kusuma Varun*

ID No: 2013A3PS381H

Student Write-up

Short Summary of work done during PS-II: SOC validation

Tools used (Development tools - H/w, S/w): System Verilog, OVM

Objectives of the project: To increase the efficiency of SOC validation.

Outcomes of the project: Successful creation of a repo.

Major Learning Outcomes: How validation of a SOC is carried out.

Brief Description of working environment, expectations from the company: Working environment was quite good but the work assigned will leave you wishing for more.

Name: *Yeluri Manikanta Sathwik*

ID No: 2013A8PS366P

Student Write-up

Short Summary of work done during PS-II: Studied the effects of power, area and timing when design constraints are varied for different blocks. Learnt different techniques to reduce power and area. Studied FEBE flow and Synthesis flow. The Scripting Language used is TCL. Understood the hierarchy in the manufacture of a Soc.

Tools used (Development tools - H/w, S/w): DC Compiler, FEBE Tools and Flows, RLS Tools and Flows

Objectives of the project: Study the effects on power, area and timing when frequency is varied and area and power is optimized, so as to create a best ideal block that runs at particular frequency with low power and area.

Outcomes of the project: Able to study the effects on power, performance and area on changing frequency, optimizing power and area of a functional synthesis block and able to suggest an idle block that runs perfectly at desired frequency with less power and area.

Major Learning Outcomes: I was able to see the effects on power, area and timing when design constraints are changed. I was able to study the techniques regarding power and area optimization and see its effects on power, area and timing.

Brief Description of working environment, expectations from the company: I was able to work on my project which is more towards my academics. Everything that i need is well documented in Intelpedia. My mentor and manager has been very helpful and cleared the stones that comes in my path. Regarding my work its completely related to digital design, Digital Verilog design. My mentor is asking me if there is any way to that I can continue my Internship for few more months.

Name: *Rishabh Mehra*

ID No: 2013A3PS118G

Student Write-up

Short Summary of work done during PS-II: The Bandgap Reference design and simulation data was presented. It is evident that the process, temperature, and line supply variations have been compensated to a great degree of accuracy to ensure stable and constant output voltage. The technique of Stage 2 of the circuit i.e. using summation and subtraction of gate source voltages in order to implement process-constant temperature modulation of the output voltage has been implemented in other designs, and is applicable in a wide range of circuits with varying specifications, sizes etc. Also, this circuit can be used to generate PTAT, CTAT, and CWT currents and can be simply and suitably modified to behave as a PVT-independent Current Reference. The lack of resistors and capacitors in the circuit are its key advantage, and the area of the circuit is minimal. It is for the aforementioned reasons that this circuit can be used in a wide range of applications to provide stable, constant voltage to components, being integrated on-chip itself.

Tools used (Development tools - H/w, S/w): Cadence Suite Virtuoso, Microsoft Visio

Objectives of the project: Design of a Low-quiescent current, Low area, PVT-independent Bandgap Reference

Outcomes of the project: The project was successful, and the circuit design was completed, and filed for a patent application.

Major Learning Outcomes: I learnt, in my time here at intel, a lot about Analog Circuit design and microelectronics. Also, I got my first hands-on experience with core microelectronics, and have come to enjoy working in this domain and field.

Details of papers/patents: The circuit was filed for a patent, pending.

Brief Description of working environment, expectations from the company: The working environment here at intel is very good, and so is the work culture. It is a safe, secure workspace, and the employees are very helpful and enthusiastic about helping one another out. At no time, did I feel like a newbie in this team. The people are focused on their work too, and my team delivers exceptional and innovative results on a regular basis.

Name: *Vaibhav Sachan*

ID No: 2013AAPS245H

Student Write-up

Short Summary of work done during PS-II: Design and modelling of VCO based CDR.

Tools used (Development tools - H/w, S/w): MATLAB / Simulink

Objectives of the project: To design a clock recovery circuit used in high speed data streams

Outcomes of the project: Recovery of clock to interpret the transmitted data

Major Learning Outcomes: Working of PLL, Bang Bang phase detector

Brief Description of working environment, expectations from the company: A really chill environment.

Name: *Rituparna Roychoudhury*

ID No: 2012B1A3737H

Student Write-up

Short Summary of work done during PS-II: I worked on Floor planning of SOC's at hierarchical and block level. It involved various processes like placement, routing, power planning, timing analysis etc. The physical layout planning of microprocessors is done in floor planning. I learnt how to do it and ran some experiments to understand utilization, timing etc.

Tools used (Development tools - H/w, S/w): synopsis tools

Objectives of the project: The objective was to understand how floor planning takes place and also to improve some aspects and parts of the plan based on knowledge gained.

Outcomes of the project: I was able to achieve a floor plan of a block with highest utilization and timing outcomes. This will be utilized by the organization in improving the placement of the macros on the block

Major Learning Outcomes: Floor planning using automated tools like those from synopsis. Deeper level of understanding of concepts like SoCs, placement of macros, timing, utilization, DRCs, power planning in SoCs, clock timing etc.

Brief Description of working environment, expectations from the company: The work environment is good. Intel has a lot of flexibility and a great infrastructure for working and learning.

Name: Sanika Phatak

ID No: 2012B1A8551G

Student Write-up

Short Summary of work done during PS-II: Signal Processing of the EEG and PPG signals. Small application of machine learning.

Tools used (Development tools - H/w, S/w): The languages used were PYTHON, MATLAB and C programming.

Objectives of the project: The objective of the project is to optimize the power utilization of the device. This is done by reducing the sampling rate of the LED used in the device.

Outcomes of the project: The project was successful. The sampling rate of the reduced 10 times.

Major Learning Outcomes: Signal Processing of the EEG and PPG signals. Small application of machine learning.

Details of papers/patents: IDF for patent of this project was filed to the organization

Brief Description of working environment, expectations from the company: Working in Intel was a very good experience. The mentors and managers were very helpful. They gave very good guidance. The work culture is easy going and very nice to work in. It keeps you motivated to work. The projects are very interesting and generate curiosity. I benefited a lot from this PS-2 experience.

Name: Shashank Gupta

ID No: 2012B5A8538G

Student Write-up

Short Summary of work done during PS-II: Worked on an algorithm to reduce motion artifact noise from measured bio-signals using adaptive noise cancellation technique. Got experience working with MATLAB, especially the digital signal processing toolbox.

Tools used (Development tools - H/w, S/w): MATLAB software

Objectives of the project: To design an algorithm to reduce motion artifact from bio-signals

Outcomes of the project: A working Least Mean Squares algorithm has been developed.

Major Learning Outcomes: Signal Processing using MATLAB

Brief Description of working environment, expectations from the company: Intel has a very good working culture, my mentor as well as the other employees working in the group were all very helpful. The project objectives were clearly outlined at the start of the internship, and all possible help was provided to help achieve the desired outcomes. The facilities at Intel campus like the cafeteria, recreational rooms, gymnasium are all very useful for relaxing after work.

Name: *Samay Pandaokar*

ID No: 2012B3A8594P

Student Write-up

Short Summary of work done during PS-II: Study of RTL front end flow/methodology. Study of scripting language (Perl and Tcl) for writing/analyzing configuration files and to implement automation.

Objectives of the project: Development of Automation of front-end tools/flow execution to optimize time.

Outcomes of the project: Automation developed was able to execute flow in considerably lesser amount of time.

Major Learning Outcomes: FE validation flows, PERL scripting,

Brief Description of working environment, expectations from the company: Excellent working environment. Provide good corporate services to its employees. friendly and polite colleagues, always ready to help. Managers/mentors are very supportive. No differentiation between employees and interns. Work load differs depending on teams you are allotted to.

Name: *ashutosh agrawala*

ID No: 2012A8PS359H

Student Write-up

Short Summary of work done during PS-II: Algorithm design of NLOS(non-line-of -sight) model for UWB(Ultra-wideband) based localization using extended Kalman filter(EKF). Integration of UWB based real time positioning system using decawave dw1000 UWB chip. UWB chip DW1000 as a distance ranging sensor and its application for communication purposes like Wifi,bluetooth.

Tools used (Development tools - H/w, S/w): eclipse

Objectives of the project: Algorithm design for handling NLOS condition in UWB based localization system.

Outcomes of the project: Algorithm coded in C++ and the algorithm to be integrated as an ip in the final product.

Major Learning Outcomes: Algorithm design, UWB radio technology,Extended kalman filter(EKF),Coding in C++.

Brief Description of working environment, expectations from the company: The work environment is pretty good in terms of the facilities for research but the work allocation was not really good. The PSD can actually get the info on actual projects happening there as it will be good for the students to decide based on that and the allocation of students to that station can be done based on their skillset.

Name: *Chintaparti Manoj Kumar*

ID No: 2012B4AA543H

Student Write-up

Short Summary of work done during PS-II: I have implemented automation on DP & HDMI 1.4 Compliance on C#. DP & HDMI compliance when done manually takes a lot of time and a lot of human effort is needed. Hence, by studying the entire manual procedure which is being followed for Compliance, I have developed a script to implement it on C#.

Tools used (Development tools - H/w, S/w): Agilent Logic Protocol analyzer(LPA), HDMI analyzer, DPR-100, DPR-120, C#

Objectives of the project: To develop scripts to implement automation on DP & HDMI Compliance using C#.

Outcomes of the project: DP automation has been successfully implemented. HDMI automation is 50% completed.

Major Learning Outcomes: C#, Basic hardware operations used for DP & HDMI Compliance.

Brief Description of working environment, expectations from the company: Working environment is very friendly and cool. Company gives a very great value & independence to its employees so that they can work at their best.

Name: Abhiram Reddy Gangasani

ID No: 2013AAPS196H

Student Write-up

Short Summary of work done during PS-II: Automated integration of all the Verilog and VHDL modules to form a top block which can be used for compilation and sanity checks. To do this we use a tool which runs in a Unix environment which is a PERL script. This tool automates most of the process and reduces a lot of manual work.

The project revolves around Formal verification using a tool called as jasper tool Formal verification is the act of proving or disproving the correctness of intended algorithms.XYZ chip has a module which will be verified using this tool. In jasper tool System Verilog assertions are uploaded to verify if the module is working correctly or not

Objectives of the project: AUTOMATED INTEGRATION OF MODULES AND FORMAL VERIFICATION USNG JASPER TOOL

Outcomes of the project: HELPS ME TO INTEGRATE AND VERIFY IF IT IS WORKING PROPERLY OR NOT.

Major Learning Outcomes: WORKING OF THE SEMICONDUCTOR INDUSTRY.

Brief Description of working environment, expectations from the company: GOOD ENVIRONMENT. FRIENDLY COLLEAGUES TO GUIDE US.

Name: Girajala Ramcharan

ID No: 2013A3PS249P

Student Write-up

Short Summary of work done during PS-II: I was allotted to project on energy efficient IoT Wireless Sensor Network(WSN) asset tracking system which involves monitoring various physical properties of assets. The main portion of the power consumed in WSN is due to sensing of the signals at large number of sensor nodes and transmitting those signals to receiver nodes. To process this huge data also requires a considerable amount of power. So, in order to prolong the battery life of sensors, advanced signal processing techniques are used to minimize the number of sensors active at a given time thereby reducing both sensing and transmission power.

Tools used (Development tools - H/w, S/w): MATLAB, CFD tools

Objectives of the project: To implement energy efficient IoT WSN with novel techniques of advanced signal processing.

Outcomes of the project: Implemented novel Compressive Sensing (CS) algorithms and Matrix Completion (MC) algorithm on different physical fields like temperature, humidity and GPS. These techniques reduced the power consumption and network traffic significantly.

Major Learning Outcomes: Learnt about advanced techniques of Signal processing (Compressive Sensing), image/signal compression and improved my understanding of Digital Signal Processing and MATLAB.

Details of papers/patents: Based on my work during internship my mentor in intel labs will be filing 3 invention disclosures which are confidential.

Brief Description of working environment, expectations from the company: The working environment here in intel is pleasant one. The relation among employees, research scientists and interns is quite good. People in all positions respect each other's views on the solution to the problems. New ideas are always encouraged.

Name: Parth Shah (2013A8PS443G)

Short Summary of work done during PS-II: I have worked in the Design for Test(DFT) team at Intel. It is the team sandwiched between the front end design team and the back end team. The work involves learning some system verilog and the Spyglass tool. It is basically adding functional design to the chip to make it easier to test in the later stages. I ran the tool on various partitions of the chip to improve its fault and test coverage which would eventually reduce testing time as well as the defects in the later stages.

Tools used (Development tools - H/w, S/w): Spyglass

Objectives of the project: Scan Chain analysis and coverage improvement for SoC design

Outcomes of the project: Test and Fault coverage was improved for various partitions of the chip

Major Learning Outcomes: Spyglass, System verilog

Brief Description of working environment, expectations from the company: Intel is a great company to work for. Being a big multinational with large number of employees it may be difficult to get work and help from seniors. You will have to keep asking them for help and work. Otherwise, it is a great company with lots of facilities, extra-curricular activities and really nice people. Working environment is relaxed and hours are flexible as long as you get your work done on time.

Name: Gaurav Vijay Vergiya (2013AAPS237H)

Short Summary of work done during PS-II: My work was in the design automation team which is a backend team. The work needs a few skills like scripting in Perl and running the design sweeps on different configurations. Backend has no concepts which have been studied at the B.tech level, but it's easy enough to pick up. The project was a research based one; to explore the underlying opportunities for making the ASIC design flow tunable to design inputs, and to study the convergence of design metrics using Principal Component analysis.

Tools used (Development tools - H/w, S/w): Perl, Unix, DC compiler, ICC compiler, Primetime, TCL

Objectives of the project: To make the ASIC flow tunable to design inputs and converge design metrics.

Outcomes of the project: Few design input tuning scopes were explored and the results were promising. The PCA analysis helped in finding important variables to make it easy for the design to do the tuning and achieve the Uber goal.

Major Learning Outcomes: Backend ASIC flow, Perl, TCL

Details of papers/patents: Publishing in progress: A paper on the PCA analysis experiment.

Brief Description of working environment, expectations from the company: The workplace is the best part of Intel, world class facilities, great food, free transport (BMTB bus pass and shuttle services). Several events. Over all, had an amazing experience.

Name: *Shreya Hans (2013A3PS310P)*

Short Summary of work done during PS-II: Analog mixed signal verification of the SoC sub-units(example : low dropout regulator). Verification of LDOs.

Tools used (Development tools - H/w, S/w): Cadence, Synopsys tool

Objectives of the project: To understand the power sequence of the power management systems and to learn the designing of LDO.

Outcomes of the project: Successful in booting up all the LDOs and reference generator block. Learnt the basic designing of LDO.

Major Learning Outcomes: Learned Power Management System of SoC.

Brief Description of working environment, expectations from the company: Intel is a very accommodative and easy-going working station. Very flexible working hours.

Name: *Prabhav Mehra (2012B1A3670G)*

Short Summary of work done during PS-II: Signal Processing and Statistical Model Development for BP estimation using various Bio-signals

Tools used (Development tools - H/w, S/w): MATLAB, C

Objectives of the project: Cuffless BP monitoring device development

Outcomes of the project: Clean Signal high S/N ratio and model developed

Major Learning Outcomes: MATLAB, C

Brief Description of working environment, expectations from the company: Good working environment, dedicated people. Division LABS specifically is quite a research oriented department and the learning here is immense.

PS-II Station: Nvidia Graphics, Bangalore

Mentor

Name: NANDAN TRIPATHI

Designation:Architecture Manager/ GPU Architecture Organization

The intern working with me was involved in a project to evaluate automation possibilities for triaging performance regressions. Her main tasks were to come up with infrastructure and scripts to create a databases of performance statistics collected during each regression run. And later she studied clustering algorithms that can be applied to determine regression buckets. She worked on automating parts of the fifo sizing flow. The main tasks were understanding the flow, figure out the parts requiring frequent manual intervention and then developing scripts to automate the execution of such parts.

Interns in general need to learn several things (e.g. scripting with perl/python, clustering, concepts of fifos as latency hiding components, basics of graphics processing and Nvidia's GPU pipeline) to execute the tasks assigned to her. They generally ramp up well and could execute and deliver in timely manner with a bit of guidance and monitoring that is expected to be provided to an intern.

Name: PRAVEEN KUMAR VENIGALLA

Designation: Sr ASIC Engineer, GPU-ASIC

The intern is dedicated and puts in effort to make progress on the task assigned. The intern needs quite a bit of hand holding and has long ramp up time. Now that the intern has spent enough time on HSHUB, productivity has improved but there is still scope of improvement.

Name: PRAVEEN SATHYANARAYANAN

Designation: Manager, DFT

DFT was a completely new field for the intern. He was willing and able to learn new things on his own with minimal help. He was eager and enthusiastic. He was able to learn enough skills to perform his tasks.

Name: REJEESH VIJAYAN

Designation: Senior Design Engineer , FCM

The intern has done an excellent work on the activities assigned to him such as macro leakage analysis, memory margining, test bench to check illegal memory access etc. His hard work, positive attitude and his capabilities on problem solving are well appreciated by his manager and mentor.

Name: WASIM AHMED

Designation: GPU ASIC Verification Engineer

The intern is very inquisitive, giving me a hard time with her good questions. She is diligent and completed all the work, which I had assigned to her, in time. She always looks out for opportunities to help me with my work and that makes her a good friend and a team player. It also shows her initiative to take up new work.

Faculty

NAME: BRAJABANDHU MISHRA

Comments: Expectations from industry:

Nvidia graphics banglore hw team deals with design, development and verification of nvidia graphics chips. The expertise required for the students intended to work here are following.

- a) Verilog
- b) VLSI Design
- c) VLSI Verification
- d) Computer Architecture

- e) C++
- f) Unix Shell Scripting and basic Unix Systems knowledge
- g) Perl
- h) Python
- i) TCL

Apart from these, students worked in the following will have added advantages.

- a) System Verilog
- b) System C
- e) VLSI Back-end technologies like Synthesis, Place and Route, Timing analysis etc
- f) Compilers
- g) Graphics and Multimedia

As soft-skills, students should exhibit following qualities.

- a) Hardworking
- b) Ready to learn (it is a default expectation from the students)
- c) Be proactive and ask questions without being shy
- d) Work with lesser supervision
- e) Efficient
- f) On-time status reporting

Student

Name: Keshav P Nair (2013A3PS236P)

Short Summary of work done during PS-II: The work was based on the entire unit verification and correction cycle for SATA unit used in NVIDIA Tegra chip. This included things like RTL design, Testbench, Verification, Regression, Synthesis and multiple levels of checks. It did not include much scripting or cliched programming but knowledge of Verilog and digital design rules are crucial.

Tools used (Development tools - H/w, S/w): Synopsis VCS, Cadence Spyglass, Multiple company-specific tools

Objectives of the project: Study and verification of SATA unit

Outcomes of the project: Improved and ensured the quality of unit SATA IP

Major Learning Outcomes: RTL design, Testbench, Verification, Regression, Synthesis, Netlist, Clock Domain Crossing, Design Rules

Brief Description of working environment, expectations from the company:The company is very intern-friendly, I was treated as an equal to regular employees, co-workers were extremely friendly and helpful. Work quality was on par with what was expected. All kinds of infrastructure and support was available from the start. The company provided free lunches and transportation facilities.

Name: *Rahul Sapre (2013A3PS229H)*

Short Summary of work done during PS-III was fortunate to be a part of multiple jobs conducted at various levels by Low Power Implementation & Verification Team. Some of my tasks involved implementing a new flow from scratch which required thorough analysis of peripheral file formats as well as the bigger picture around it. A few of my tasks added support to existing flows where care had to be taken that it wouldn't break the live build processes. My other tasks were to add functionalities to ease the process of reviewing, like outputting a color-coded Excel violation summary compared to a single error log file. Apart from that, understanding architect's perspective through comprehending functionality documents and translating them into design flow friendly formats was also a part of my work.

Tools used (Development tools - H/w, S/w): Basic UNIX, Perl, Microsoft Excel and other NVIDIA Proprietary Tools

Objectives of the project: Contribute to Low-Power ASIC Implementation and Verification Team

Outcomes of the project:As I was a part of multiple projects, I implemented some of the development flows from scratch, while in others, I improved speed and storage efficiency of existing development flows and added additional support to them.

Major Learning Outcomes: Low Power Architecture, SoC Design Flows, Programming Skills, UNIX Commands, Data Structures, Algorithms and Scripting

Brief Description of working environment, expectations from the company:The firm expects regularity in work as well as responsibility. I have never been differentiated as an intern against employee while assigning tasks, I have been equally responsible and answerable to the work produced by me. Such work ethics are key to NVIDIA. There should never be an extension against a deadline assigned unless one has consulted with senior members of the team. The working environment is extremely friendly. One can expect many tech-talks, health-awareness talks, etc. happening inside which is a great ice-breaker to meet and greet new people. Apart from that, one gets to work in a leading firm in its domain and with brilliant minds of the country. Lastly, being sincere and focused with the tasks assigned is also crucial. I would totally recommend NVIDIA for my junior batches.

Company: PS-II Station: Nvidia Graphics , Hyderabad

Faculty

Name: Vinay

Comments: Expectations from industry:

Knowledge of C, C++ is useful. Few projects demand knowledge on Networking & Driver design

Student

Name: Prajakta Joshi (2012B1A3846P)

Short Summary of work done during PS-II

1. Synthesis timing constraints generation in AUXP clusters. I learnt about different timing constraints type.
2. X-clamping for AUXP which is a very crucial task for DFT team to work smoothly. Here I learnt how to use Verilog and one in-house Perl+Verilog format used in NVidia.
3. Pearl scripting: Used for checking the verification probes and forces.
4. Unix commands and Shell scripting.

Tools used (Development tools - H/w, S/w): Verdi, Synopsis test grading tool

Objectives of the project: Synthesis timing constraint generation, DFT X clamping for AUXP

Outcomes of the project: Synthesis netlists generated via new formats

Major Learning Outcomes: Perl, Verdi, Synthesis tools,

Brief Description of working environment, expectations from the company: The work environment is very cool, helpful and does not put a lot of stress on the interns. They give you the complete ownership of the work and hence you become very responsible. The atmosphere in the company is very nice and everyone is willing to help each other.

Name: *Varshini (2013AAPS235H)*

Short Summary of work done during PS-II: Android Application Development

Tools used (Development tools - H/w, S/w): Java, Android development

Objectives of the project: Activities, services

Outcomes of the project: Activity and services which meet the required conditions

Major Learning Outcomes: Android Application Development, Java

Brief Description of working environment, expectations from the company: Good working environment.

Name: *Guntur Monica (2013A8PS869G)*

Short Summary of work done during PS-II: Worked on improving stability of Gamestream.

Tools used (Development tools - H/w, S/w): Perforce, Coverity, Visual Studio

Objectives of the project: To improve the stability of the code architecture and also the reliability of testing.

Outcomes of the project: Completed all the tasks assigned successfully.

Major Learning Outcomes: OOP, C++, Python

Brief Description of working environment, expectations from the company: Amazing work culture. teammates are really helpful. No fixed timings for work and a lot of perks.

Name: *Anshuman (2013A8PS360P)*

Short Summary of work done during PS-II: The work revolved around the verification of controllers. The task was to verify whether the requirements were met by the controllers or not.

Tools used (Development tools - H/w, S/w): CPP, OOP, Verdi

Objectives of the project: Verification of controllers

Outcomes of the project: The controllers were working as per the requirements.

Major Learning Outcomes: Got better insight into the structure of a system on chip.

Brief Description of working environment, expectations from the company: Nvidia has a very open and supportive atmosphere. The emphasis is on the results not the way you get it done. Very flexible timings.

Company: PS-II Station: Nvidia Graphics, Pune

Student

Name: Harsh (2012B5A3658H)

Short Summary of work done during PS-II: Nvidia is firm with infinite opportunities and provides you with a platform to apply your ideas and thoughts in your work. Work environment is pretty laid back. My work mainly involved developing an application that can be used by clients for enhancing their gaming experience and tweaking different system setting to improve experience with systems (laptop, PC, Multiscreen, etc.). Application development includes technology such as Angular Js, Node Script, Java Js, Webpack, P4 and Git. IT is a very dynamic, fast and high performance tool.

Tools used (Development tools - H/w, S/w): Git, Perforce, Atom, Visual Studio, CEF

Outcomes of the project: It is a very long project but during my tenure I added many features into my application.

Major Learning Outcomes: Technical expertise gained in Angular, HTML, CSS, Git, CEF, P4, NodeJs

Brief Description of working environment, expectations from the company: It's a company with a very open working culture, you can work from anywhere at no fixed work time, and infinite learning opportunities.

Name: Varun Raj Mahajan (2013A3PS292P)

Short Summary of work done during PS-II: I had to develop new test cases for the regression testing suite and enhance it by developing PSNR and SIM measuring techniques.

Tools used (Development tools - H/w, S/w): Microsoft Visual Studio, Windows debugger, Pycharm , Veracity Nxt.

Objectives of the project: Enhancement of the Nvidia regression test suite.

Outcomes of the project: Implemented the change, and it now shows the graphs of PSNR against Bitrates for easy understanding.

Major Learning Outcomes: I learned a lot about OOP, data structures and video codecs. Image processing was also a part of the project.

Brief Description of working environment, expectations from the company: Transparent work culture from CEO down to new college grad hires. Flexible timings, one easily work from home if needed, which helps balance work-life. Business doing exceedingly well. It's the next Apple in the making.

Name: Vivek Yadav (2013A7PS076H)

Short Summary of work done during PS-II: GPU drivers undergo Sanity Testing before any further rigorous testing is done to check the feasibility of such tests. Each subsystem of the driver has its own set of tests which need to be closely tracked for any inaccuracies and misappropriations. This tracking needs to be automated to reduce the amount of manual labor required in keeping track of all these tests.

Objectives of the project: Improvement of organizational efficiency

Outcomes of the project: The project helped the organization automate a major part of their Sanity workflow thus reducing the number of man hours spent on the same. It also made the sanity health information readily available to upper management levels.

Major Learning Outcomes: After completing my Practice School II training, I had been exposed to an IT technician and programmer working life. Throughout my internship, I could understand more about the definition of an IT technician and programmer and prepare myself to become a responsible and innovative technician and programmer in future. Along my training period, I realize that observation is a main element to find out the root cause of a problem. Not only for my project but daily activities too. During my project, I cooperate with my colleagues and operators to determine the problems.

Moreover, the project indirectly helps me to learn independently, discipline myself, be considerate/patient, self-trust, take initiative and the ability to solve problems. Besides, my communication skills are strengthening as well when communicating with others. During my training period, I have received criticism and advice from engineers and technician when mistakes were made. However, those advices are useful guidance for me to change myself and avoid myself making the same mistakes again.

Brief Description of working environment, expectations from the company: NVIDIA has a very transparent and open work culture across all levels of management and treats interns like any other employee. NVIDIA has a very strong and charismatic leader in Jensen Huang; he is hugely popular throughout the company. Flexible timings, easily work from home if needed, helps balance work life. Overall it is a great learning experience with sharp people around. Work moves at a fast pace and sometimes gets a bit too much to handle.

Name: Prachi Agrawal (2013A3PS239P)

Short Summary of work done during PS-II: Nvidia is popularly known for its line of GPUs for the gaming market, as well as system on a chip units (SOCs) for the mobile computing and automotive market. One of the GPU micro-architecture produced by Nvidia is Fermi .

This project gave a basic insight of Nvidia Graphics, its products and DirectX team; Coverity, structure of Registry key and test automation. The project was majorly based on software Coverity which is used for static analysis to find defects in early staging of development so that no failures are caught after the releases. The kind of defects found, Coverity checkers, and its status automation were the key points I worked on. I also worked on Register Key which is like a file folder existing in Windows registry and is an internal database the computer uses to store configuration information.

Tools used (Development tools - H/w, S/w): Coverity, Perforce, test tools

Objectives of the project: Coverity Automation Improvements

Outcomes of the project: Almost every status generated by Coverity has been automated.

Major Learning Outcomes: Working in Nvidia has given me an in-sight of how multi-national companies work. Working here has taught me team-work and professionalism.

My project helped me learn the software Coverity. I have worked on Python scripts, Perforce command lines and C++. I have gained an understanding of several Testing tools, how are these tests written and Microsoft structures.

Brief Description of working environment, expectations from the company: Working environment is quite healthy. Everyone is friendly and helpful and encourage you to work on your shortcomings. Timings are flexible. They just expect you to complete your work on time. They even took us out on a trip.

Name: Vandit Desai (2013A8PS382G)

Short Summary of work done during PS-II: Worked on the NVIDIA Linux Device Driver. C Programming & basic knowledge of operating systems was required. Learnt Shell scripting while working. Worked on 2

security issues. One of them was a vulnerability, and the other was an enhancement. Wrote a test script for testing a specific bug.

Tools used (Development tools - H/w, S/w): Perforce, Visual Studio, GDB

Objectives of the project: Linux-specific enhancements of the NVIDIA Device driver

Outcomes of the project: Fixed one security vulnerability, added one security enhancement, added one test script for a specific test case.

Major Learning Outcomes: Understood concepts of operating systems, Memory management in C programs, working with a large code base, Shell scripting, etc.

Brief Description of working environment, expectations from the company: The working environment is very conducive to learning, brilliant and helpful colleagues, good company culture.

Name: *Shreya (2013A8PS378P)*

Short Summary of work done during PS-II: I worked on creating infrastructure for Simulation of GPU using Virtual Platform. Bash and Windows batch files were created to support submissions of various test by various teams. It provided an automated simulation (of GPU) platform for various teams to run their tests on emulated GPU. Secondly, I worked on enhancements on current Driver Validation System, I added various features using Bash and also moved support to new virtualization versions. It required working on makefiles and C codes.

Tools used (Development tools - H/w, S/w): Perforce, Win Debugger, VSPE

Objectives of the project: Simulation of GPU

Outcomes of the project: The platform is used by all teams to run their tests on simulated GPU before hardware testing. It helped to find out loopholes in chip development before hardware tapeout phase.

Major Learning Outcomes: Operating Systems, C, C++, Bash scripting, Makefiles, Kernel debugging

Brief Description of working environment, expectations from the company: NVIDIA has good working environment where they focus not just on providing good workspace and tools but also on recreation of employees. Proper mentorship is provided initially which speedups the work flow later.

Name: *Aakarsh Shukla (2013A3PS162G)*

Short Summary of work done during PS-II: The work was to provide shared library support to APIs across platforms i.e MacOSx, Windows, Linux, and also to ensure the ported APIs are not visible to the end user.

Tools used (Development tools - H/w, S/w): Perforce, Visual Studio

Objectives of the project: Shared Library Support to APIs

Outcomes of the project: A static library using wrapper functions was made along with the dynamic library containing the source codes.

Major Learning Outcomes: Library linking, C++ source coding, RM calls handling

Brief Description of working environment, expectations from the company: The working environment is really good, teams help you in the initial phase though later on you need to show initiative to get the work and get it done as well. Company did provide us a lot of benefits and flexible working hours hence it was a really good experience.

Company: PS-II Station: Nvidia Graphics -Software division, Bangalore

Mentor

NAME: RAGHAVENDRA V K

Designation: Manager, Embedded System Software

Candidate showed great enthusiasm in learning new stuff. Candidate could communicate well with senior members within and outside the team. Candidate ensured deadline for a given task were met. Apart from on the job learning, candidate focused on learning some of the related topics.

NAME: ALAP PATEL

Designation: ASIC Engineer, Tegra-HW

The intern was given tasks to port the Verilog Testbench (VTB) assertions (provided by Synopsys along with Core) to PCIe unit Testbench (TB).

During the internship, the intern got familiarize with Perl scripts, Linux, Perforce (Version tracking SW), SV-UVM assertions, Nvidia work infrastructure, Verdi (Debug tool) and regression flow. He also developed understanding of PCIe specification and equalization needs and process to some extent

which could just meet the work-related requirements.

Top 3 Strengths of the intern (based on the project experience) :

- o Quick learner on build flow/Perforce/regressions
- o Meets expectation with technical skills Perl/SV-UVM
- o Sincere, hard-working and exhibits good discipline

Top 3 development areas (based on the project experience):

- o Effective reading
 - o Communication skills: verbal as well as written
 - o Debugging skills
-

Name: RAGHAVENDRA V K

Designation: Manager, Embedded System Software

Candidate showed great enthusiasm in learning new stuff. Could communicate well with senior members within and outside the team. Candidate ensured deadline for a given task were met. Apart from on the job learning, candidate focused on learning some of the related topics. Candidate worked fairly independently & could comprehend complexity of the software to debug issues.

Name: SUMEET GUPTA

Designation: Manager, System Software

The intern working with me, is an enthusiastic learner, a kick-starter, and self-driven engineer. He understood the project he had to work on, and what was required from him very quickly, and started delivering good quality artifacts.

He also clearly communicates his view point, and writes clear and well formatted emails.

He hasn't taken Operating Systems courses, so that's an area where he needs to improve his knowledge.

I'm glad to have had him as my intern.

Faculty

Name: BRAJABANDHU MISHRA

Comments: Expectations from industry:

NVIDIA Graphics Bangalore SW team deals with design, development and verification Automotive Software using NVIDIA Chips (like ADAS, Infotainment etc). The expertise required for the students intended to work here are following.

- a) The student MUST have done some projects involving sufficient amount of coding**
- b) Advanced C Programming**
- c) Data Structure**
- d) C++**
- e) Unix/Linux Shell Scripting**

- f) Operating System**
- g) Embedded Linux Internals (including the build systems)**
- h) Image Processing**
- i) Multimedia Processing**
- j) Computer Graphics**
- k) Software Engineering**

Apart from these, students worked in the following will have added advantages.

- a) Python**
- b) Perl**
- e) Machine Learning**
- f) Compilers**
- g) Computer Architecture**
- h) Bootloaders**
- i) Linux Build Systems**
- j) Coverity**
- k) GStreamer**

As soft-skills, students should exhibit following qualities.

- a) Hardworking**
 - b) Ready to learn (it is a default expectation from the students)**
 - c) Be proactive and ask questions without being shy**
 - d) Work with lesser supervision**
 - e) Efficient**
 - f) On-time status reporting**
 - g) Disciplined**
-

Student

Name: Sakaar Khurana (2013A8PS354P)

Short Summary of work done during PS-II: The project involves use of multiple analysis tools like Coverity, Tessa and LDRA for MISRA-C compliance, unit testing and static code analysis. The task of removing MISRA-C violations was carried out in order to reduce the no. of violations in bootloader files. The second part of the project involved the development of a safety diagnostics software. As part of that the study and software implementation of Watchdog Timer was carried out. This was done by creating APIs for testing the various features of the timer. In order to debug an error in Watchdog Timer reset, Lauterbach debugger was used. This required a detailed understanding of the debugger's functioning and scripting of CMM files.

Tools used (Development tools - H/w, S/w): Coverity, Tessa, LDRA, Lauterbach

Objectives of the project: To understand functionality of Coverity, MISRA compliance and Safety software system for autonomous driving systems.

Fix MISRA violations in bootloader files.

Test Tessa tool for unit testing and evaluate its performance and features.

Use LDRA for static analysis and generate violations report.

Understand and test the features of Watchdog Timers used in safety diagnostics software.

Outcomes of the project: Fixed MISRA violations in bootloader files and pushed changes for review and merge Presented functionality of IVC and HSM to safety diagnostics team.

Major Learning Outcomes: Learned how to do static code analysis and implement drivers

Brief Description of working environment, expectations from the company: Excellent work environment with helpful employees and a calm, comfortable work floor.

Name: Priyanshu Sharma (2013A8PS471H)

Short Summary of work done during PS-II: Porting of GENIVI in the existing Root file system

Tools used (Development tools - H/w, S/w): Git, Yocto

Objectives of the project: Upgradation of the existing version of the Genivi

Outcomes of the project: The porting was done for genivi and built a deployment-ready root filesystem

Major Learning Outcomes: Yocto Project, Git, OS, C, C++

Brief Description of working environment, expectations from the company: The working environment in the company was really supportive. The work assigned to me was completely new to me which required a lot of efforts to ramp up and learn. The learning of the Yocto was done through online documentations and experimenting. The PS gave me an opportunity to learn Yocto thoroughly.

Name: Shrayan Chanda Barman (2013A3PS330P)

Short Summary of work done during PS-II: I worked in the System Software team on the Tegra Golden Value (TGV) Project, which is a Golden Registers Toolset for production settings verification for a board. Golden registers is the set of registers which will affect the functionality of the system and so must be set to a known good value provided by qualification team. I developed the Python Host side tool for fetching data from Web App Server via REST API query and implemented algorithms to process the data and make relevant CSV files for board verification. I learnt a lot about industry practices in software tool coding and many python modules while developing the tool. It was exhilarating to see other people use a tool you made and maintain the tool to comply with newer needs and specifications. I worked on C based Target side tool which handles the process of getting values in registers for verification, working on supporting newer chips. Finally I developed auto-import tools which used Hardware Specification files to develop CSV containing records of registers. I worked closely with ASIC hardware team on this to process useful data from specification files. The whole experience improved my knowledge in embedded systems significantly as I learned about different interfaces I/O interfaces and their development cycle.

Tools used (Development tools - H/w, S/w): I used Python to mainly code the Host side tools and C to work on the target side tools. I worked using the GIT version control system and Perforce revision control system. I tracked my task using JIRA, a tool for agile software development.

Objectives of the project: The objective of the project was to develop the toolset with following objectives:

1. TGV toolset should be OS and Platform agnostic as far as possible.
2. TGV toolset should be fetching the GR data from the centralized web-server
3. TGV toolset should be doing GR verification at different boot stages.
4. TGV toolset should give ability to verify all GRs on a system that has multiple Virtual Machines running over hypervisor.

Outcomes of the project: The Tegra Golden Value Phase 2 project involved enhancing the tools for fetching, handling, processing and verification of Golden Registers on the target board. Developed a Host python tool which uses REST API queries to fetch JSON data and uses DTB to output required CSV files and a Target C tool is used on Target board to read registers using a small co-processor on the target. Created auto-import tools for importing registers to a database of registers via various levels of qualification and value modification.

Major Learning Outcomes: This project helped me learn about different I/O interfaces and their modes of operation. This project has given a very good understanding of how things work in the industry and has given a glimpse of what my career could be in this field. I have interacted with a lot of people in the course of my project and it has helped me broaden my knowledge base.

Brief Description of working environment, expectations from the company: The working environment is flexible and friendly, so we can work at our own time as long as we meet deadlines. The company expects dedication towards working, retrospecting and improving ourselves, handling priority work when required.

Name: *Chaluvadi Anveshitha (2013AAPS282H)*

Short Summary of work done during PS-II: Three partitions of place and route were handled by me as a part of my project. Going through them and understanding the modeling and doing trials to optimize them w.r.t timing.

Tools used (Development tools - H/w, S/w): ICC2

Objectives of the project: To check and solve the issues related to timing and routing in the partitions w.r.t place and route.

Outcomes of the project: Timing and routing clean partitions by the end of the project

Major Learning Outcomes: Working with ICC2, Layout designing, Power related terminologies, Flow in physical design.

Brief Description of working environment, expectations from the company: The company expects you to work with interest than working for a result alone. They expect us to maintain clarity over the basics and strengthen them and understand their application.

Name: *KMK Praveen Kumar (2012B3AA595H)*

Short Summary of work done during PS-II: First I did the study of various device phenomenon basics focusing on temperature inversion and sub threshold slope. During the device study I worked extensively on HSPICE. Then I worked on Verilog HDL. The objective of my work was to write Verilog code so as to intentionally trigger all possible collisions and clobber conditions in the RAM macro and see that appropriate assertions (warnings) are fired in each case. I wrote the Perl script that plucks out the value of power consumed by the subcircuits from the .power file generated from the xa run.

Tools used (Development tools - H/w, S/w): HSPICE, Perl, Cadence Virtuoso, Verilog HDL

Objectives of the project: 1) Check whether all assertions are being fired correctly in the RAM macro. 2) Do margin measurements (race conditions) and debug violations.

Outcomes of the project: All assertions were successfully checked. A total of 51 assertions were fired and verified. Margin measurements of the ram were done. About 80% of debugging was done.

Major Learning Outcomes: I was exposed to various industry standard tools used like HSPICE, Cadence virtuoso software and Verilog HDL. Along with these I also learnt a lot of things used day to day in VLSI field (like UNIX, Perl). Working here has also strengthened my circuit basics.

Brief Description of working environment, expectations from the company: Overall, it has been a good exposure. I got insight on how technology driven company like NVIDIA works. The team with which I worked was good. The work was tough, exhaustive and challenging. Work culture of the company was excellent. I realized the importance of doing things in a systematic and organized way.

Name: *Vishal Shah (2013A3PS266H)*

Short Summary of work done during PS-II: This project deals with performance modeling of Boot process by evaluating the latency of various events involved in the process through an Excel model which helps analyzing the KPI (Key Performance Indicators) which are essential to be met and plays a key role in performance of the chip. This project involved analysis of the use cases required by the platform and prediction of the frequency requirements of various IPs as per the targets set by the use cases and to find the optimal set of parameters by running synthesis on those targets which would result in maximum power savings of the SOC.

It involves a basic knowledge of System C and scripting in various platforms such as Python, Perl, Excel and a good knowledge of Excel functions and tools along with various software to get all the relevant parameters fetched and integrated into the Boot Performance Excel Model.

Tools used (Development tools - H/w, S/w): Python, Perl, System C, Synopsys Synthesis Tool, Simulator, Excel Tools and VBA Script

Objectives of the project: Enhancement of Boot SOC Performance Model

Outcomes of the project: Model integrating the simulation data for the Boot operations to provide a correlation with the softwares running on the actual silicon chip.

Major Learning Outcomes: Python, Boot Architecture, Excel Tools and VBA scripting

Brief Description of working environment, expectations from the company: Working Environment in the organisation is awesome, you can expect work which is on a working project or which will be used to automate a particular set of tasks in the team, the expectations from the interns is not very high, and they provide enough time to ramp up on the courses used for the project and do not pressurize interns for deadlines of the tasks of the projects. Managers and Mentors are supportive and helping.

Name: *Shubham Jain (2013A3PS261P)*

Short Summary of work done during PS-II: I worked on two different projects, first was on developing a non-intrusive real time car driver drowsiness detection system, using deep learning. The second was to add functionalities to qnx CAN (controller area network) driver.

Tools used (Development tools - H/w, S/w): Caffe

Objectives of the project: 1. To develop a prototype drowsiness detection system using deep learning.
2. To add missing functionalities to qnx CAN (controller area network) driver.

Outcomes of the project: 1. Successfully developed a prototype, detecting drowsiness in real time.
2. Successfully added functionalities to qnx CAN driver.

Major Learning Outcomes: Improvement in programming skills, learned deep learning and its application.

Brief Description of working environment, expectations from the company: Interns work together with regular employees, questions are encouraged and someone will be always present to clear your doubts. For software division, good C programming skills and basic knowledge of operating systems is expected from interns.

Name: *Priyanshi Verma (2013AAPS276H)*

Short Summary of work done during PS-II: Work included resolving the bugs faced while running tests, Scan insertion process or cad tools enhancement.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: solving bugs faced in the DFT process

Outcomes of the project: Solved bugs (enhancement of the process) and successful runs/launching of the chiplet.

Major Learning Outcomes: Unix, Scan Flow, TLC

Brief Description of working environment, expectations from the company: working environment is good. Team is supportive and the doubts are cleared.

Name: Maneesha Korrapati (2013A3PS342H)

Short Summary of work done during PS-II: Adding the backdoor feature to the compressed surfaces during CRC check. As of now the compressed surfaces cannot be accessed backdoor as the CPU doesn't understand the compression. So CPU sends the access frontdoor (through GPU) to get the required data which is time consuming. The backdoor feature reads the data from DRAM and sends the data directly to CPU which decreases the simulation time. Implemented the backdoor feature using mostly the already existing standard functions so the feature doesn't vary with chip configurations.

Tools used (Development tools - H/w, S/w): C++ , Unix

Objectives of the project: To decrease the simulation time during CRC checks

Outcomes of the project: How Compression works, C++

Major Learning Outcomes: Improvement in programming skills, learned deep learning and its application.

Brief Description of working environment, expectations from the company: Good learning experience. Friendly environment. Manager, Mentor and Team members were very supportive and helpful.

Name: Surabhi Adarkar (2013A8PS503G)

Short Summary of work done during PS-II: This project involves validation of the processor extension of NVIDIA's CPU, Denver. Validation is the process of evaluating the final product to check whether the processor design meets the user's needs. This is done by the Validation Team by using tools like the Architecture Validation Suite, consisting of various tests and simulators to get a sense of how the execution will happen and debug in case of any failures. The project involved automating the current methods of Validation and also implementing ARM features in the NVIDIA Simulator, ASIM. The project needed knowledge of Computer Architecture, mainly the ARM Architecture and ISA, C Programming, Scripting, and Assembly Language Programming.

Tools used (Development tools - H/w, S/w): Python, Perl, Shell Scripting, C Programming, Assembly Language Programming, Architecture Validation Suite, ARM Emulator (AEM), NVIDIA Architecture and Microarchitecture Simulators

Objectives of the project: Automation of the validation process & implementation of the ARM64 ISA on NVIDIA's Architecture Simulator

Outcomes of the project: Scripts to automate the debugging process complete and currently in use by the validation team. Implemented numerous parts of the ARM64 ISA especially the Floating-point and Advanced SIMD Instruction Set.

Major Learning Outcomes: ARM architecture, proficiency in architecture simulations and modeling

Brief Description of working environment, expectations from the company: Working environment is great. Even interns are given a chance to contribute to live projects. There is no pressure or deadline to complete the work from the mentors and manager. The whole team takes active involvement in ramping up after joining, and enough time and training is provided before giving the project work. Overall, the environment is extremely helpful and supportive with great opportunities to gain knowledge.

Name: *Moturi Abhishek (2013AAPS232H)*

Short Summary of work done during PS-II: Project involved developing verification infrastructure to validate the DFD mechanism exercised via Jtag accesses. Developing Perl scripts to run the tests. Developing new tests using system C.

Tools used (Development tools - H/w, S/w): Synopsis Verification tools

Objectives of the project: Understanding the Design for debug unit's architecture and functionality. Developing the required verification infrastructure.

Outcomes of the project: Clear understanding of design for debug unit's architecture and functionality. Good idea of verification mechanism.

Major Learning Outcomes: Good idea of Design for debug unit's architecture and functionality and it's importance in complex SoC's .

Brief Description of working environment, expectations from the company: Very good work environment with more flexibility. People are really supportive. It would be better if there could be some initial training regarding unit's architecture.

Name: *Shravya M (2012B5A8478H)*

Short Summary of work done during PS-II: The work done at Nvidia during PS2 included a hands-on experience of unit level verification. It included running testlists for checking the functionality of the unit as well as to ensure sufficient code coverage. It also included understanding some of the common errors

encountered during gate level simulations and correcting them. Lastly, the power utilization numbers for the unit were corrected.

Tools used (Development tools - H/w, S/w): Synopsis verdi.

Objectives of the project: The objective of the project is to run various testlists for functional verification of the unit and for code coverage. The project also requires understanding and the correction of cross module reference resolution errors, and power utilization numbers.

Outcomes of the project: By the end of the project, an overview of unit level verification and the various intricacies involved in it was obtained. An overall idea of code coverage, its importance and the methods used to get it high enough was obtained, both through theoretical reading as well as practically, by working with the team here at Nvidia. Cross module reference resolution errors and power utilization numbers were cleaned up.

Major Learning Outcomes: The major learning outcomes from the internship include getting a working knowledge of running testlists for functionality check and coverage and working with Verdi for debugging tests. Needless to say, knowledge of languages like Perl, C++, Verilog and Shell scripting was also furthered.

Brief Description of working environment, expectations from the company: The working environment at Nvidia is very supportive, comfortable and flexible. The company expects the interns to have sufficient knowledge of Perl, C++ and/or Verilog. Some teams might require the interns to have a knowledge of VLSI and/or Digital design. Instead of beginning from scratch after joining the company, it would serve well to have a knowledge of these topics beforehand. The interns are expected to be as responsible as full time employees, and therefore to have a maximum learning experience, it is important to be sincere and to know the best methods to get work done efficiently.

Name: J Dipika (2013A3PS331P)

Short Summary of work done during PS-II: Write tests to verify Distributed Virtual Memory transactions

Tools used (Development tools - H/w, S/w): NVIDIA Proprietary tool, PERL

Objectives of the project: Verification of DVM Transactions in ARM multi-cluster CPU systems

Outcomes of the project: Implementation & verification of various scenarios in DVM tests

Major Learning Outcomes: Concepts related to Computer Architecture, Operating Systems.

Brief Description of working environment, expectations from the company: Helpful team mates with a strong team spirit and a highly encouraging manager. Training sessions are held by team members on various topics which helps to learn things faster. Flexible working environment.

Name: Rachit Kumar (2013A8PS443P)

Short Summary of work done during PS-II: My task was to make improvements in an existing "Calibration tool" within NVIDIA's ADAS suite. To do that I first read through the whole source code and

made some suggestions. I implemented them and the improvements evolved with time. To increase the usability for the end-user I made an Android app that controlled certain segments of the tool.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: To improve the Calibration Tool in NVIDIA's ADAS suite

Outcomes of the project: I implemented all the suggestions that I made for the improvement

Major Learning Outcomes: I got familiar with Qt and OpenCV application development. I even got a lot of experience in Android app development.

Brief Description of working environment, expectations from the company: The working environment of the NVIDIA is great. Everyone including the team mates , the manager, other employees were very helpful during the whole course of the PS - II . The project was adapted to my skill levels and I was given sufficient learning time whenever there was a need. The company expects proper experience in programming in languages like C++ and one should be clear in concepts of the Operating Systems and as I said that the people there are great so no one can have any problem adapting to the work environment there.

Name: Manish Chandra (2013A8PS523H)

Short Summary of work done during PS-II: I mainly worked on equalization. My work was to write equalization checkers for Gen3/4 Controller in both modes FOM and DIR. Some of the test scenarios were to check transmitter coefficients, LTSSM entry-exit condition and etc.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: Write Equalization checkers for Gen3/4 Controller

Outcomes of the project: Equalization checkers written and verified.

Major Learning Outcomes: I learned Perl Script, UVM and how to write System Verilog assertions.

Brief Description of working environment, expectations from the company: People in Nvidia are very helpful and friendly. They always clear the doubts in most efficient way possible.

Name: Kondreddi Sri Rama Harsha (2013AAPS201H)

Short Summary of work done during PS-II: Image Creation where a system software stack is used to convert it into a form that can be flashed on an embedded device. This Image is put in NOR Flash memory of the device, where the device boots from.

Tools used (Development tools - H/w, S/w): Shell scripting, C, Embedded Boot Flow

Objectives of the project: Optimizing the image creation process

Outcomes of the project: Automated Image Creation Process for all the older and new projects for the customers

Major Learning Outcomes: Shell scripting, Embedded boot flow.

Brief Description of working environment, expectations from the company: Cool working environment. Managers expect you to be extremely good with OS concepts. By extremely good, I mean dig deep into everything.

Name: Bhavya Digumarthy (2013AAPS251H)

Short Summary of work done during PS-II: I worked in the Multimedia team. My work dealt with video processing using a multi-threaded pipeline based framework GStreamer. Initially I was asked to construct pipelines on x86 and tegra for achieving support of subtitles over a playback video. This helped me understand how various plugins function and the flow of video processing. Then slowly I moved on to Adding Subtitle Support for Nvidia Gstreamer Plugins. I have reached the target by compositing subtitles over the playback progressive video. I have learnt a lot in this process and being novice in the Corporate Setup, NVIDIA gave me an all together amazing experience. It also bred in me the interest and motivation to continue in this field.

Tools used (Development tools - H/w, S/w): C Language

Objectives of the project: Adding Subtitle Support

Outcomes of the project: Adding Subtitle Support

Major Learning Outcomes: 1. Understanding Video Processing

2. Appreciating GStreamer

3. Improving Coding Skills(in C)

Brief Description of working environment, expectations from the company: The working environment in my team is really good in the sense that I was never pressurized to do the work which I was given. I was given sufficient time to learn and understand and then proceed to executing the task. My manager and mentor have been extremely helpful throughout my project. My manager, being an expert in GStreamer, gave me very good guidance and understanding of things apart from letting me explore things that I needed to. The expectations from their side was completion of my project in the given time.

Name: Apoorv Sharma (2012B1AA945H)

Short Summary of work done during PS-II: The work primarily deals with Video Processing. Being a part of automotive multimedia department, I have worked on the video feed from cameras installed in self driven cars. My work involved study of images, the modes of capture, storage of data and conversion of image formats.

I worked on an application that renders videos on the screen and also helps adjust the brightness of the video on the go (run time) using various libraries specific to Nvidia. The basic algorithm used for contrast

enhancement was histogram equalization. Overall, the work was related to videos and debugging various problems on the way while processing, like dealing with colour conversion problem or latency issues.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: The main objective was to come up with an NvMedia specific application to decode and display the videos with some processing and added run time features.

Outcomes of the project: The outcome was development of an application to perform video processing (both post processing and run time feature modification).

Major Learning Outcomes: The major outcomes include learning the process of image capture, the flow of data from the camera to the screen, use of specific tools to pass on image frames from one process to the other and data storage and compilation.

Brief Description of working environment, expectations from the company: The work environment at Nvidia is one of the best in corporate world. It gives a pseudo-startup like feel. The employees are well taken care of, financially and physically. The level of flexibility is unparalleled. The work from home concept eases the stress levels, the additional benefits provided ensure a loyal employee-company relationship.

The workplace setup also instills a feel of equality. The managers can be found sitting in similar cubes as the engineers. The team building activities (be it team lunch / dinner) or department trips ensure a healthy bond and friendly relation with peers and seniors alike.

The company meets all kinds of expectations one can have from a setup like Nvidia. The only thing that the company can improve upon (especially for new hires or interns) is a mini training program before being put to the main projects. There are various things here, which any outsider would not be familiar with. So coming into the main setup before any prior training can be off-putting in the initial months. A small training session to familiarize the person with the work will be of great help and it is never a bad thing to have an upper level picture of what is expected of us when we really get down to work.

Name: *Chinmayee Bhamburkar (2012B2A8649P)*

Short Summary of work done during PS-II: Driver unification and Certifying Display and GPU driver code for Functional Safety in Automotive Self-Drive Road Vehicles

Tools used (Development tools - H/w, S/w): Coverity

Objectives of the project: ISO 26262, MISRA C compliant source code

Outcomes of the project: Successful scan and analysis of Violations generated by the tools of Analysis. To introduce the fix in the source code.

Major Learning Outcomes: Git, Python scripting, Coverity, OS concepts

Brief Description of working environment, expectations from the company: Great working environment, good work, best place to start as s/w developer.

Name: *Tanmay Jain (2013A3PS311H)*

Short Summary of work done during PS-II: I was a part of the DFT scan team. We design testability features for the chip which help in its post-production testing. My work mainly was to assist my mentor on a project which was about optimization of faults for improving test coverage and test cycle count. The work also included making scripts for post processing the log files of the test runs that we did. Towards the end I was also a part of another project in which focused on running a quality analysis regression on every new codec logic and see whether the violations could be identified there itself which would save a lot of time.

Tools used (Development tools - H/w, S/w): Max(synopsys), Verdi(synopsys)

Objectives of the project: Fault optimization for coverage and test cycle improvement

Outcomes of the project: The work is still in progress, we've made developments in terms of identifying causes of the issues. The scripting work is complete.

Major Learning Outcomes: Design for testability, scan methodology, Tcl, PERL, ability to communicate

Brief Description of working environment, expectations from the company: The work culture of Nvidia is extremely good. People are helping in nature and it is easy to reach out to anyone. The hierarchy is not a strict one so it is easy to communicate at almost every level. There are enough facilities for the employees not just within office but also beyond that. There are even cultural and sports clubs for recreational interests which I think is really cool. The cafeteria has good food quality, definitely better than our college. Overall its an amazing experience working here but ultimately the learning part is up to you. Remember that you'll have to reach out and ask. Don't wait. Engage yourself and keep learning.

Name: *Krishnaprasad (2013A8PS519H)*

Short Summary of work done during PS-II: Involved in verification activities of Safety Verification Team. Owned complete functional coverage flow for various safety units and developed a script based formal tool to verify safety module connectivity.

Tools used (Development tools - H/w, S/w): Perl, TCL, Synopsys Verdi Debug, Cadence Jasper Gold Formal Tool

Objectives of the project: Contribute to deliverables of Safety Verification team.

Outcomes of the project: Developed a script based formal tool to verify unit connectivity and owned complete functional verification flow for safety units.

Major Learning Outcomes: Learnt about functional safety, ISO 26262, SOC Protocols, Formal tools, Debug tools, Functional Coverage, and scripting. Gained a deep understanding of the architecture and design of safety units being deployed in NVIDIA's upcoming ADAS SOC -Xavier.

Brief Description of working environment, expectations from the company: Great place to learn new things and apply your knowledge. Work environment is very flexible and you are held to the same standards as full time employees. I highly recommended NVIDIA, Bangalore (hardware) if you are passionate about VLSI and are willing to put in the effort. Had a lot of fun and learned a great deal during my time here!

Name: *Aparna Kumari (2013A3PS264H)*

Short Summary of work done during PS-II: I worked in the GPU Performance verification team. My main project was automation regression triage using machine learning. Regression triage is the process of identifying the reason for a change in performance. I created an infrastructure to parse out the necessary data from the voluminous regression directory and create a CSV database out of it. This data was then used to attempt clustering approaches in order to cluster regression bugs.

My other project was to write a program which automatically parses out the important variables from the specification files saving considerable manual effort and time.

Tools used (Development tools - H/w, S/w): Perl, Python, Perforce(VCS), Shell Scripting

Objectives of the project: Manual, repetitive tasks performed by engineers are an area ripe for automation and the inevitable efficiency boost associated with such a move. To this end, there were two major candidates for automation in the GPU-performance team: (1) The process of identifying the reason for a change in performance, called regression triage is attempted to be automated using clustering techniques available in the Machine Learning domain. (2) Even small changes in the FIFO sizes can cause a huge impact on the performance of the GPU. The task is to track the changes in placement and routing of the gates to stay on top of the process of determining the right FIFO sizes.

Outcomes of the project: By the end of the project, I wrote a program which automatically parses out the important variables from the specification files saving considerable manual effort and time. My other project was automation regression triage using machine learning. I created an infrastructure to parse out the necessary data from the voluminous regression directory and create a CSV database out of it. This data was then used to attempt clustering approaches in order to cluster regression bugs.

Major Learning Outcomes: This internship gave me an opportunity to learn about the industry's fastest and the most power efficient GPU architecture. I learned about the trade-offs associated with designing such a complex system which needs to serve the processing needs of graphics and compute that which is often at odds with each other. I gained knowledge about the various optimizations that are put in place to improve the performance of the chip cores and analyzed the performance impact of several design choices.

My project involved automating Performance regression triage using Machine Learning. I developed an infrastructure to generate a database of the regression data and attempted to cluster it based on the cause of test failure. In this process, I learned many Machine learning concepts. During my project of automating latency specification sign off, I understood the impact of the various latency hiding structures that have been developed.

During the tenure of my internship, I have increased my proficiency in Perl and Python. I have also improved the infrastructure of my team by porting scripts to REST API and creating a script to visualize the occupied disk space.

The internship did not only help me gain technical skills, but also important communication skills. I learned that being able to express what you have done is as important as being able to do something. The internship helped me in becoming familiar with the required professional attitude and the working environment of the company.

Brief Description of working environment, expectations from the company: My internship at NVIDIA has been quite a remarkable experience, the transition from college to industry. The people at NVIDIA are very friendly and accommodating, making it easy to fit in to the office environment. The company provides food and transport facilities which eases the burden on the student and enables them to focus solely on the work.

Company: PS-II Station: Reflexis Systems India Pvt Ltd. , Pune

Faculty

NAME: ANKUR PACHAURI

Comments: Expectations from industry:

Reflexis is the pioneer in real-time store execution and workforce management solutions that enable retailers to execute their customer engagement strategy flawlessly and uncover profit. The Reflexis platform of real-time store execution, task management, compliance, time and attendance, and labor scheduling (including budgeting, forecasting, and employee self-service) enables retailers to align store labor & activities to corporate goals and institutionalize best-practice response to real-time metrics and alerts. One of the various products of Reflexis is Reflexis Workforce Scheduler, which enables the store managers to generate optimized schedules based on some input rules. The manual work of making schedules and tweaking them based on disturbances is taken care of by the software. The software generates an optimized schedule by adapting itself by learning from the daily schedules of store associates so that store managers have to make minimal changes. It takes into account the best person qualified to do the job, work hours required to do the job, employees available, their meal breaks, hours available and many other factors to generate a highly functional schedule which can be tweaked later by store managers to create the perfect schedule.

Various upgrades of RWS are currently going on in the company which include, Design & Development of a web based application for the submission and handling of leave requests (Automation through Shell Scripting as a part of Reflexis Workforce Scheduler), Cab Booking and Sharing Software, HIERARCHICAL DATABASE DESIGN and many more.

Student

Name: Bhavya Vaid (2012B4A8674P)

Short Summary of work done during PS-II: Designed cost effective file and database testing utility JDKs of the following.

1. ETL Validator(to compare data in two same/different databases)
2. Query Result Transporter(to execute multiple queries simultaneously on multiple databases)
3. File Comparator(to compare JSON files)
4. Log Analyzer(to analyze log files)

Tools used (Development tools - H/w, S/w): Utilities were developed in Eclipse IDE using drivers like SQL, JDBC, GSON,etc. All these drivers have been included in the JDKs of the utilities made. Any PC with a Java Development Kit installed can use the given utilities.

Objectives of the project: To provide database testing solutions to employees of the company so that the time required for testing could be reduced in a cost effective way.

Outcomes of the project: Four utilities namely, File Comparator, ETL Validator, Query Result Transporter and Log Analyzers were built as JDKs.

Major Learning Outcomes: JAVA, SQL, JDBC, HTML, JSP

Brief Description of working environment, expectations from the company: The working environment was helpful. I found the employees very friendly. The company designs workforce management utilities for its clients. I expect the company to give better projects and work to further interns so that they can be a part of core development team.

Name: *Ashutosh Tripathi (2012B5A8529P)*

Short Summary of work done during PS-II: Created tools using JAVA or automating internal processes of the company

Tools used (Development tools - H/w, S/w): Eclipse, AquaData Studio, Edit Plus

Objectives of the project: 1. Compare the files having the same name in 2 separate folders and print the changes in a text file .

2. Execute a query pair after reading it from a JSON file and print the result in JSON and CSV files.

3. Execute a number of queries from a json file and print the result into another json file.

4. Read the result json files of both Data Comparator and Data Transporter and create a table with according to the specifications provided.

Outcomes of the project:

1. Compare various file and print the changes in a text file

2. Compare the result statements after executing the query pair and print the difference in a json and a csv file.

3. Execute query and print result in json file.

4. tables created as specified for the required files.

Major Learning Outcomes: Got to learn JAVA, JS, Angular JS, HTML, CSS, JSP, Servlet, MySQL

Brief Description of working environment, expectations from the company: Working environment is very friendly and conducive. Enough time is given to learn all the things required for the project. Company expects basic understanding of coding that is developed in the 1st year course of C programming.

Name: *Ishan Chagaway (2013A2PS219P)*

Short Summary of work done during PS-II: Worked mainly on product development and related issues. Issues were ranging from tedious UI fixes to Database designing. All the work was based on web application running on spring framework and AngularJS using Java and RDBMS(MySql, DB2, Oracle). Also worked with angular material and JQuery. Work also included converting servlet and JSP methods to rest services.

Tools used (Development tools - H/w, S/w): High performance desktops for hardware and for software Eclipse, MySql, Apache tomcat and languages like SQL, Java, HTML, CSS, Javascript, AngularJS and frameworks like Spring.

Objectives of the project: Product Development.

Outcomes of the project: Fixed bugs and issues, integrated usecases

Major Learning Outcomes: Web based application development, familiarity with SQL, JAVA, HTML, JS, CSS, Google Maps APIs etc.

Brief Description of working environment, expectations from the company: Working environment is excellent as everyone is helpful. Problem is type of work may be very low profile and sometimes there isn't much work in your bucket. Package offered seems to be low and work done here is not fit for building excellent resume. But it provides good opportunity for lower than 6 CG people. Not good for above 7CG.

Name: *Pratik Kumar (2012B5A8557G)*

Short Summary of work done during PS-II: Automation : Created a script file in Linux which executes a given SQL file and reports errors through email. Profile permissions page : Created a page which displays the functions in the selected page and displays the profiles permissions for that page which can be edited.

A centralized place is required for the employees of a company/corporation to apply for leave requests and let their requests be forwarded to appropriate superiors for approval or rejection. Doing this creates a chaos free environment free of any confusion or doubt about the availability of an employee.

Tools used (Development tools - H/w, S/w): SQL, Javascript, CSS, Angular Javascript, Angular Material, Spring Framework, JSPs, Servlets, Shell, Bash, Cron Jobs, Java command line parameters

Objectives of the project: Provide a centralized location for leave requests and approval. Provide an employee with data about his days left, his request status, and incoming requests to him, subordinates and their days left. Create a profile permissions page to change the profile permissions of selected pages. Automation through shell scripting - Automate various manual tasks that were being done through shell scripting in various Linux boxes.

Outcomes of the project: A web application which allows and facilitates requesting and granting of leave requests.

Connected to various Linux boxes and Used shell scripting to automate repetitive and complicate tasks such as server deployment , driver import data generation. Created a page which can be used as a leave request portal.

Major Learning Outcomes: Learnt in depth about shell scripting and cron jobs, also learnt about the project structure of the RWS4 application.Learnt about various security measures that should be employed when creating an application which has to be distributed

Brief Description of working environment, expectations from the company: The working environment of the company was very friendly. You could ask anyone in your team your doubts. Coworkers were very helpful sometimes, even beyond company work. Emphasis was placed on completing the work assigned to you. The quality of work assigned grew as more was done.

PS-II Station: Analog Devices, Bangalore

Faculty

NAME: SHREEDHAR

Comments: Expectations from industry:

I have had an excellent experience working with students who were coming for their internship at various industries with different background. Developing a set of learning goals for a course puts in to a shortlist of real concepts that can guide students and add clarity to teaching and learning. I use to design a learning process for students with clearly defined learning out comes that contribute to a structure that surrounds and can aid in enhancing the assessment. By guiding the students from various branches of engineering such as Civil, Mechanical, Computer Science and Chemical Engineering has given me a very different thinking perspective.

With the interaction of mentors of various industries, made me get in touch with cutting edge of technologies. The project based on renewable energy systems was very interesting because, wind turbines have the highest effective intensity of power-harvesting surface because turbine blades not only harvest wind power, but also concentrate it. I have had an excellent discussions with the mentors who are working on real time projects, for instance with Dr. Hari Krishna, who is a senior engineer at GE working on wind turbine modeling. These are used in naval system for power generation. Which would treated as clean technologies.

Student

Name: Sai Krishna Vinnakota (2012B4AA703H)

Short Summary of work done during PS-II: Worked on Synthesis setup for SoC design. Also looked at dclint and lint setups.

Tools used (Development tools - H/w, S/w): Design Compiler(Synopsys), Spyglass

Objectives of the project: To run the Synthesis setup and find the violating constraints.

Outcomes of the project: Found out many violating attributes.

Major Learning Outcomes: Learned how an electronics industry works. Got familiar about backend and front end.

Brief Description of working environment, expectations from the company: For the first twenty odd days, we were occupied in creating various accounts for access to different tools, workspace, etc. Here in Samsung, everything has to be approved from the HQ in South Korea. I was assigned to a newly formed team, and over that there was some delay in starting the project. We were asked to read various tool guides and user guides which later on came to no use after our project started. It finally started in third week of September after which we were slightly relieved, but even after this, we were not assigned a proper mentor who could help us. We had to run from employee to employee seeking help. Though sometimes we came across phrases like "sorry we are busy", mostly the employees were helpful. The main problem was that our mentor was the General Manager; he was so preoccupied with other technical work that he hardly had any time left for us. There was no proper plan for our work, it was going in haphazard way.

We voluntarily had to go to employees for work. There was no one to assign us proper work. But this also came to my advantage as I could learn how to approach people for help and maintain a good rapport with people of higher skill. Overall my experience here is satisfactory and could have been a lot better.

I don't mean this was the case with every intern here, but few students had this issue.

Name: Venkat Pavani Mudireddy (2013AAPS155H)

Short Summary of work done during PS-II: Coverage , Interface CRC feature development which is necessary for error detection while transmitting data.

Tools used (Development tools - H/w, S/w): Hardware - System Verilog, UVM

Objectives of the project: Verification

Outcomes of the project: Display port IP verification

Major Learning Outcomes: System Verilog & UVM

Brief Description of working environment, expectations from the company: Good

Name: Anil Kumar Talari (2013AAPS197H)

Short Summary of work done during PS-II: In the Initial Stage of ADAS Project, FDS Design Team was new to the Samsung flows; I helped them in finding out the SYSREG flow & SFR testing (by reading script files) and presented it to the FDS Design Team. Supported Block owners (SMS, SCS, PERIC & MFC) by generation of Sysreg files and by doing SFR testing. Learnt about PowerPro flow from Memory Team, documented it and created Local setup for future use in FDS. Tried out CDC and dc-lint and reported its dependencies. Supporting SMS Block by running Lint, analyzing & reporting errors to respective IP owners. Automated the process of Segregating & reporting Lint Errors based on IP and severity.

Tools used (Development tools - H/w, S/w): Design Compiler, Spyglass, Magillem

Objectives of the project: Designing the ADAS (Advanced Driver Assistant System) SoC with emphasis on safety and security.

Outcomes of the project: Project is Still in Progress and the outcome of the project is ADAS SoC

Major Learning Outcomes: Networking with Experienced Designers. Familiarity with UNIX increased. Learnt about Front End Design of Semiconductor Industry. Familiarized with various work flows like Integration, sysreg generation, lint, cdc and synthesis. Acquainted with tools like magillem, spyglass and learnt about automation (Perl, Make File)

Brief Description of working environment, expectations from the company: A positive work environment makes one feel good about coming to work, and this provides the motivation to sustain them throughout the day.

Name: Venkatapuram Sai Mokshith (2013AAPS315H)

Short Summary of work done during PS-II: Being an electronics graduate, getting an opportunity to work at Samsung is sort of dream come true. I was the member of the Display team in the Digital IP group. My team was involved in the Pre Silicon verification of the Display Port IP. The ever increasing advances in the integrated circuit technology during the past decade has made it possible for electronic system designers to assemble complete systems-on-chips (SoC). As these System on chips have found their use in more and more computer, graphics, and networking hardware systems the level and complexity of functionality within them have dramatically increased. At the same time shrinking time to market leaves little room for errors in the design. Hence functional verification has become one of the major tasks in committing chips to fabrication. Functional Verification is carried on using SystemVerilog and UVM(Universal Verification Methodology). I have learnt System Verilog, UVM, and how to code test cases, Sequences, Checkers, Coverage, Test Bench bring up. I was guided by my fellow team members at every step. The project gave me tremendous exposure to current methodologies being adopted by semiconductor companies for verification.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: Objectives of the project is to achieve a bug free IP and also to make sure whether the design(IP) is functioning same as it was specified by verifying the IP thoroughly.

Outcomes of the project: An IP that is used in Samsung mobiles.

Major Learning Outcomes: Exposure To semiconductor industry, IP design, IP Verification, SystemVerilog, UVM.

Brief Description of working environment, expectations from the company: The work environment of the company is awesome. Samsung provides a lot of facilities to interns. Interns are treated equally as employees. Everybody has the freedom to explore and experiment on things that they are working on. The company expects its employees and interns to work smart. Skills that are required for a project can be learnt during the course of the project. Students that are willing to learn can easily get on in Samsung.

Name: Samhitha Vadlamani (2012B5AA646H)

Short Summary of work done during PS-II: attempted to classify left and right hand movements in a task of motor imagery. In the process, learnt the BCI structure and different parameters influencing the performance of the model that is trained and used for classifying new data.

Tools used (Development tools - H/w, S/w): MATLAB , EEGLAB

Objectives of the project: To classify multiple events in a motor imagery task and interface them with a device that is capable of translating the information into commands that the user is intending .

Outcomes of the project: Was able to classify two events namely left and right hand movements

Major Learning Outcomes: understood the working of BCI and got familiarized with MATLAB and it's toolboxes , EEGLAB in particular.

Brief Description of working environment, expectations from the company: The working environment is motivating and since it is an R&D, students get to explore a particular field to its core. Even though the objectives of a particular project are not met, the company expects the students to leave with a considerable knowledge and satisfaction in the project they have worked on.

Name: *Kopparthi Venkata Ratnam Bharadwaj (2012B5AA261H)*

Short Summary of work done during PS-II: Motion Estimation in video

Tools used (Development tools - H/w, S/w): C, JM19.0

Objectives of the project: Implementing new ideas to increase speed of motion estimation

Outcomes of the project: New algorithms

Major Learning Outcomes: Implementation of new ideas in real world scenario

Brief Description of working environment, expectations from the company: Samsung is a good place for research in information theory. It just takes one or two months to learn important topics once we join there

Name: *Gssk Phani Teja (2013AAPS323H)*

Short Summary of work done during PS-II: I have been a part of newly formed foundry design services team in Samsung. Our project is Turbo Soc design. Main intent of my manager is to make me learn the front end of the design like lint checks, CDC checks, RTL and XML generation using sysreg, dc-lint setup for synthesis.

Tools used (Development tools - H/w, S/w): Spyglass, Meridian, DC-compiler

Objectives of the project: To learn the front end of the soc design

Outcomes of the project: I have done lint checks using the Spyglass tool, have learnt various synchronization mechanisms for cdc and have done the cdc checks using meridian tool, learnt about using the synopsis dc-compiler tool, have generated RTL and XML files using sysreg.

Major Learning Outcomes: I have learnt to use front end tools like Sysreg, Spyglass, meridian, dc-compiler. I have learnt how to use Make File and various synchronization mechanisms.

Brief Description of working environment, expectations from the company: Working environment here is really awesome and the employees here are really so supportive. Free food, transportation and stationary, which means top notch support system. There will be lots of training throughout the year in various domains which is open to anyone who is interested.

Company: PS-II Station: Sokrati Technologies Pvt. Ltd. , Pune

Faculty

NAME: SANDEEP KAYASTHA

Comments: Expectations from industry:

Digital marketing, business communication, Search Engine optimization.

Student

Name: Srijan Sharma (2012B2A8591G)

Short Summary of work done during PS-II: Cross-Platform Advertising and Digital Marketing for E-Commerce Clients. The Platforms used included Google and its search partners, Facebook & EBay

Tools used (Development tools - H/w, S/w): Google Ad words, Business Face book, Double Click for Publishers (DFP)

Objectives of the project: Cross-Platform Advertising for E-Commerce Clients

Outcomes of the project: Work Experience gained in Client engagement, Crisis Management (due to the change in monetary policies). Familiarization with common practices in a digital marketing organization and tracking mechanisms.

Major Learning Outcomes: Familiarization with Online Platforms such as Google Adwords, Business Facebook, Double Click For Publishers (DFP).

Details of papers/patents: Cross-Platform Advertising and Digital Marketing for E-Commerce Clients. The Platforms used included Google and its search partners, Facebook & Ebay

Brief Description of working environment, expectations from the company: Working environment was nurturing and flexible to promote innovation.

Name: *Pemmasani Sri Krishna Prasad (2012B5A1705P)*

Short Summary of work done during PS-II: Market research, Ad creative generation, Automated adX script, managing eBay ad inventory

Tools used (Development tools - H/w, S/w): AdWords, DFP, Excel

Objectives of the project: Revenue Expansion or RevX for clientele

Outcomes of the project: Increased traffic, CTR, conversion/quotes

Major Learning Outcomes: HTML5, CSS, JS, basic to intermediate knowledge of working of Digital Marketing

Brief Description of working environment, expectations from the company: PS experience would depend on the team assigned. I have worked with a bunch of very talented industry experts and the work was very satisfying when I had to use my mind. Also involves a lot of Excel work that people might find boring. If you're curious of how the digital marketing world works, this is the place to be in my honest opinion.

Name: *Naman Hegde (2013A1PS845G)*

Short Summary of work done during PS-II: Sokrati is an ad tech company providing digital marketing services across multiple channels namely Google, Facebook, Twitter and Instagram. It has top E-Commerce companies as clients, optimising their ad spends to deliver a greater ROI. I worked in the Marketing division at Sokrati. I was mainly responsible for Lead Generation to contact prospective clients using various tools. I was also responsible for conducting a thorough Market Research for expansion plans. In addition, the Social Media accounts with targets of increasing the follower base were managed by me.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: To identify prospective clients and help generate leads for the Sales team.

To conduct extensive international market research for expansion plans.

To increase the social media outreach leading to better targeting of prospects.

Outcomes of the project: Generated leads through various tools and created an international database of companies to contact in the future.

Research on relevant domains was done and the results passed on to senior management to take further decisions using the data.

Social media outreach was doubled for Twitter and built from scratch for Instagram.

Major Learning Outcomes: A plethora of new tools for my work related areas were learnt and used over the course of the program. I also interacted with some great professionals here who are driven and passionate about their job and have great insights to offer. A much needed experience before we step out into the real world of our professional lives.

Brief Description of working environment, expectations from the company: The working environment has been very warm and friendly since Day 1. The company has flexible policies which don't put too much pressure on you while providing a good learning experience at the same time. The company expects you to finish your work and you are free to leave early if your tasks for the day are complete! Table Tennis, Foosball, Carrom or just Hoverboarding around are indulged in during free time. :)

Name: Amlendu Kumawat (2012B5A1705P)

Short Summary of work done during PS-II: Outbound Business Development involves market research for prospective eCommerce clients in terms of ad-spends, location and website traffic. Qualified meetings are then set-up with our Sales representatives.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: Prospecting and initial reach-out to potential clients and setting up qualified meetings with the Sales Representatives.

Outcomes of the project: Reaching the Sales target for the respective quarters.

Major Learning Outcomes: Overall knowledge of digital advertising over social media platforms and sales.

Brief Description of working environment, expectations from the company: Good work culture and environment. Nice work with responsibilities.

Company: PS-II Station: ST Microelectronics(I) Pvt.Ltd. , Greater Noida

Faculty

NAME: R K TIWARY

Comments: Expectations from industry:

The PS-II internship at STMicroelectronics, Greater Noida is phenomenal. Within a course of just 5 months, it has imparted learning in domains ranging from design to the release of chip in the market. Students were exposed to learn and use various VLSI tools like Virtuoso, Caliber, Star RC, Rapid 3D, Eldo, Custom Sim, EZ wave and custom Wave Viewer tools. The company wants those students who have sound knowledge of electronics , with VLSI circuits giving extra edge. Those students who take up a VLSI projects in their course work will be well equipped to work in STMicroelectronics.

Student

Name: Gaurabh Abhishek (2013A8PS724G)

Short Summary of work done during PS-II: The project is embedded system-based and requires STM32 Micro-controllers. They have all the peripherals like GPIO, Timer, ADC, Interrupts, Low Power mode, Watchdog timer, etc. The value line micro-controller used is STM32F030 which is cheapest in all the variants of STM32 microcontrollers. The idea is to design a smart embedded solar streetlight which can be used mostly in rural areas. The battery is charged using solar charging. Besides there are white LEDs which operate in three brightness modes namely low, medium and high. There is a PIR Sensor which detect the motion of objects and changes the brightness modes accordingly to save power. The code for same is written in IAR Embedded Workbench software.

Tools used (Development tools - H/w, S/w): ST-Link V2 Programmer cum Debugger, IAR Embedded Workbench for ARM

Objectives of the project: To design smart embedded solar streetlight having solar charging and a PIR Sensor

Outcomes of the project: Providing streetlight in mostly rural areas and effective usage of STM32 Micro-controllers to ensure final product is cost effective

Major Learning Outcomes: Gained knowledge about STM32 Micro-controllers and configuring it's different peripherals like ADC, Timer, Interrupt, GPIO,etc. and writing the code for same in IAR Embedded Workbench software.

Brief Description of working environment, expectations from the company: The working environment is very good. People are generally helpful. The learning opportunities depend on the department you are allotted. The amount of work depends on your mentor and the project you are allotted. I was quite busy at times. I was expected to learn much on my own during but my mentor provided me with appropriate learning material. It is possible you might have to work on something which is not a part of college curriculum, like in my case. I had to work on STM32 Micro-controllers. As far as PPO is concerned, chances are nil. Don't have high hopes.

Name: Phani Krishna Sri Vatsava Ponnaluri (2013A8PS210G)

Short Summary of work done during PS-II: Verification of high speed data link for chip to chip access by dumping the RTL on Xilinx VC 709 FPGA board by performing a read write operation on DDR3SDRAM.

Software used : Xilinx VIVADO. Vivado enabled us to synthesize (compile) designs, perform timing analysis, examine RTL diagrams, simulate a design's reaction to different stimuli, and configure the target device.

In our project on Design Validation of chip to chip on Xilinx Virtex 7 FPGA, various designs were made for the same and each of them were synthesized, implemented and burnt on FPGA. After implementing our designs, we analyzed the results with a variety of timing and power analysis features, and ran the design in hardware by programming the Xilinx device and debugging the design in the Vivado hardware manager. Debugging was done using Integrated Logic Analyzer (ILA).

The final achievement was a slave design that worked with the System on Chip R&D prototype.

Tools used (Development tools - H/w, S/w): XILINX Vivado

Objectives of the project: To make a slave design that could work with the System On Chip (SoC) R&D prototype, a hardware platform combining ultra-high computational performances with ultra low power consumption suitable for IoT wearable and smart sensing applications.

Outcomes of the project: A slave design worked with the SoC R&D prototype. Designs were simulated, synthesised, implemented and validated on FPGA.

Major Learning Outcomes: Learnt how to perform most of the important functions like block design creation, synthesis, implementation in the software: XILINX Vivado. Gained basic knowledge about FPGA. Learnt how to check the working of a RTL by burning it on FPGA.

Brief Description of working environment, expectations from the company: My PS-II internship at ST Microelectronics, Greater Noida was phenomenal.

I was very lucky to get into a live project in the Digital Architecture team. The idea of my project is to make a slave design that could work with the System On Chip (SoC) R&D prototype, a hardware platform combining ultra-high computational performances with ultra-low power consumption suitable for IoT wearable and smart sensing applications. Since it was a live project, working to meet the deadlines was quite interesting.

My mentor supported me in every step and was very helpful with the knowledge transfer and helped me in case of any doubt. Often, we as a team, would discuss new probable solutions and the drawbacks of using it. Working here taught me team work, how to keep calm in pressure situations, and also the nuances in the corporate world.

Name: Kailas Nath.R (2013A8PS425P)

Short Summary of work done during PS-II: Verification of high speed data link for chip to chip access by dumping the RTL on Xilinx VC 709 FPGA board by performing a read write operation on DDR3SDRAM.

Software used: Xilinx VIVADO. Vivado enabled us to synthesize (compile) designs, perform timing analysis, examine RTL diagrams, simulate a design's reaction to different stimuli, and configure the target device.

In our project on Design Validation of chip to chip on Xilinx Virtex 7 FPGA, various designs were made for the same and each of them were synthesized, implemented and burnt on FPGA. After implementing our designs, we analyzed the results with a variety of timing and power analysis features, and ran the design in hardware by programming the Xilinx device and debugging the design in the Vivado hardware manager. Debugging was done using Integrated Logic Analyzer (ILA).

The design that we submitted was chosen to work with the System on Chip R&D prototype.

Tools used (Development tools - H/w, S/w): XILINX Vivado , XILINX Virtex 7 FPGA

Objectives of the project: The aim was to validate C2C on FPGA. The new chip that was being designed by ST Microelectronics was tested and verified for C2C access with Xilinx Virtex-7 FPGA.

Outcomes of the project: Two major designs that will work with the New SOC R&D prototype that is set to be unveiled in CES 2017.

Major Learning Outcomes: Learnt how to perform most of the important functions like block design creation, synthesis, implementation in the software: XILINX Vivado. Gained basic knowledge about FPGA , RTL Design and verification process.

Brief Description of working environment, expectations from the company: I had a very good experience at ST Microelectronics during my internship there. I got to work on the new upcoming product which was set to be launched in the first quarter of 2017. The chip is a System On Chip (SoC) R&D prototype, a hardware platform combining ultra-high computational performances with ultra-low power consumption suitable for IoT wearable and smart sensing applications. The product is set to be displayed in CES 2017. The team I was working was the design validation team. My project was to validate C2C on Xilinx Virtex 7 FPGA. The team expected me to make designs for C2C in Xilinx VIVADO. The RTL for the chip was given to us. We had to modify it synthesize and implement it with on FPGA and

test the design with the prototype chip. The working hours at times were quite hectic. We had to make many designs and try out many iterations to make the design work. In the end two final designs were made and they were validated on silicon.

The work culture at ST Microelectronics is very good. The working hours are flexible. There are many experts in the company who were immensely helpful and were willing to help us in every step of our internship. Working here gave me a whole new dimension on how to tackle design issues and the methodologies to derive possible solutions for the problems that we faces during the design process. We were given freedom to pitch in ideas during every step of the design. The company expects the interns to be quick learners. The chances of getting a placement offer is quite low and will entirely depend on the vacancies in the team that you get selected in.

Name: *Akhilesh Nayak (2013A8PS436G)*

Short Summary of work done during PS-II: Design of fast low power SRAM

Tools used (Development tools - H/w, S/w): ELDO

Objectives of the project: To understand assist circuits

Outcomes of the project: Simulations of assist circuits and analyzing the waveform

Major Learning Outcomes: Learnt a lot about memory design

Brief Description of working environment, expectations from the company: Working environment is good. People here are ready to clear all the doubts.

Name: *Utkarsh Ray Bhatnagar (2013A8PS675G)*

Short Summary of work done during PS-II: The project assigned was EDA tools based. The idea is to reduce the post layout challenges faced by the designers. This includes the extraction and post layout simulation flow so that it becomes a click button approach for the designers and the inputs of process and temperature need to be given only at the top and everything is managed inside the flow. This also includes generation of single netlist for all corners and temperature in one extraction process. Further, there should be reduction in simulation time for the flow.

Also, acted as the technical support for Post Layout Simulation, caliberRT for ST Noida site and had to look into the issues faced by the end users & try to solve them.

Tools used (Development tools - H/w, S/w): Virtuoso, Calibre, Star RC, Rapid 3D, Eldo, CustomSim

Objectives of the project: To enhance the Full-Custom Flow to Mitigate Post-Layout Challenges in Advanced Technology Nodes

Outcomes of the project: Successfully reduced the simulation time by the factor of 7. Integrated the multiple netlist of single corners to make a single netlist having multiple corners.

Major Learning Outcomes: Gained knowledge about several EDA tools, improved the shell scripting concepts and UNIX environment working skills.

Brief Description of working environment, expectations from the company: My PS-II internship at STMicroelectronics, Greater Noida was phenomenal. Within a course of just 5 months, it has imparted learning in domains ranging from design to the release of chip in the market. I interned in the Analog Domain with team that handle EDA tools support which I had no technical expertise of. This was a project with a very steep learning curve. Things that I had to learn outside my curricula were many, such as working of and much more. The team members were very helpful with the knowledge transfer and helping me in case of any doubt. Often, we as a team, would discuss new probable solutions and the drawbacks of using it. My manager supported me in every step and did not pressurize unnecessarily. It is definitely one of the best team that I have worked with. Working here taught me team work, how to keep calm in pressure situations, deal with road blocks and moreover, nuances in the corporate world. This PSII experience will help me shape my career in the future.

PS-II Station: ST Microelectronics(I) Pvt.Ltd. , Greater Noida

Faculty

NAME: DR. SATYA SUDHAKAR

Comments: Expectations from industry: Analog Design Fundamentals.

Student

Name: Varkey M John (2012B3A3467G)

Short Summary of work done during PS-II: My work at Texas Instruments was in the field of power electronics. I had to make a boost converter with low input voltage. Choice of devices, their sizing, etc. to provide maximum efficiency was the primary aim of the project. It was an amazing opportunity to work at TI, and I was able to apply a lot of concepts I had learned in college. The employees here were very helpful and helped me a lot in my work.

My advice to those taking TI as their PS station would be to study basics of MOSFET, be acquainted with capacitors, inductors and RC circuits before you come if you are going to work in analog domain. Basics are very important.

Tools used (Development tools - H/w, S/w): Cadence virtuoso

Objectives of the project: To make a boost converter circuit that will produce an output of 3-5V from an ultra low input voltage of 20mV

Outcomes of the project: A boost converter was made that produces 2.73V at 100K load and 20mV input, with an efficiency of 75.72%.

Major Learning Outcomes: Learned about boost converter, synchronous rectifier, capacitors and inductors

Brief Description of working environment, expectations from the company: The work environment is very good at TI. They have flexi-timing, we can wear casuals to work and they have subsidized food and free transport. They provide us with a bag, a bottle and a pen. They have regular events in the company where we can relax from the regular work. We had 3-4 team outings for lunch.

It was more than what I expected from the company and I had a great time.

Name: Tanvi S (2013A3PS306G)

Short Summary of work done during PS-II: My work has predominantly been in the field of analysis and design of analog circuits. I worked in the Battery Management Team, and my work was concentrated specifically on the current limiter of the battery. It involved designing a Current limiter with two 2 stage amplifiers and basic circuit components on cadence, followed by various analyses.

Tools used (Development tools - H/w, S/w): Cadence

Objectives of the project: Design and Analysis of a current limiter for a battery charger.

Outcomes of the project: The current limiter designed has met the specifications mentioned and will be used in further systems.

Major Learning Outcomes: Application of knowledge attained into hands on live projects. Knowledge about basic circuits and microelectronics has been enhanced.

Brief Description of working environment, expectations from the company: Texas Instruments is the ideal place to work in. It has the right sort of reception and the company makes you feel at home. The projects offered in the analog domain are very interesting and they offer tremendous opportunities to learn. The mentors, though experienced are very helpful and provide the right sort of push and guidance. Apart from this the office can also boast of having a spectacular sports complex, gym and canteens and food stalls. The work timings are flexible and never intensive. In short, a brilliant place to work in.

Name: Dhruv Chaudhari (2013A8PS366G)

Short Summary of work done during PS-II: Developed a stand-alone testbench that is customizable due to reusability of components across designs

Tools used (Development tools - H/w, S/w): Verilog HDL, SystemVerilog, UVM

Objectives of the project: To develop a digital verification environment builder

Outcomes of the project: Automation of such a digital verification builder

Major Learning Outcomes: Fundamentals of Verilog, SystemVerilog

Brief Description of working environment, expectations from the company: Working environment was conducive to learning. Employees are patient, insightful, encouraging and very helpful for our professional development

Name: Aditya Pandey (2012B2A3779G)

Short Summary of work done during PS-II: Worked on designing a power bank and wrote a micro-controller code for implementing mppt algorithm

Tools used (Development tools - H/w, S/w): Altium, Matlab

Objectives of the project: Design of a Power Bank

Outcomes of the project: Completed the design

Major Learning Outcomes: Learnt Altium, and how to make layouts

Brief Description of working environment, expectations from the company: Very conducive environment for working

Name: Sai Ram Manoj Isukapalli (2013A8PS548H)

Short Summary of work done during PS-II: I have interned with the HVAL SW Team at Texas Instruments for a period of 5 and a half months during my PS-II from July to December. It has been a fantastic learning experience for me. My work was on System Verification of USB-C/PD products. It involved Python Testing and Embedded C programming. I've also learnt about I2C and UART communication protocols during the course of my project. My team-members were very supportive throughout the duration and helped me integrate into the team really quickly. The team-meetings and timely reviews of the work helps you focus on the goal and put in more work wherever needed. Being involved in a verification work, needs you to have a total understanding of the topic and my project helped me appreciate the importance of it.

The recreational activities at Texins, Team Lunches helps you gel with the team. The whole experience was one to cherish. My most important takeaway from the internship was the technical knowledge I've gained and inter-personal skills I've improved on. These five months reaffirmed my belief that PS2 is one of the most important and a unique component of the BITS curriculum. I would like to thank Texas Instruments and BITS Practice School Division for providing me with this rare opportunity.

Tools used (Development tools - H/w, S/w): SW: Python, C

Objectives of the project: System verification of USB C/PD

Outcomes of the project: Reusable test scenarios for further testing.

Major Learning Outcomes: Python programming, Embedded C

Brief Description of working environment, expectations from the company: Pro-active attitude, Inquisitive, willing to seek help when needed.

Name: Deepak Agarwal (2013A3PS294P)

Short Summary of work done during PS-II: Project was to Integrate USB otg in TI's new DLP ASIC for 4K projectors, which is a 1.5 year project and currently in asses phase. My work was to first do some research on USB specifications and tell the team about requirements of USB. After that we need to write the application for some existing hardware to test and understand the requirements to supports specific applications. Next thing was to port all the USB drivers into new USB architecture and provide support for Video class drivers which are currently not available for existing hardware also.

Tools used (Development tools - H/w, S/w): TM4C123g EVM, TI's Code composer studio

Objectives of the project: To implement USB otg Host and device drivers

Outcomes of the project: All the requirements are tested/finalized and drivers now can be directly ported to new hardware as soon as it is available.

Major Learning Outcomes: USB protocol, Embedded programming, DLP architecture

Brief Description of working environment, expectations from the company: TI working environment is very flexible. No one is monitoring your presence and people are very supportive. The type of work I got was really challenging and has improved my embedded programming skill to a good extent. In TI everyone got good designing projects and some people got scripting work which also needs knowledge of electronics like microelectronics and digital design.

Name: Aishwarya Nalwaya (2013A8PS181P)

Short Summary of work done during PS-II: My project was the design of a compact, isolated 50W DC-DC Converter having two output rails of 12V each. The design used a isolated SEPIC topology and was

implemented using the wide input, current mode controller LM5020. The design was cost effective due to minimal component count and will replace the existing solution in place.

Tools used (Development tools - H/w, S/w): I used Altium for generating schematic, layout and gerbers for the board, and the simulation was done in LtSpice.

Objectives of the project: DC-DC converter having

1. Two outputs, one isolated at 12V/1A and the other non-isolated at 12V/3A.
2. Efficiency of >90%
3. Compact (40mm—45 mm)
4. Operating over wide input range of 18-60V

Outcomes of the project: TIDA-00711 is the final design that we came up with. It is max 92% efficient design capable of meeting all the key specifications.

Major Learning Outcomes: Learned about basic converters at first like boost, buck and buck-boost. Then was introduced to concept of isolated converters like fly back and forward and then moving to active clamp forward for improved efficiency.

Then design the circuit and did the schematic and layout in Altium. After the PCB was fabricated, did several tests on it.

Details of papers/patents: The design guide for this can be found on www.ti.com under the design name TIDA-00711

Brief Description of working environment, expectations from the company: The work atmosphere is absolutely great. For the period of 6 months, interns are given access to all the opportunities that are made available to the employees. You get to attend weekly team meetings, updates and presentations. Besides that the culture is very informal and friendly.

Name: Manish Kumar (2012B2A8747P)

Short Summary of work done during PS-II: Designed a system to measure the settling time of 20-bit Precision DAC that is 1 microsecond with $\pm 0.5\text{LSB}$ accuracy. The 1LSB for 10V reference voltage of 20-bit DAC is 10uV. Now when we will toggle the input codes of DAC from min.(i.e.0000..) to max.(i.e.1111..), it will take 1uS for analog output to enter into the error band of $\pm 0.5\text{LSB}$ which is 10uV. We amplified 10uV by 64 times and then measured it with the help of 18-BIT SAR-ADC to get the required settling time.

Tools used (Development tools - H/w, S/w): TINA-TI, Altium, Xilins ISE

Objectives of the project: Measurement of settling time of 20-bit Precision DAC with $\pm 0.5\text{LSB}$ accuracy.

Outcomes of the project: Project is not yet complete, hardware testing is remaining.

Major Learning Outcomes: Learnt how to do analog circuit design using OPAMPS, diodes, filters. Used TINA-TI, Altium software for schematic drawing.

Brief Description of working environment, expectations from the company: Working environment is awesome. There is as such no restriction on in and out time. Also, you can go to TEXINS(TI sports complex) anytime even during working hours.

Name: Rohit Banerjee (2013A3PS307G)

Short Summary of work done during PS-II: designing a novel circuit to measure 18 bit settling time of a fully differential amplifier

Tools used (Development tools - H/w, S/w): Matlab, Cadence, Altium

Objectives of the project: Measuring 18 bit settling time of a FDA

Outcomes of the project: Design of a novel circuit topology

Major Learning Outcomes: System level design

Brief Description of working environment, expectations from the company: Very good, informative

Name: Shreeprasad Phadke (2012B4A3715G)

Short Summary of work done during PS-II: It was a great opportunity for me to work as an intern at Texas Instruments. My work was in digital domain. The project assigned to me was to configure the FPGAs through JTAG interface using Tester's resources. The project was challenging as nobody at TI had done a similar kind of work before.

Tools used (Development tools - H/w, S/w): NA

Objectives of the project: To configure the FPGA through JTAG interface using Tester's resources

Outcomes of the project: The solution implemented has a direct impact on TI's revenue

Major Learning Outcomes: Got an experience of working on a project right from scratch

Brief Description of working environment, expectations from the company: The work culture is very good. People here at TI are very helpful and approachable in clarifying your doubts. Also, TI has a sports center called Texins, where you can play different kinds of sports such as table tennis, pool, badminton, basketball etc.

Name: Lavina Chandwani (2012B2A3626G)

Short Summary of work done during PS-II: Worked independently on design of Bias Current Block using LBC9 process.

Tools used (Development tools - H/w, S/w): Software- MATLAB for modeling and Cadence Specter for design.

Objectives of the project: To study current mirror topologies in depth and utilize one of those into the realization of the project.

Outcomes of the project: In comparison to the bias block in LBC7 process the current design takes lesser area and has higher accuracy.

Major Learning Outcomes: When I joined my concepts of MOSFETs weren't clear. Working independently gave an opportunity to not only learn but also contribute to real time projects in TI and showcase my talent.

Brief Description of working environment, expectations from the company: Work environment is just so good here in T. We are expected to set our own reasonable deadlines and learn as much as possible.

Everyone is supportive. Fun activities are held at frequent intervals. And the motivation to do well comes from the encouraging team, constant feedback through reviews and presentations and the fact that you have to learn to grow here. (Not like college geeks getting higher score. Everyone will start at the same level and it depends on us how we want our journey to be.)

Name: Nikhil Kashyap (2013A3PS142P)

Short Summary of work done during PS-II: The models in a PDK needs to meet all the specification limits set by Fab for all different component types supported in a process. The purpose of the tool is to automate the calculation of different parameters for all the component types of a PDK. The tool checks the model quality in a designer replicated setup. This will help the design teams to get accurate silicon correlated models.

TI maintains a golden database for the Fab data. The task of the project is to get the biasing conditions from the golden database, generate Test bench, followed by simulation in cadence environment and finally compare the simulation results with the target values.

The base code for the tool is written in Perl. Perl was chosen because of its unsurpassed regular expression and string parsing abilities. Also Perl can expertly handle complex data structures with ease.

Testbench generation is done in Cadence language Skill. After Test bench generation, simulation is done using Spectre. Finally post processing is done in another Cadence language Ocean. The tool runs parallel jobs on LSF which drastically reduces machine runtime.

Tools used (Development tools - H/w, S/w): Cadence Virtuoso, Skill, Ocean, Spectre, Perl

Objectives of the project: The model needs to meet all the specification limits set by fab for all different component types supported in a process. The target was to develop an infrastructure to check the model quality implemented in a designer replicated setup. This would help the design teams to get accurate silicon correlated models.

Outcomes of the project:

1. The Tool is quite generic and can run for any process technology.
2. It covers all the parameters of 5 basic devices MOS, BJT, Diode, Capacitors and Resistors.
3. I have optimized the solution for effective runtime so that the runtime for simulations is drastically reduced. This was achieved by running parallel jobs on LSF.
4. I have added an option to run Monte Carlo simulations for all the scrap parameters.
5. The tool takes nearly 10 min for Nominal and around 1hr for Monte Carlo simulation (1000 runs) for a PDK.

Major Learning Outcomes:

1. Writing a production level code.
2. Proficiency in Perl, Spectre, Skill and Ocean Languages.
3. Run parallel jobs on LSF (Load Sharing Facility).
4. Introduction to the overall Analog Design Flow.

Details of papers/patents : Paper submitted by title "EDA Validation of model parameters to verify silicon correlation of models" in Texas Instruments India Technical Conference, 2016

Brief Description of working environment, expectations from the company:

1. Great atmosphere, lot of learning in a short time
2. Managers ,mentor and other team members are quite friendly and extremely helpful
3. Clear picture about the role being assigned to you
4. Work-life balance
5. Texins (Sports Area) and team based fun events are great
6. Flexible work timings

Name: Pawas Shukla (2012B5A3641P)

Short Summary of work done during PS-II: Designed an infrastructure capable of automating the digital design flow.

Tools used (Development tools - H/w, S/w): S/w: Perl language

Objectives of the project: Develop modules, write unit tests for some modules, write a validation script to test the input XML files

Outcomes of the project: A prototype of the infrastructure was developed; it will ease the digital design process for the developers

Major Learning Outcomes: Proficiency in Perl language, learnt the software developer's approach to building packages.

Brief Description of working environment, expectations from the company: Working environment was very supportive, mentors were always polite and helpful.

Name: Ravish Deliwala (2013A3PS144G)

Short Summary of work done during PS-II: My project was on Validation of Digital Libraries. I wrote a Perl script to automate the process of validation. The script would be useful to check the effect of new foundry models and to get an estimate of a scaling factor for timing and power data for new Temperature or Voltage based on the characterization data present in the Library for an existing PTV(process, temperature, voltage).

Tools used (Development tools - H/w, S/w): Cadence Virtuoso, Perl Scripting Language

Objectives of the project: To automate the validation of Digital Libraries to quickly get an estimate about the scaling factor(average difference) for minor changes in the characterization parameters

Outcomes of the project:

Major Learning Outcomes: 1) Acquainted with Digital Libraries 2) Learned about actual calculation of timing and power data for digital cells 3) Familiarized with Perl scripting 4) Got a know-how of corporate working environment.

Brief Description of working environment, expectations from the company: The working hours are flexible. The company provides access to all their sports facilities. It also provides bus passes to ease the transportation. The employees are very friendly and polite. A top notch R & D in Electronics is carried out by the company and is always a pleasure to work with.

Name: Parag Agrawal (2013A3PS209P)

Short Summary of work done during PS-II: Microcontrollers have become progressively complex over the years with dual core and quad core architectures along with support for dozens of different bus protocols, this while providing a lot of flexibility, leads to exponentially higher design phase times. One of the main time consuming tasks is to write the Interconnect Subsystem which handles all the data communication between the masters and the slaves.

Tools used (Development tools - H/w, S/w): Software Cadence tools for simulation and verification. Magillem tools for integration.

Objectives of the project: To fully automate generation of Interconnect Subsystem RTL to support current and any upcoming projects.

Outcomes of the project: The project was completed ahead of time and all the objectives defined at the start were completed.

Major Learning Outcomes: Perl programming skills, Knowledge of design phases through which a product passes

Brief Description of working environment, expectations from the company: The working environment was honestly amazing. All the people were very relaxed, my supervisor was always ready to lend a hand whenever I needed while allowing me time to figure out things on my own. My expectations from the company were far exceeded. I met some great people, made some life-long friends and had the incredible opportunity to come back and work for Texas Instruments.

Name: Rijurekh Bose (2013A8PS515H)

Short Summary of work done during PS-II: Creation of software tool to automate the process of archive project data retrieval and conversion of project format so as to enable design engineers to view and simulate circuits

Tools used (Development tools - H/w, S/w): Python, Cadence Virtuoso, Linux bash, Perl

Objectives of the project: Automation of existing process

Outcomes of the project: Completed one aspect of automation and suggested workflow for automation of second half of the project

Major Learning Outcomes: Python web scraping, parsing, bash scripting, Perl regex, Cadence virtuoso file format understanding

Brief Description of working environment, expectations from the company: A cubicle is allotted for each student in their assigned team area. Employees are willing to help if they have any knowledge about your inquiry. Transport and recreation facilities also available. A bit of a letdown in expectations as most projects available for interns are related to automation of process while core technical skill was underutilized.

Name: Harsh Misra (2013A3PS206P)

Short Summary of work done during PS-II: High Q filter design- schematic, layout, assembly, testing & documentation

Tools used (Development tools - H/w, S/w): TINA, TI testing software

Objectives of the project: Design high Q filter for instrumentation purpose

Outcomes of the project: Design parameters achieved

Major Learning Outcomes: Learning to build system design from scratch

Brief Description of working environment, expectations from the company: Amazing work environment, helpful team members, great facilities, independence to work and learn and grow as per your wishes with good guidance available all around.

Domain: Computer Science

PS-II Station: Adaequire, Hyderabad

Student

Name: Atishay Jain (2012B3A3385G)

Short Summary of work done during PS-II: Created an Image Upload tool that helped upload images to the Amazon Web Services storage cloud. Worked on setting up Google Analytics for the company's website and setting up enhanced ecommerce plugin of Google Analytics.

Tools used (Development tools - H/w, S/w): Desktop

Objectives of the project: To create a tool that could help upload images to Amazon cloud and could be accessed easily via a link generated by Amazon CDN to access the images for the company's ecommerce website. Google analytics tracking to keep track of the performance of various products offered by the company's website.

Outcomes of the project: AWS tool was used by the company employees. Google Analytics is yet to be implemented

Major Learning Outcomes: Learned java, design patterns, javascript, servlets, restful APIs.

Brief Description of working environment, expectations from the company: The company had a jovial working environment, with strictly professional guidelines. The company is aggressively expanding and hiring, so it is bound to move forward.

PS-II Station: Amazon Development Center, Bangalore

Student

Name: Manish Tulzapur (2013A7PS074G)

Short Summary of work done during PS-II: REST API Development Platform management and Automation Tool Development.

Tools used (Development tools - H/w, S/w): Jupyter, Python, Java, Hibernate, Spring, Flask

Objectives of the project: REST API Development Platform management and Automation Tool Development.

Outcomes of the project: REST API Development Platform management and Automation Tool Development.

Major Learning Outcomes: REST API Development Platform management. Understanding Docker and using it.

Brief Description of working environment, expectations from the company: Work Environment - Good.

Name: Vishakha Kulkarni (2012B1A7697G)

Short Summary of work done during PS-II: I created a query service to fetch recharge order details for any recharge done by customer on recharge portal and I created the API for updating KYC information for a customer logging in Amazon Money.

Tools used (Development tools - H/w, S/w): AWS Services, Spring Frame work

Objectives of the project: 1.Query Service for mobile recharge portal

2. Store KYC information of customer in Amazon Pay.

Outcomes of the project: Created query service for mobile recharge plan and created a secure way to store KYC information for any customer using Amazon Pay.

Major Learning Outcomes: I learnt about how to write Coral Service, how to use Spring framework and got good knack for java development. I used various AWS Services.

Brief Description of working environment, expectations from the company: Working environment is great. Even if I was an intern, my mentors gave me interesting projects to work on and provided all the support and knowledge to me. The team culture is very good at Amazon.

Name: Hemanshu Sethi (2012B4A7420G)

Short Summary of work done during PS-II: I was given a chance to work on a machine learning project where I have to classify ASINs to their corresponding subcategories so that our team's warranty widget would display warranties for those ASINs where subcategories were null.

Tools used (Development tools - H/w, S/w): Amazon Web Services like SQS, SNS, DYNAMO-DB, CORAL SERVICE, IOP CHUNKSTORE, Elastic machine learning.

Objectives of the project: Objective of my project was to display warranties for ASINs where warranties are not getting displayed, as because of this there was a potential 10% loss in sales.

Outcomes of the project: I was able to show 441 extra warranties through the machine learning service that I built.

Major Learning Outcomes: I learnt a lot of stuff in my internship with Amazon, It's totally a different environment then college, I learnt about various technical tools that Amazon uses to make development easier, Amazon Web Services, I had a great industrial exposure working closely with the professionals working in the industry and finally it was a great experience.

Brief Description of working environment, expectations from the company: They expect us to do a lot of work and don't spare us if we are not able to finish work properly.

Name: P Harsha Vardhan (2012B4A7420G)

Short Summary of work done during PS-II: The project is to build a tool for Amazon Video Team, using which one can make the pages on the Blast Platform very easily and intuitively avoiding the current hassle approach. This tool also helps to view the changes on pages immediately.

Tools used (Development tools - H/w, S/w): JsTree ,ace.js

Objectives of the project: Use Free Marker to generate Free Marker Template Language (FTL) for the tree structure provided by the GUI.

GUI Styling Tool for tree-view of the json response that has functionalities for:

- *Creating a web page from scratch
- *Loading existing json response/FTL page.
- *Editing the loaded response
- *Immediate reflection of the response into a webpage

Outcomes of the project: All goals are met.

Major Learning Outcomes: JavaScript , JQuery , FTL

Brief Description of working environment, expectations from the company: Working Environment is good .

Name: Aditya Sharma (2012B3A7513G)

Short Summary of work done during PS-II: I did my internship with the Retail Business Services (RBS) AutoASIN team in Bangalore office. The objective of Auto ASIN solution is to eliminate all human touch points in RBS New Item Setup (NIS) process by auto creating ASINs and new offers on ASINs. Auto ASIN enables automated correction and validation of vendor submitted item data using Machine Learning models and Natural Language Processing (NLP) algorithms.

Tools used (Development tools - H/w, S/w): Amazon Web Services Like Lambda, S3, Dynamo Db, CloudWatch and Amazon Internal Tools. Other tools I used are Hibernate, Spring.

Objectives of the project: Improvements in Automated Content Correction and Validation Engine leveraging Machine learned models, Natural Language Processing, and Rule based classification.

Outcomes of the project: Increase in the percentage of auto creation of ASIN.

Major Learning Outcomes: Natural Language Processing Algorithm and writing industry standard code.

Brief Description of working environment, expectations from the company: The work culture in Amazon mainly depends on your team. For a few weeks I faced difficulty in understanding how development was done inside Amazon. Also in some teams there will be pressure and one has to deliver results in order to help the team achieve their goal. Work life balance can be difficult.

In spite of all this you will get to learn a lot of new things. I learned NLP algorithms and used AWS services.

Name: Maithili Joshi (2012B3A7513G)

Short Summary of work done during PS-II: Web development to create a metrics reporting dashboard.

Tools used (Development tools - H/w, S/w): S/w - Core java, javascript, html, css, vue.js and Spring MVC framework

Objectives of the project: To create a tool that helps managers track defects and all kinds of metrics in software development at a single place

Outcomes of the project: The project was completed successfully

Major Learning Outcomes: Learnt javascript, vue.js and Unit testing.

Brief Description of working environment, expectations from the company: My working environment was too dynamic with 3 manager changes and a total of 14 team member changes. I got to learn a lot but the expectations are quite high and it becomes very hectic to adhere to the deadlines. It depends on your team in the end.

Name: K Surya Srujan (2013A7PS174H)

Short Summary of work done during PS-II: My first project was to optimize the message structure so that multiple messages can be batched and sent as a single message to a queue. My second project was to remove dependency on a database table and use the local api calls instead. The third project required me to add an ability to drive messages to a target queue for a given date range.

Tools used (Development tools - H/w, S/w): S/w : Spring framework, AWS services , Mockito framework etc.

Objectives of the project: The objective of the first project was to batch 3-4 messages into a single message. The objective of the second project was to remove the dependency on a database table. The objective of the third project was to drive messages for a particular duration to a target queue.

Outcomes of the project: For the first project, as it turned out, 3 messages were being batched as one. In the second project, dependency on the table was removed and resolved by making calls to local apis. In the third project, the script takes dates(start and end) and drives the messages.

Major Learning Outcomes: I got to learn the internal working of an established MNC. I was also able to use their technologies. I also got to use frameworks like Mockito, Spring etc. I was able to improve upon my coding in java and got to learn xml.

Brief Description of working environment, expectations from the company: The working environment at Amazon is very healthy and the company adheres to its policies strictly. The people at Amazon always strive for betterment and prefer high standards. They evolve continuously and are eager to learn new things.

Name: Priyanka M P (2012B5A7483G)

Short Summary of work done during PS-II: A styling tool for the Amazon Video (AV) team was developed using the Freemarker templating language (FTL). The user creates a tree structure of the page using containers, image views, text views, etc. The tool generates the FTL equivalent of this tree structure, converts it into a json response and then renders the web page in an iframe. This enables automatic reflection of the created tree structure. Additionally, the user can also edit the FTL and reverse generate the tree from it.

Tools used (Development tools - H/w, S/w): Java, JavaScript, HTML, CSS

Objectives of the project: Provide a platform for developers to play around with different UI components and style definitions all at a single place without having to write java code.

The project addresses two main tasks:

- a. Automatic creation of web pages
- b. Easy visualization of the elements on the web page

Outcomes of the project: The tool built will make it very easy and intuitive to create Amazon Video web pages, without having to write any code

Major Learning Outcomes: I learnt how to build an end-to-end application in Java. Working on the server side gave me an understanding of building RESTful applications using Amazon's internal Coral service. Upon working on the client side, I learnt how to code in JavaScript and JQuery. This project gave me ample opportunities to expand my current knowledge of web technologies.

Brief Description of working environment, expectations from the company: We were provided with a mentor to guide us for the project. The environment was very conducive for learning new frameworks and was very welcoming for interns. The expectations that the company had from us with regard to the project were satisfied during the course of the internship.

Name: Ayush Kumar (2012B1A7694G)

Short Summary of work done during PS-II: Work involved many projects, ranging from Database migration and rearchitecting, to developing new backend services, leveraging AWS services like SQS, SNS, EC2, and various internal development frameworks.

Tools used (Development tools - H/w, S/w): IntelliJ IDE, Eclipse

Objectives of the project: Platform Development for EasyShip

Outcomes of the project: Contributed to several projects of the team, developing services which are to be used by merchants of EasyShip program of Amazon.

Major Learning Outcomes: Learned best practices of coding, implementation of OOP principles, various technologies of AWS etc.

Brief Description of working environment, expectations from the company: The working environment of Amazon varies considerably depending on the team. Different teams follow different coding practices, conventions etc. However, people are generally very helpful. The amount of work depends on the team allotted, and if that's less, then it may impact conversion chances, so it's important to keep asking for work. Amazon also has a set of leadership principles which they stick to, and evaluate regularly. The leadership principles are important, and Amazon expects employees to practice them. Apart from this, standard qualities like curiosity, hard work, determination are also expected.

Name: Priyank Gupta (2013A7PS060P)

Short Summary of work done during PS-II: I had two projects during my internship. My first project involved adding data size validation checks to particular input fields of a service. (both front-end and back-end). My main project was to design a new framework to generate payment reports of sellers. The need for this was to overcome all the shortcomings of the previous system and also allow incorporation of new features which are part of the next 3-Year Plan of our team.

For this, I had to develop a High-Level design of the new framework along with the Low-Level designs of each component. I further had to implement a POC (Proof of Concept) of the design and show how it overcame all problems of previous system and how the new features could be incorporated through the new design.

Tools used (Development tools - H/w, S/w): Frameworks - Spring, Guice, RubyonRails, Powermock, Mockito.

Objectives of the project: My first project involved adding data size validation checks to particular input fields of a service. (both front-end and back-end)

My main project was to design a new framework to generate payment reports of sellers.

Outcomes of the project: The first project was successfully completed and pushed into production.

My second project was completed as well. The design was approved by my team and the POC showed the benefits of the design appropriately.

Major Learning Outcomes: This internship has been a wonderful learning experience for me. Working with team on live projects have helped me grow my technical skills and concepts exponentially. I have learned many external as well as Amazon-internal tools, software and programming languages which are in demand right now. They include but are not limited to Ruby on Rails, Java, Google Guice, Spring framework, Herd, Coral.

I have gained professional skills like dealing with deadlines and presenting designs in a standard manner. I gained technical skills like coding according to standard coding practices, code coverage, deploying changes, software testing, software architecture design.

Brief Description of working environment, expectations from the company: The working environment is very good with flexible timings and no fixed number of hours. We also have the option of working from home. The expectations from the company are usually about doing the work assigned to you in the required time without going into how you get it done. This means that you can finish a week's work in two days and rest for the remaining days or do it gradually, as you like it.

Also, the managers and teammates are quite helpful solving all your queries. They inspire and motivate you and are quite supportive.

Name: Abhinav Srivastava (2013A7PS712G)

Short Summary of work done during PS-II: The flow platform which I have been working on, handles the movement of packages moving from one place to other, so that counts at various locations could be tracked. This service uses flow graphs in which entities flow from one location to another. When I started on this service, the flow graph supported only single capacity type for a given flow. My task was to incorporate support of multi capacity flow in the graph, so that counts could be computed for multiple capacities. With incorporation of multiple capacity computes in the flow graph, we remove the requirement of multiple graphs for computing counts on multiple capacity types. Since, I successfully incorporated flow of multi capacity entities, and started computes of multiple capacity in different location. I changed the existing apis to return multiple capacity response, and deprecated the existing volume graphs.

Tools used (Development tools - H/w, S/w): Amazon Dynamo Db, Amazon S3, Amazon SQS, Amazon Kinesis Streams, Amazon Redshift.

Objectives of the project: To incorporate multi capacity compute capability in flow graphs.

My main project was to design a new framework to generate payment reports of sellers.

Outcomes of the project: Successful deployment of multi capacity compute and response in flow graphs. Decreased traffic of messages and data storage by approximately 25% by merging of graphs.

Major Learning Outcomes: Working with NoSQL database, serialization and using json structure, better understanding of OOP concepts, OOP design patterns, writing industry level code, working and using git, Implementing complex Data Structure, writing algorithms with optimized space time complexity, better understanding of SQL queries and Relational database, understanding and working on new technologies fastly like Amazon aws, functional programming, multithreading and dealing with concurrency issues, team work

Brief Description of working environment, expectations from the company: Working environment was very good. Everyone in my team was very knowledgeable and ready to help. The company gives good project to interns and expects good results.

Name: Mihir Bharambe (2013A7PS115G)

Short Summary of work done during PS-II: I interned with the ContX (Context Extraction) team at Amazon. ContX suggests contextually relevant ASINs for advertising on third-party websites. I was allotted two projects during my internship: creation of a centralized log analytics tool and developing a system for provisioning and monitoring of Redis clusters. I completed and deployed these over the course of 5 months.

Tools used (Development tools - H/w, S/w): Elasticsearch, Kibana, Logstash, Scala, Akka, Redis, Zookeeper, DynamoDB

Objectives of the project: Creation of a system to do the following: Conversion into a common format and aggregation of logs from various services on multiple hosts. Reverse-indexing of logs to allow searches on each field. User interface for querying into the data. Visualization of distributions and statistics using bar charts, graphs, etc. Development of an API over RedisProvisioner which would: Enable the user to provision and configure Redis clusters. Provide the user with the current cluster state information. Aggregate and plot graphs for instance level and cluster level metrics

Outcomes of the project: The ELK stack is actively being used for debugging and finding event correlations across services. Scalability of the system has been tested and server configurations for different levels of traffic have been mapped out. This system has also been extended to cover several other use cases. Provisioning and monitoring system for Redis clusters was setup.

Major Learning Outcomes: Experience with the ELK stack was the key take away from the first project. While using Elasticsearch, I gained familiarity with the algorithms used for calculating relevance and similarity measures. It also gave me exposure to some of the analyzers and tokenizers used in NLP. I gained a lot of insight into concurrent programming, functional programming and database systems.

Brief Description of working environment, expectations from the company: The work culture in Amazon varies across teams. Some teams hand out frequent small tasks while others allow you to work independently on a large project. Irrespective of the project size, the scope of learning something new is huge.

Name: Mallikharjuna Sasikanth Kumar (2013A7PS101H)

Short Summary of work done during PS-II: Created a Data Analytics Platform for Ad Fraud Detection framework and a visualization tool to inspect and track the status of jobs in a pipeline

Objectives of the project: The objective of the project is to build an analytics platform for the Ad Fraud Detection framework.

Outcomes of the project: A web interface for making analysis on Ad Fraud Detection data.

Major Learning Outcomes: Big Data, Pig, Node JS, Redshift, Quicksight

Brief Description of working environment, expectations from the company: The company provides all the computation power you need. Have to understand large code base in a small amount of time. Need to write code in production level.

Name: Ashishkumar Alla (2013A7PS098H)

Short Summary of work done during PS-II: Generating Order-Id documents from the Amazon streams, and persisting those order id on the top of tracking id documents to Elasticsearch. Making dashboards on the top of Elasticsearch using Kibana and providing Pre-Slam visibility to Operations people integrating Slam data with ATROPS Pre-Slam Data.

Tools used (Development tools - H/w, S/w): Elastic Search, Dynamo DB, Kinesis, SQS, S3 etc.

Objectives of the project: To facilitate work for Operations people and save cost of shipping.

Outcomes of the project: Cost reduction for Amazon and fast delivery.

Major Learning Outcomes: Coding, new services from Amazon Web Services

Brief Description of working environment, expectations from the company: 1) Environment is awesome

2) Surrounded by many intelligent people.

3) Scope of learning is awesome.

Name: Abhishek Mohta (2012B3A7371G)

Short Summary of work done during PS-II: Worked on Natural Language Processing, Rule based classification and model based classification

Objectives of the project: Improvements in the AutoASIN pipeline

Outcomes of the project: Significant increase in the acceptance percentage of the AutoASIN pipeline

Major Learning Outcomes: AutoASIN pipeline thorough knowledge, industry level standards of coding, corporate atmosphere

Brief Description of working environment, expectations from the company: Very flexible work environment, enough time was given to understand and solve the problem, overall a good learning experience.

Name: Sagar Verma (2012B2A7629G)

Short Summary of work done during PS-II: I worked on different projects ranging from protecting and improving the efficiency of our service to building a new self-service tool to avoid on-boarding process required for new clients. I implemented Throttling to protect our service from any misbehaving client and Caching to cache the response of our downstream service, so for a similar request we don't have to compute again which improves the efficiency of our service. I also created a self-service platform for our team's service which helps in reducing the effort that is required by our team member to on-board any new client to our service. Clients can use this self-service tool to generate clusters of related accounts.

Objectives of the project: With the addition of new businesses to Amazon every year, Amazon system becomes more vulnerable to policy violation. Abusers always try to explore different ways to abuse Amazon system, most common way, is through creating multiple accounts. Customer Clustering Service is used to detect those related accounts. My project involves scaling of Customer Clustering Service to improve its efficiency by introducing Throttling and Caching and creating a self-service utility for on-boarding new clients.

Outcomes of the project: After throttling implementation our team hardly receives any sev2s ticket as now there is no high heap usage on any of our hosts. Self-service utility has helped new clients to generate clusters on their own, without much interaction from our team side.

Major Learning Outcomes: From my experience with senior developers I have learned how to write neater, crispier and error free code keeping future requirements in mind. By interacting with my senior team mates I have realized the importance of thinking and keeping future needs in mind before coding.

Brief Description of working environment, expectations from the company: Working environment at Amazon is very friendly and ideal to work. Although work load was high but at the same time we had team's outing and all to reduce stress as Amazon believes "Work Hard, Have Fun and Make History"

I really have enjoyed my internship at Amazon and the growth it has produced in me, both in technical and in soft-skills aspects. This internship has helped me in the transition that every student face from college life to a professional life. I appreciate being given the chance to work on the interesting projects that have been assigned to me.

Name: Aditya Bhalla (2012B5A7546G)

Short Summary of work done during PS-II: All sellers need associated services that would help them boost their sales. These services, such as imaging, transportation etc. are undertaken by companies called Service Providers (SPs). SPN is a platform where the sellers can get into contact with service providers.

The entire code base can be broadly classified into 3 layers: the front-end, the backend and the database layer. The front-end layer deals with the web pages and their handling via controllers, while using the Spring MVC architecture. The backend layer mainly deals with the validations and handling of files or messages received from the front-end layer. It processes the received files and passes them to the database layer. The database layer then takes the processed entries and saves them appropriately in the database. The project included work taken in each of the 3 layers. Some of the projects spanned across all these 3 layers while some were confined only to 1 or 2 of the layers.

Tools used (Development tools - H/w, S/w): Java, Spring, Apollo, Git, Brazil, DynamoDB

Objectives of the project: Platform Development for Service Provider Network

Outcomes of the project: Various platforms were developed for interaction of the sellers and the service providers. There were some entirely APIs that were created. Also, a new program called ATES was launched by the Service Provider Network.

Major Learning Outcomes: I learnt work on the front-end, the back-end as well as the database layers. Many tools were used and in all, it was a good experience.

Brief Description of working environment, expectations from the company: The working environment is very competitive and sufficient responsibility is given to interns. There is variation across teams as some teams expect a lot from the interns right from day 1, while some of the interns are given a lot of time to learn and deliver. However, anyone who wants to learn gets a very good platform. Amazon is certainly not for the weak of heart, for people who get scared of hardwork, because to survive in the long run work will be required.

Name: Abhimanyu (2013A7PS075P)

Short Summary of work done during PS-II: My project was to introduce a web interface in amazon retail website to show customer address attribute related issues and collect feedback for them. I worked on introducing a channel in navigation bar to show such notifications to the customer and also a complete landing page which would give customers a detailed overview of what the address issue is about and details for giving feedback. During my course of internship I got the opportunity to work on a project that was completely new to my team. I was handed over the complete ownership of my project, it involved coming up with requirements based on business logic, understanding existing code base of navigation rendering system, setting up a new web stack, communicating with different team for figuring and closing out blockers. I also got the opportunity to be involved in design discussion for backend service to support the front end of this project.

Tools used (Development tools - H/w, S/w): Spring, SQS, Gurupa, Git, internal build/deployment sytems, java, javascript, perl.

Objectives of the project: 1) Develop frontend for smart address assistant project, which will be used show customers address issue related notifications and collect feedback.

2) Develop an application that will update inflight shipment with the address attribute information collected from customer.

Outcomes of the project: I introduced a new module in navigation bar code base to support rendering address issue notification. The module was generic enough so that when team introduces new type of address issues it doesn't require a re-deployment. We set up a new web stack for hosting address issue details page. This will also be handling requests for fetching address issue notifications. I developed the web application for rendering address issue details page, address issue notification and handling requests for recording customer interaction state and responses.

Major Learning Outcomes: I got to be part of design discussion of backend service to support the requirements of this project. I learnt how to come up with requirements, closing out on HLD and coming up with LLD. I was able to design the web application myself and got it reviewed by senior engineers. I got to work on different technologies and services like, SQS, Spring, Gurupa, etc.

Brief Description of working environment, expectations from the company: Amazon's policy is that a software developer owns the piece of code he develops. He is responsible for design, implementation, testing and deployment of his code. There are no fixed hours, one has to figure out his own effort estimate and work accordingly. Amazon expects you to be a part of discussion at all levels, if you have a valid point you point would be considered. Work here is surely non-trivial, this ensures that your learning would be very steep.

Name: Gaurav Bose (2013A7PS158P)

Short Summary of work done during PS-II: Worked on building backend services for amazon logistics business. Worked was based on java.

Tools used (Development tools - H/w, S/w): Java , AWS services

Objectives of the project: 1) Migrate ingestion engine service from database to document model 2) Send shipment status notification events to the customer

Outcomes of the project: Project in production

Major Learning Outcomes: Writing industry level code, working of various Amazon web services

Brief Description of working environment, expectations from the company: Work environment comfortable, result oriented company, no fixed working hours

Name: Sai Krishna Jonnalagadda (2013A7PS141P)

Short Summary of work done during PS-II: Worked on project which helps in access of real time logs. It deals with big data.

Tools used (Development tools - H/w, S/w):Intellij

Objectives of the project: Build a package which helps in access of real time logs

Outcomes of the project: One can view logs constantly on a web-UI

Major Learning Outcomes: Learned about latest AWS product Kinesis.

Brief Description of working environment, expectations from the company: It was a decent environment. One can get a lot of motivation to work and express ourselves here.

Name: Yogesh Chopra (2013A7PS143H)

Short Summary of work done during PS-II: Worked on image processing

Objectives of the project: Determine Bad quality documents

Outcomes of the project: Determine Bad quality documents

Major Learning Outcomes: Open CV, C++, Java, GoogleProtocol, DynamoDB, Redshift, Tesseract, ImageProcessing

Brief Description of working environment, expectations from the company: Hectic working environment but so much to learn

Name: Gauri Kholkar (2013A7PS002G)

Short Summary of work done during PS-II: I worked on enhancing my team dashboard. After that, I coded filters for the team website. The coding was done primarily in Java. After testing the website by writing testcases, I moved on to my last project to design an Archival System for the compliance documents my team stores. I came up with a solution of using a timer and integrating it with the service which is a document store.

Objectives of the project: 1. Enhance the team dashboard and fix the security challenges.

2. Implement filters for the team website.

3. Modify the existing archival system for document store.

Outcomes of the project: 1. In production

2. In gamma

3. In beta

Major Learning Outcomes: Learnt to write readable code, AOP , principles of design and software design.

Brief Description of working environment, expectations from the company: The expectations for my first project underwent sudden changes which lead to wastage of time in my internship. My team did not scope out the projects properly and hence it wasn't a well laid out plan for my internship.

PS-II Station: Amazon Development Center, Delhi

Faculty

NAME: ASHISH NARANG

Comments: Expectations from industry:

Amazon, is one of the largest Ecommerce player in USA has also captured significant share in the Indian market. Interns at Amazon, Gurgaon have worked on improving Last mile delivery services, making registration workflow convenient and straight forward for all 3rd party sellers on Amazon. Technologies include Java Springs, Angular JS, Node JS, Dyanmo DB, Git and many other proprietary tools of Amazon. Organization look forward to have interns who have excellent programming skills along with good written and oral communication skills.

In order to have better internship experience, students must learn one of the Version Control System (Preferably GIT), revise course on design patterns and data structures. Students should go through standard coding guidelines and follow the same during project assignments. Although most of students have good communication skills, it's better to have soft skill training which also includes email writing etiquette's.

Student

Name: Vasudev Mittal (2013A7PS058P)

Short Summary of work done during PS-II: Redesigned the seller profile page for Amazon Marketplace. Deprecated two internal services and implemented an alternate efficient solution for the same business logic.

Tools used (Development tools - H/w, S/w): Java, Spring, Git, Mockito, Junit

Objectives of the project: To enhance the seller experience and remove frictions from the registration and post-registration part

Outcomes of the project: Seller Profile page is live in China and is scheduled to launch in other realms in coming months.

Major Learning Outcomes: Writing Industrial level code.

Brief Description of working environment, expectations from the company: Got to learn a lot, especially the scale and the impact of work assigned is equivalent to that of any other full time employee.

Name: Rajat Modi (2013A7PS142H)

Short Summary of work done during PS-II: Client and Server side development of application that verifies phone possessed by the user in realtime.

Tools used (Development tools - H/w, S/w): Git, Java, Easymock

Objectives of the project: Client and Server side development of Application that verifies phone possessed by the user in realtime

Outcomes of the project: Client and Server side development of Application that verifies phone possessed by the user in realtime

Major Learning Outcomes: Git , Java , easymock

Brief Description of working environment, expectations from the company: Client and Server side development of Application that verifies phone possessed by the user in realtime.

Name: Shubham Agrawal (2013A7PS190P)

Short Summary of work done during PS-II: Had a great time using new tools like Elasticsearch, Kibana and Logstash. Frontend developing using AngularJS, Javascript, css and HTML. Also had a chance to work with a variety of databases like DynamoDB offered by Amazon as well as other internal Amazon databases.

Tools used (Development tools - H/w, S/w): AngularJS, GIT, MySQL, HTML, CSS

Objectives of the project: Representing the data metrics in a visual format.

Outcomes of the project: Internal tool for Amazon, to help build business logic.

Major Learning Outcomes: Learning about the complete architecture of the Amazon-wide delivery systems and applying my knowledge to debug issues and completing the testing for timely delivery of the projects.

Brief Description of working environment, expectations from the company: One of the biggest plus points at Amazon is the amount of knowledge one can gain continuously. There seems to be no saturation point whether you are a fresher, a person with 2 years of experience or someone with 10 years of experience. The breadth of technologies and continuous improvisations, that too with increasing scalability, just keeps one excited. The work is always customer oriented and the impact of the smallest of changes can directly be seen through the customers. Also, the amazing number of tools present at Amazon make the job so much more fun and easy for a developer. There is literally a tool for everything.

The work culture is generally good and the work environment largely depends on the team. All in all, great place to learn and work.

Name: Ilashreel (2012B4A7138P)

Short Summary of work done during PS-II: Making front-end for an internal service and building an approval workflow in the back-end, that takes user input, stores it, assigns an approver to that request from an authorized team, send mail to that approver, executes the request and store result in storage

once approver approves the request and sends a notification mail to both approver and requester. Dashboard that gives remaining requests and assigned approvers so that any member from team can approve that.

Tools used (Development tools - H/w, S/w): Languages - Java, Spring, Angular JS, CSS, HTML, JUnit, GIT

Objectives of the project: To ease the work of developers by directly linking requester to approver.

Outcomes of the project: The workflow was successfully created.

Major Learning Outcomes: I learned professional coding, efficient coding, testing and designing a problem.

Brief Description of working environment, expectations from the company: There was a LOT to gain and learn. Project was good and environment is very friendly.

Name: Aditya Agarwal (2013A7PS062P)

Short Summary of work done during PS-II: Had a great time using some new Java concepts like Generics including TypeReference and Optional parameters for back-end development. Worked with Java Springs, JUnit testing and different mocking frameworks like PowerMock, Mockito, etc. Also had a chance to work with a variety of databases like DynamoDB offered by Amazon as well as other internal Amazon databases.

Tools used (Development tools - H/w, S/w): Java, GIT, DynamoDb, NoSQL, Java Springs

Objectives of the project: Moving static business configurations to a common data store for on-boarding a new store chain to avoid code changes and eliminate SDE effort increasing the efficiency of the process by 4-5 times.

Outcomes of the project: Automation of the on-boarding flow for new store chains under Amazon.

Major Learning Outcomes: Learning about the complete architecture of the Amazon-wide delivery systems and applying my knowledge to debug issues and completing the testing for timely delivery of the projects.

Brief Description of working environment, expectations from the company: One of the biggest plus points at Amazon is the amount of knowledge one can gain continuously. There seems to be no saturation point whether you are a fresher, a person with 2 years of experience or someone with 10 years of experience. The breadth of technologies and continuous improvisations, that too with increasing scalability, just keeps one excited. The work is always customer oriented and the impact of the smallest of changes can directly be seen through the customers. Also, the amazing number of tools present at Amazon make the job so much more fun and easy for a developer. There is literally a tool for everything. The work culture is generally good and the work environment largely depends on the team. All in all, great place to learn and work.

Name: Shreyans Mittal (2013A7PS032P)

Short Summary of work done during PS-II: I worked mainly on seller registration part of Amazon's European marketplaces. My tasks were related to Seller Verification and Payment Instrument authentication. First task focussed on automating the verification of Chinese sellers by integration of a verification system with external vendor- Trulioo. Final task given to me involved designing and implementing multi-factor authentication during addition of payment instruments. Multi-factor authentication is an additional verification mechanism which safeguards the customer in an event the login and password gets compromised. The seller is redirected to the bank site in case verification is required for the payment instrument he added.

Tools used (Development tools - H/w, S/w): Java, Git, Angular JS, JavaScript, HTML::Mason, EasyMock/Mockito (for unit testing)

Objectives of the project: Seller Verification, Payment Instrument Authentication

Outcomes of the project: Reduced Seller Friction, Automated Seller Verification, Fraud Detection

Major Learning Outcomes: Unit Testing, Writing clean code, Design Patterns, Problem Solving, Team Work, Object Oriented Concepts, Industry Software Development Practices

Brief Description of working environment, expectations from the company: Amazon is a very good company for anyone to start his/her career in the field of software development. Active and continuous software development process helps one to keep learning and improving all the time. Also, you get to work with some of the best brains in the field who help you to develop as a developer as well as a professional. With Amazon being a global company based on service oriented architecture, you work along with various teams throughout the world to launch a single product. Amazon's leadership principles give us perfect guidelines whenever a decision making situation arrives during the course of our professional career. In a nutshell-Learning, Improvement, Challenges, Customer Satisfaction, these are the everyday aspects of person's life in Amazon.

Name: Sanket Shah (2013A7PS176H)

Short Summary of work done during PS-II: Had a great exposure on Java for backend development and Angular JS for front end development. Also, learned different frameworks for Java like JUnit Testing, Springs, Easy Mock, Mockito.

Tools used (Development tools - H/w, S/w): GIT, Angular JS, Java Springs.

Objectives of the project: One Click Platform Generation and Encryption of Rest Calls to Platform

Outcomes of the project: One Click Platform Generation and Encryption of Rest Calls to Platform

Major Learning Outcomes: Working in tasks and debugging issues to find actual problems.

Brief Description of working environment, expectations from the company: Great work culture and given sense of responsibility by giving work which has actual interaction with customers.

Name: Monalika (2012B1A7659G)

Short Summary of work done during PS-II: I completed 3 projects and worked on multiple services of the Seller Registration team.

Objectives of the project: 1. Enable product owners are now able to use multiple email templates and do A/B testing for the same.

2. Deprecated the calls made to legacy service, which was an immediate effort by the team.

3. Migrated Minimal Registration workflow to new seller onboarding platform, SWIPE

Outcomes of the project: 1. The product owners are now able to use multiple email templates and do A/B testing for the same.

2. Deprecated the calls made to legacy service, which was an immediate effort by the team.

3. Migrated Minimal Registration workflow to new seller onboarding platform, SWIPE.

Major Learning Outcomes: a. Gain familiarity with Coral platform

b. Gain familiarity with advanced java concepts like multithreading and

c. Gain familiarity with various workflow technologies like-SWF, Herd, etc.

d. Understand the working of various seller onboarding services like SCORE, Aurora, SWIPE

Brief Description of working environment, expectations from the company: Being a multinational company, and surrounded by competitors of e-commerce the work done is confidential and strictly as per the company policies, following all security measures. Hence, there is no further scope of collaboration of any kind.

Name: *Abhishek Garg (2013A7PS080G)*

Short Summary of work done during PS-II:

Student has worked on the following

- Authentication of the user on firing the request to server. Based on the request POST/GET from PAMS after the request goes through Admiral.
- Then showing all the status on UI.

Student has learnt the following new concepts

- Allow user interface for UI experiences
- Sentry, amazons internal tool for authentication
- A-rest calls and design.
- Exception filters of Java
- AAA, amazon internal automated authorization tool.
- Simple stack, like horizonte, web development platform.

Objectives of the project:

a. Gain familiarity with various access control techniques

b. Gain familiarity with various internal tools like Sentry and AAA.

c. Gain knowledge of working of IHS and Admiral.

d. Understand the Configuration of PAMS.

e. Using the above knowledge, migrate modules to PAMS.3. Migrated Minimal Registration workflow to new seller onboarding platform, SWIPE

Outcomes of the project:

- Software was made secure and breach free.
- Software was backward compatible.
- Better UX provided to the users of the software developed.
- Store on-boarding process enhanced with the implementation of access control.
- Latency reduced by a factor of 20.

Major Learning Outcomes:

- New product development
- Design and
- Testing

Brief Description of working environment, expectations from the company: Being a multi-national company, and surrounded by competitors of e-commerce the work done is confidential and strictly as per the company policies, following all security measures. Hence, there is no further scope of collaboration of any kind.

Name: Vaibhav Chauhan (2013A7PS351H)

Short Summary of work done during PS-II: Deprecation of a service by making necessary code changes in the backend. Writing new classes as well as test cases to verify the code and its functioning. In addition to that, I performed various frontend changes in the beginning to understand Amazon Technologies and Systems.

Tools used (Development tools - H/w, S/w): Languages-Java Springs, Angular JS, CSS, HTML, XML

Objectives of the project: To remove dependency of SWIPE on SCHOLA Service

Outcomes of the project: The deprecation was successful.

Major Learning Outcomes: I learnt industry standards of coding, testing and verification of code and designing a system from scratch.

Brief Description of working environment, expectations from the company: It is an excellent learning opportunity, people are friendly and helpful. The environment is extremely relaxed as well.

Name: Manveer Singh (2013A7PS196P)

Short Summary of work done during PS-II: The work involved building the new version of Merchant Portal, which is an internal Amazon tool used by the Marketplace and other teams throughout the world for ease of access. It basically provides fast access to Merchant data and links to other services which might be helpful in dealing with the registered Merchants.

Tools used (Development tools - H/w, S/w): Horizonte, AUI, Spring MVC, Apollo, Brazil

Objectives of the project: Build a platform to ease and speed up the process of dealing with registered Merchants with Amazon.

Outcomes of the project: Completed the platform.

Major Learning Outcomes: Had to deep dive into the technology used and hence it was a great learning experience as I was the only one in the team working on the project.

Brief Description of working environment, expectations from the company: Working environment is pretty cool. People are friendly and amazing, and of course helpful and knowledgeable. The environment is pretty casual. The work culture is amazing. While people work hard, they also enjoy as much. All in all, a great place to work at.

PS-II Station: Amazon Development Center, Hyderabad

Faculty

NAME: T V RAO

Comments: Expectations from industry:

At Amazon, interns are brought up speed in first month using several mechanisms, such as boot camps, self-study, small assignments. Afterwards, interns are expected to work on projects that will lead to production applications. They use wide range of open source (and few proprietary) tools and technologies.

They expect students to possess good knowledge of basics, OOAD, web development, SQL/NoSQL databases, analytics, and testing. During internship students need to work with the preferred frameworks, libraries suggested by their groups. Some of the concerns heard from mentors include non-compliance to coding standards, need for better documentation, and ownership of tasks.

Student

Name: Utkarsh Phutela (2013A7PS072H)

Short Summary of work done during PS-II: I had to implement two projects including implementation of AWS(Amazon Web Services) end-to-end. These two platforms were implemented for the first time in the team's project. These were implemented with complete end-to-end successful testing

Tools used (Development tools - H/w, S/w): Java, AWS, Testing tools such as- Mockito, JUnit,etc.

Objectives of the project: To provide two end to end implementations of AWS service - SQS, DynamoDB

Outcomes of the project: Covered two major features for the Team

Major Learning Outcomes: Java, AWS, deep diving, team work

Brief Description of working environment, expectations from the company: Tough, hard at first, need to have a nice team to survive.

Name: Srishti Sharma (2013A7PS106G)

Short Summary of work done during PS-II: Made a dashboard for sellers about the products being returned to them. Worked on design, backend, front end and testing.

Tools used (Development tools - H/w, S/w): AWS Tools- Kinesis, DynamoDb

Objectives of the project: To make a new page on Seller Central website

Outcomes of the project: Made a new page on Seller Central website

Major Learning Outcomes: Database and UI

Brief Description of working environment, expectations from the company: Competitive and deadline based working environment with a flexible working time as long as deadlines are met.

Name: Sree Ravitheja D (2012B2A7436G)

Short Summary of work done during PS-II: Extensive software development in Java and integration with Amazon technologies like Coral, DynamoDB, SWF, S3, etc. Software development includes deep-diving, designing, modelling, coding, testing and deploying.

Objectives of the project: Standardization and Automation of Marketplace Category Expansions

Outcomes of the project: Found parity issues in metadata and added automation features for Atom

Major Learning Outcomes: Software development, Amazon Web Services (DynamoDB, SWF, S3)

Brief Description of working environment, expectations from the company: The work culture at Amazon is excellent. People at Amazon take complete ownership of their work and also expect newcomers to do the same. This also helps them to push their limits. They are very helpful but also encourage independence. It is a five-day per week schedule and the timings are very flexible.

Name: Mohammad Adnan Oquaish (2013A7PS174P)

Short Summary of work done during PS-II: Worked on multiple projects. Core projects involved Document Verification using Deep Learning and Computer Vision. The secondary project was based on Big Data Visualization and Data Mining.

Tools used (Development tools - H/w, S/w): Hardware was standard array of AWS EC2 instances, mostly m4.2x large instances and a couple of p2.4x GPU instances for the convolutional neural network training.

Software was very disparate, including a lot of internal tools and technologies. But generic softwares like Spring and Give for Dependency Injection, Maven-like internal build system, Elasticsearch for data indexing, Several generic Java libraries like Lombok, Jackson etc were used. I coded in Java, C++ and Python.

Objectives of the project: Building of a Document Verification system, Building of a Reporting and Analytics Platform.

Outcomes of the project: All the projects were completed and delivered

Major Learning Outcomes: Exposure to industrial coding practices and Learning to code scalable code.

Details of papers/patents: Patent for the usage of Convolutional Neural Networks for document verification using optimized algorithms on Intel's AVX 512 Processors. (Pending)

Brief Description of working environment, expectations from the company: Environment varies with different teams. Coding Deadlines have to be met. Scrum Meetings happen regularly. Working Hours are long unfortunately.

Name: Praneet Sherki (2013A7PS085P)

Short Summary of work done during PS-II: 1) Development and maintenance of an Internal Service of Amazon. 2) Development of an API for internal use of the team. 3) Designing and developing a data pipeline to move data from DynamoDB to Oracle based DataWarehouse, using AWS services

Tools used (Development tools - H/w, S/w): AWS services, JAVA, Spring

Objectives of the project: 1) Development and maintenance of services used in amazon internally. 2) Development of a Data Pipeline to move data from Dynamo to Data Warehouse

Outcomes of the project: 1) Enabled export of data from Dynamo to Data Ware House. 2) Improved performance of an existing API. 3) Working of an Internal Amazon service was modified and improved

Major Learning Outcomes: 1) AWS services. 2) Spring framework. 3) Unit-testing

Brief Description of working environment, expectations from the company: The work depends on the team assigned. The workplace is good and the environment is really friendly. Try to get as much work done and try to learn Amazon's coding practices fast

PS-II Station: ARM, Bangalore



Mentor

NAME: SOMESWARA DIXIT

Designation: Manager, ATEG

Feed back on K Hari Manikanteswar Reddy :

Hari's work is going to improve efficiency and effectiveness of Architecture Validation collateral. Some of the work he completed will be deployed to ARM architectural partners in this quarter. Hari has a good basic knowledge in computer architecture and he is quite good in understanding new concepts. Throughout our interactions, we get an impression he is keen to learn more and more importantly, asks relevant questions to get deep insights into ARM architecture.

Rating: 9/10

Faculty

NAME: GYANAN

Comments: Expectations from industry:

a) course requirements:

(i) Advanced computer organization architecture (ii) VLSI design and architecture (iii) hardware software co-design.

b) Hardware and software tools:

(i) Perl (ii) Tcl (iii) Python (iv) Unix shell scripting (v) Verilog (vi) Perf tool

GCC , ICC and LLVM Compiler (vii) cadence (viii)H-spice

c) Soft skills

(i) Proactiveness (ii) Team work (iii) Good communication skills

Student

Name: Shreya Chandra (2012B1A3733G)

Short Summary of work done during PS-II: The purpose of system validation is to provide a high degree of assurance that a particular system will perform consistently to fulfill the requirements for an intended application, meeting its predetermined specifications.

The system validation suite provides functional and real world use case scenarios to test ARM IPs in a real world system environment during pre-silicon phases of the IPs. Hence it is important to ensure all tests provide functional correctness to validate an IP being validated in a system environment. The validation test suite contains IP specific scenarios and tests to run on top of the real world Linux operating system. The main aim of my project is to validate the GICv3 using test application codes written in C. This includes writing test cases to validate GICv3 and debugging existing ones.

Objectives of the project: The main aim of my project is to validate the GICv3 using test application codes written in C. This includes writing test cases to validate GICv3 and debugging existing ones.

Outcomes of the project: For the test cases of ARM GICv3, I could successfully run the test cases. The successful output log for simple Linux based test contains the details of boot loader initializing various aspects to help Linux start operating system.

Major Learning Outcomes: 1) C programming language.

2) Computer architecture and Operating system concepts.

3) ARM architecture

Brief Description of working environment, expectations from the company: The working environment is good. Working hours can be shifted according to convenience. During the project, a tremendous amount of knowledge has been gained at a personal level in the areas.

Name: Kanchi Hari Manikanteswar Reddy (2012B3A3518G)

Short Summary of work done during PS-II: My project requires architectural knowledge of ARM memory architecture. So I have gone through various sections of ARM architecture reference manual. I ran regression of suites with new page table tool and debugged the issues with failing test cases. I qualified the new tool on various suites following a specified methodology by my manager and the new tool is successfully deployed to partners.

Objectives of the project: To ensure the successful deployment of architecture validation suites with new page table tool.

Outcomes of the project: Successfully ported various architecture validation suites.

Major Learning Outcomes: ARM memory architecture, PERL scripting

Brief Description of working environment, expectations from the company: The people are friendly here. They are very helpful and one can easily approach them if they face any problem.

Name: Sameera Kodi (2012B1A3620G)

Short Summary of work done during PS-II: I worked on a tool based process which helped in IP validation. Once the IP is created, it needs to be verified for its characteristic numbers. This tool helped in such sort of characterization of the process design kits released by various foundries. The obtained results as a whole help in understanding the usual trend in design variations made by different foundries and the competition between their products. This tool is used for a rough estimate at different stages of a product release project. It was a great learning experience to get a hands-on feel of what goes on in the industry.

Tools used (Development tools - H/w, S/w): ARM internal EDA tools, UNIX, H-spice decks, Shell Scripting

Objectives of the project: To compare different process design kits released by foundries and get their characteristic numbers.

Outcomes of the project: Successfully gave a clear comparison between different Process Design Kits.

Major Learning Outcomes: I learned the Standard cells aspect of Physical Design of IP (Intellectual Property).

Brief Description of working environment, expectations from the company: ARM has a brilliant work culture. Every employee is very dedicated and approachable; hence the whole experience is smooth.

Name: N Vivek Vardhan Reddy (2012B1A3906H)

Short Summary of work done during PS-II: My work was to consolidate configuration files which are effects for test recognition and test behavior purposes. This includes duplicate configuration files (contents may be same or different), using only a single file instead of multiple files.

Tools used (Development tools - H/w, S/w): PERL, Python, Vim

Objectives of the project: To consolidate the ArchitectureValidationSuite configuration files.

Outcomes of the project: Stabilizes the ArchitectureValidation Suite and helps in the automation of test case generation.

Major Learning Outcomes: PERL, ARM architecture

Brief Description of working environment, expectations from the company: ARM provided a good working environment for the interns. Managers and mentors are available to clarify any doubts if you are stuck at a point in your project.

Name: Amandeep Gupta (2012B4A3688H)

Short Summary of work done during PS-II: ARM has two versions of validation to validate the architecture. These two versions of VAL further has two memory mapping configuration files. The objective was to merge both of these files into one to give a unified representation of memory mapping and reflect the changes in VALIDATION scripts in order to make this work for both of the versions of validation.

Tools used (Development tools - H/w, S/w): Notepad++, Gvim

Objectives of the project: To merge memory mapping representation of ARM v7VAL & v8VAL.

Outcomes of the project: Succeeded in completing the project.

Major Learning Outcomes: Unix Shell, PERL

Brief Description of working environment, expectations from the company: Mentors were really helpful. The work-life balance of company can be considered best in industry. Working environment is friendly.

Name: Rahul Hardikar (2013A8PS422G)

Short Summary of work done during PS-II: My work was based on standard cells. I had to use Verilog, and TCL for scripting.

Tools used (Development tools - H/w, S/w): Verilog, TCL, Perl

Objectives of the project: Automating the creation of a single unified Verilog simulation model from 6 different Verilog models.

Outcomes of the project: Reduced maintenance associated with having 6 different models.

Major Learning Outcomes: Studied modeling of standard cells, types of verifications performed, along with tool used for the same.

Brief Description of working environment, expectations from the company: ARM has a very good work environment. People are warm and welcoming and willing to teach you. Expectations may depend on your manager but they are usually in line with what you have studied in college.

Name: Deepak Upadhyay (2013A3PS375H)

Short Summary of work done during PS-II: During my internship, I have done three different projects. The first project title was Optimizing the performance of Coverage model with C/C++ using DPI. Thus, by getting the program flow from SV, we are parsing and fetching lines using C and sending off the signals to the SV using enum which ensures that SV has to only deal with numerical values. The second project

title was “Performance Analysis for Various Models”. As the title suggests, the aim is to find the performance analysis of the given tarmac logs on the current model. The third project was to involve in development of new tool. My work was to implement the new requested features and find the bugs and fix them.

Tools used (Development tools - H/w, S/w):Questasim by Mentor Graphics, Python compiler, C compiler, C++ compiler, GVIM

Objectives of the project: Optimizing the performance of Coverage model with C/C++ using DPI.

Outcomes of the project: The time to run the set of logs decreased thereby making the coverage productisation faster.

Major Learning Outcomes: Better understanding of Architecture and Linux commands and scripts. Better programming skills.

Brief Description of working environment, expectations from the company: The working environment was good as there was no pressure from the management and team to finish the work in the given deadline. Everyone was ready to help you at any time, even if you didn't know him/her.

Name: Shraddha Pathak (2013A8PS458P)

Short Summary of work done during PS-II: Built a debugging tool which extracts transaction that are interacted in a testbench.

Tools used (Development tools - H/w, S/w):System Verilog-s/w, Universal verification methodology-s/w, Questa sim-s/w, JAVA-s/w.

Objectives of the project: The intent of this project was to develop a Transaction Debugger for the ease of debugging the various test cases and test benches.

Outcomes of the project: The tool was built and was functioning but had some glitches which could not be solved in the given time.

Major Learning Outcomes: System Verilog and Universal Verification Methodology.

Brief Description of working environment, expectations from the company: It was a very good learning environment. The employees were very helpful and innovative. They were very knowledgeable and never hesitated to teach. The infrastructure is very open and welcoming like the people in the company.

Name: Manchala Pavani (2012B4A3530H)

Short Summary of work done during PS-II: I built an automatic test generator for memory consistency.

Objectives of the project: Automatic test generator for memory consistency.

Outcomes of the project: An automatic test generator for memory consistency is built with limitations on number of agents and cache-line variations.

Major Learning Outcomes: I got a great insight in coding with python and the sequence language which was specific to project.

Brief Description of working environment, expectations from the company: The working environment is great and people around here are friendly and approachable.

Name: R Ranganathan (2012B2A3854H)

Short Summary of work done during PS-II: I was involved in the design and development of SRAM memory compilers for the Physical Design Group.

Tools used (Development tools - H/w, S/w): Cadence Virtuoso, Pegasus, MDBScaler (Internal ARM tools).

Objectives of the project: Successful Design of a RAM compiler where the IP can be sent to a customer for varied uses.

Outcomes of the project: We managed to successfully release multiple compilers according to the needs of the customer.

Major Learning Outcomes: Shell Scripting skills were improved. I also learnt a lot about memory architecture.

Brief Description of working environment, expectations from the company: The working environment is very good. People are friendly and always ready to help. This was a great learning experience.

Name: Lokesh Kumar Verma (2013A3PS253P)

Short Summary of work done during PS-II: I have worked on IP validation methodologies which help in making sure that the design is error free. My project was focused on creating necessary configuration files for QA-Builder (Quality Assurance). Along with the main project work, I worked on TCL also.

Tools used (Development tools - H/w, S/w): QA-Builder, Cell-Builder

Objectives of the project: To create EDA source packages to validate the IP views

Outcomes of the project: 3 EDA source packages named EDA16p1, EDA9p1 and EDA9p0

Major Learning Outcomes: I learned how the design validation flow works. I developed competencies in TCL.

Brief Description of working environment, expectations from the company: The work environment is very good at ARM. My mentor helped me a lot in the learning process.

Name: A Sai Charan Kumar (2012B2AA674H)

Short Summary of work done during PS-II: Tool Development. Tool is used for Coverage Analysis of a SOC.

Tools used (Development tools - H/w, S/w):Perl, TCL,R,Verilog

Objectives of the project: To check the effectiveness of verification process carried out on SOC.

Outcomes of the project: Using the Developed Tool, coverage Data is generated and analyzed to understand the stimuli used for testing

Major Learning Outcomes: Verification process(mainly Coverage), scripting languages

Details of papers/patents:CATSCAN- ARM Publication (internal purpose)

Brief Description of working environment, expectations from the company: Work wise it is good place, a lot can be learnt with some effort. The team is helpful and friendly, and expects the interns to complete the tasks on time and explore a lot not by limiting themselves to a specific project.

Name: Govind Mantri (2013A3PS260P)

Short Summary of work done during PS-II: The work involved in my team was to assemble an octa-core processor for different configuration using standard cells, memories and other instances. I also worked on designing cores. On the sideline, I learnt about scripting in TCL.

Tools used (Development tools - H/w, S/w):Cadence tools: Genus, Innovus, Tempus, Conformal. ANSYS-Redhawk

Objectives of the project: To design an octa-core processor with different configurations at different technology nodes

Outcomes of the project: The outcome of the project was to design various octa-core processors for various mobile markets.

Major Learning Outcomes: Placement & Routing, ASIC flow, Physical design, Floor-planning, Crosstalk analysis

Brief Description of working environment, expectations from the company: ARM is a great company for interns and especially for those who want to have an insight about the semiconductor company. People in my team were very approachable and helped me with the smallest of details. The working environment is quite positive and they focus especially on smart work.

Name: Navneet Tripathi (2013A8PS383P)

Short Summary of work done during PS-II: The work involved in my team was to assemble an octa-core processor for different configuration using standard cells, memories and other instances. I also worked on designing cores. On the sideline, I learnt about scripting in TCL.

Tools used (Development tools - H/w, S/w): Cadence tools: Genus, Innovus, Tempus, Conformal. ANSYS-Redhawk

Objectives of the project: To design an octa-core processor with different configurations at different technology nodes.

Outcomes of the project: The outcome of the project was to design various octa-core processors for various mobile markets.

Major Learning Outcomes: Placement & Routing, ASIC flow, Physical design, floorplanning, Crosstalk analysis

Brief Description of working environment, expectations from the company: ARM is a great company for interns and especially for those who want to have an insight about the semiconductor company. People in my team were very approachable and helped me with the smallest of details. The working environment is quite positive and they focus especially on smart work.

PS-II Station: Avaya India Private Limited , Pune

Student

Name: Subham Jain (2013A7PS056P)

Short Summary of work done during PS-II: I worked with the SBCE TEAM. Implemented a chat-messenger to their working environment and worked with file-handling, file conversion with the help of Python.

Tools used (Development tools - H/w, S/w): Putty, Winscp, VMware, Linux, Python, C++ and machine learning and socket programming

Objectives of the project: To ease the work process for the employee and to filter the problems in a call transaction using collaborative filtering.

Outcomes of the project: Besides learning and working with team knowledge, I felt the joy of working in the projects which would be great use.

Major Learning Outcomes: socket programming and multithreading

Brief Description of working environment, expectations from the company: The environment is cool. It's all upon you what do you want to learn and work upon. You will get an opportunity to work with good and friendly people.

Name: Neeraj Ingle (2013A7PS092G)

Short Summary of work done during PS-II: 1. Development of a basic login form.

2. Enhancement of an existing web application.

3. Study and use of many programming languages, applications and concepts.

4. SAX Parsing of an XML file using Java.

Tools used (Development tools - H/w, S/w): Software Tools: Eclipse, Avaya Aura SMGR, Apache Tomcat Server.

Objectives of the project: The main objective of the project was to parse an XML file and compare the information contained in it on two consecutive days to see if there is a new version of software available. Another objective achieved before submission of the Midsem report was to develop a basic login form as well as enhance an existing web application and link it to the PLDS (Product Licensing and Distribution System).

Outcomes of the project: An XML file was parsed using SAX parser by writing a Java program to output the required data in the format.

Major Learning Outcomes: 1. Web Development - HTML5, CSS3, JavaScript

2. Programming - Java

3. Databases - MySQL

4. Concepts - OOP, Core and Advanced Java, Basic Computer Networks, HTTPS, Web Services; SAX, DOM and JAXB Parsing.

Brief Description of working environment, expectations from the company: The working environment was very supportive at Avaya and the employees and my mentors were very helpful towards my project completion. It was a great learning experience and gave a much needed exposure to the working of a company and the industry requirements. The company expected the student to know, learn and be able to apply many concepts and use several tools apart from those used in college.

Name: Santosh Akkala (2013A3PS319P)

Short Summary of work done during PS-II: I mainly worked on software testing. I had to automate ocena workspaces a contact center application using a pure java based application called jmeter .

Tools used (Development tools - H/w, S/w): Jmeter,java

Objectives of the project: Automating multiple number of agents at the same time.

Outcomes of the project: Able to automate most of the contact center part except a few things like “co browse”.

Major Learning Outcomes: Got some experience working with java and learned about the dynamic working of web sessions.

Brief Description of working environment, expectations from the company: The team that I was assigned to is pretty supportive and guided me through the project; especially my mentor. Company expected me to do complete the project but a little part of it remained.

Name: Deshmukh Pranjal Shahajirao (2013A3PS276P)

Short Summary of work done during PS-II: The project was based on Performance Testing of Co-Browse which is a part of Avayaa’s project OceanaTM 3.2. Co-browsing is a software enabled technique helping a customer by connecting it to an agent. Avaya Co-Browsing Snap-in provides a set of consolidated services for sharing a webpage session. Using Avaya Co-Browsing Snap-in, two users can browse the same webpages simultaneously to collaborate and accomplish certain tasks. The agent can assist the customer to navigate through the webpages and, if required, in filling out forms. My task was to write the automation scripts which can be used for performance testing of this application. Later the same thing was implemented using TestNG.

Tools used (Development tools - H/w, S/w): Selenium-IDE, WebDriver, Grid.

TestNG(A testing framework)

PhantomJS(A headless browser with JS API)

Objectives of the project: The main Objective of this project was to reduce the memory leak during performance testing. Earlier, for each Co-browse session, the memory consumed was around 900MB. So, the main goal was to reduce this memory consumption.

Outcomes of the project: The following points were achieved from this project:

- Scripts written in Java , Easier to modify
- Easier to start & stop the sessions
- Customer initiated Co-browse
- Detailed generation of logs
- Customer & agent can be on different machines(Using Selenium-Grid)
- Each agent & Customer has a unique username(Easy to map on admin page)
- Start time & stop time of each session, also the total time taken by all the sessions is mentioned.
- Use of TestNG: Helped in reducing the number of exceptions. Also detailed report generation can be obtained easily.
- Also, the memory consumption per session was reduced from 900mb to 300mb per session.

Major Learning Outcomes: Learnt Core Java, Selenium WebDriver, Selenium-Grid & TestNG.

Brief Description of working environment, expectations from the company: Lots of new things to learn, excellent work culture and management. Avaya provides ample opportunities.

Name: Naga Chaitanya Kella (2013A3PS118P)

Short Summary of work done during PS-II: Created a hand gesture recognition system for the Avaya CSDK.

Tools used (Development tools - H/w, S/w): Visual Studio

Objectives of the project: Creation and integration of a custom library into the csdk

Major Learning Outcomes: Software development and testing

Brief Description of working environment, expectations from the company: The working environment is good, and so are the facilities.

Do not put any expectations from this company, the work is completely related to software development, and there's little chance for a PPO. Even if you work hard you can't expect any job offers here.

Name: Keshav Patil (2013A7PS061G)

Short Summary of work done during PS-II: Web Development of various new products in Avaya.

Tools used (Development tools - H/w, S/w): Linux server, Putty, WinScp, Tight VNC viewer.

Objectives of the project: The computation and analysis of persons' data based on his skills is an open problem. It is time consuming. This problem can be solved using Skillsmap. Main objective of this project is to provide information regarding a person's skills working on the roles and products, his previous records, his contribution in the previous work in the respective project. It helps the user to collect information very efficiently and in less time. Skillsmap help manager to get the skills information of his employees.

Outcomes of the project: This tool is being used by the everyone in Avaya, especially managers as it helps them to visualize the data easily.

Major Learning Outcomes: Designing a Tool, Shell script to get anything from remote servers

Brief Description of working environment, expectations from the company: Working environment is really refreshing and motivating. Everyone is helpful for whatever help you need. Timings are flexible.

Name: Sarvesh Nandkar (2013A8PS517H)

Short Summary of work done during PS-II: Worked on developing and improving an online performance monitoring tool. We used SSH to connect to remote machines from our machine and then use the tool to monitor and store performance stats of those machines for references. It was a web-development project, and so we used HTML, Php, JS, python and other concepts.

Tools used (Development tools - H/w, S/w): HTML, Php, python, JavaScript, PuTTY, WinSCP, SSH, Apache Server

Objectives of the project: To enhance and optimize the functionalities of the performance monitoring tool.

Outcomes of the project: The performance monitoring tool now performs more efficiently than before.

Major Learning Outcomes: Web concepts like HTML, JavaScript, php, python, SSH, cron

Brief Description of working environment, expectations from the company: The working environment here is very lenient. We don't have any time constraints and are allowed to come and go at anytime we choose, as long as we do our assigned tasks and stay on the good side of the manager.

The employees here are also very friendly and supportive. They make every possible attempt from their side to help us out any time. Apart from that there are regular team outings and so if you are a part of the team you can expect to get in about 3-4 outings with them, which is all fun.

The company believes in the idea of us getting the maximum learning from whatever work we do. The first thing that my manager here told me was that he didn't mind if I didn't completed the project but as long as I made the maximum learning out of all my time over here.

Name: Ankur Dubey (2013A8PS371P)

Short Summary of work done during PS-II: I created a dashboard to show the various metrics of an application running on the Google cloud platform. I had to show metrics like CPU utilization, Disk Utilization etc. in the form of a chart. I used the Stackdriver API to get the data and chart.js to show the data in the form of a chart.

Tools used (Development tools - H/w, S/w): Javascript client Library, HTML, CSS , Bootstrap, HTTP

Objectives of the project: To learn how to use the Stackdriver API for cloud monitoring.

Outcomes of the project: Created a monitoring Application for the Google cloud platform.

Major Learning Outcomes: I learnt how to make Authorized API and understood the process of OAuth2. I also learnt how to parse the JSON response received to show the data in some meaningful form.

Brief Description of working environment, expectations from the company: The working environment here at Avaya was relaxed and you can work at your own pace. The mentors were quite helpful but they are usually busy and probably won't pay much attention to your project unless you are assigned a team.

Name: Vedant Sapra (2013A3PS023P)

Short Summary of work done during PS-II: My project involved integrating a feature into one of the Avaya applications. The application - 'Contact Center' was initially capable of making audio calls. My task was to integrate video streaming within the call and make it a full fledged video call. I successfully integrated the video calling feature into the main application.

Tools used (Development tools - H/w, S/w): JavaScript, AngularJS, HTML, CSS, WebRTC, Networking Protocol (SIP, SDP, etc.)

Objectives of the project: To integrate video calling feature into the application

Outcomes of the project: The application can successfully handle and stream video calls from other instances of the same application within or outside of the network

Major Learning Outcomes: I majorly learned the fundamentals of web development (front-end & back-end) and worked with the very recent and growing open source technology - WebRTC. I also got a detailed understanding of networking protocols in practical applications.

Brief Description of working environment, expectations from the company: Avaya as a company provides a very helpful and conducive environment for its employees. The company does not count your weekly hours and 'strict timing' is not a part of Avaya culture, it is a very flexible company and is concerned about the quality of work produced by you and not the hours put in.

Name: Bandi Vishal (2013A3PS243P)

Short Summary of work done during PS-II: During my entire stay here at Avaya, I had to develop new scripts using JMeter and performance test them. Initially around 15 scripts had to be created & tested. Once done, more new scripts were given to work on.

Tools used (Development tools - H/w, S/w): JMeter

Objectives of the project: Benchmark given to me was the average response times for the required key samples of my script had to be less than 5secs for each of the given tasks.

Outcomes of the project: Test was executed and average response times obtained were actually more than 5secs in few cases for which issue had to be raised.

Major Learning Outcomes: Performance Testing using JMeter

Brief Description of working environment, expectations from the company: A mentor was allotted to me right from day 1 itself and she explained the work I had to do and the skills I needed. It was mostly on JMeter tool itself so I had to learn working with JMeter really quickly in order to start my work.

PS-II Station: Azul Systems, Bangalore
Faculty

NAME: PREETHI NG

Comments: Expectations from industry:

Azul builds Java runtime products and students are supposed to be well versed with OOP concepts and Java. They work on testing their products.

Student

Name: Chitti Sai Prasanth (2013A7PS178H)

Short Summary of work done during PS-II: The project falls in the Software testing division. I designed a JVMTI Test suite that helps add confidence to Azul's JVM, Zing. Automated tests and identified a few obscure bugs along the way.

Tools used (Development tools - H/w, S/w): JNI, JVMTI, Basic Linux shell scripting

Objectives of the project: To fill testing gaps in the JVMTI area. The project required me to come up with tests on the unexplored JVMTI APIs. The objective was to stress the JVM to ensure its robustness/identify flaws in its functioning.

Outcomes of the project: Built a JVMTI test suite.

Major Learning Outcomes: Java, C, JVMTI, JNI, Shell scripting basics. Understood work distribution and coordination between teams better.

Brief Description of working environment, expectations from the company: Pretty pleasant working environment, with not much pressure. People are very avuncular and go out of their way to help. An opportunity to understand JVM internals.

PS-II Station: Blue Jeans Network India Pvt. Ltd., Bangalore

Faculty

NAME: Chandra Shekar Rk

Comments: Expectations from industry:

Expectations from the industry - in terms of course requirements: Introductory knowledge of DBMS- NoSQL DB, Testing- SW Testing as a part of SW Engg., Web technologies like Javascript, HTML, CSS. With hands on experience on the above mentioned tools, students should be able to cut down their preparation time for their projects.

Student

Name: T Sai Rohith (2013A7PS021P)

Short Summary of work done during PS-II: At first I was asked to understand the code structure of the existing project on which I had to build on. I started to learn BackboneJs, JQuery and basic html. I started build the basic stuff required for making an web interface for our product. Due to unavailability of design specs and no backend Api's i was asked to mock my backend Api's on my local machine. I used NodeJs and Mysql database to mock the data and passed it my UI. Later, I worked a bit on IOS app for a short time. I also worked on the backend where I had to filter the list with a query parameter by accessing the DynamoDb in java. After all the backend Api's and design specs were ready, I worked on the remaining part of projec. It is now globally used by all Bluejeans users.

Tools used (Development tools - H/w, S/w): Sublimetext, Eclipse, Xcode, chrome dev debugger, DynamoDb, Mysql, BackboneJs, JQuery, html, css, Bootstrap, swift.

Objectives of the project: To make web admin user interface for the list of huddle rooms and detailed info of each room. (Huddle is the new product of Bluejeans)

Outcomes of the project: Made an admin user interface for list of huddle rooms which went to production globally for all Bluejeans users.

Major Learning Outcomes: 1. To make a website using an MVC framework (BackboneJs)

2. Learned the entire software development cycle.

3. Learnt to make API's by accessing different databases Mysql and Dynamodb.

Brief Description of working environment, expectations from the company: The working environment is friendly and everyone is quite helpful. There was no pressure during the entire duration. The company expects interns to interact mostly with their employees and participate in all cultural activities.

Name: Kashyap Gajera (2013A7PS088G)

Short Summary of work done during PS-II: The initial work was to understand the backbone js code for webRTC sdk and to write unit tests for each and every function of the sdk to ensure industry standards. After completion of the Test Suite, it was to be combined with the already working task runner. It will run on every build to ensure that no errors occur on subsequent versions of the software.

The Next work was to fix a few bugs in the Firefox version of the Bluejeans Webapp. Also worked on making APIs for a client to fetch local volume and reconnection timers.

I was also involved in the local hackathon team that won the first prize. For the project a docker was made which would stay on a windows screens user as a native Application removing the need for frequent alt+tabs. I was in-charge of making the appearance of the docker.

Also solved jiras including making a reconnection Api for the 3rd party client and also an API which can be used to see the local volume for the user. The reconnection API would detect the disconnect state and initiate a timer which would attempt reconnects at increasing intervals of time.(2s,4s,8s...32s).

Tools used (Development tools - H/w, S/w): Tools and Languages used

- 1.Code Editor - Sublime Text
- 2.Languages – JavaScript,HTML,Jquery
- i) JS Frameworks used - Backbone Js,Mocha,Chai,RequireJs
- 3.Debuggers - Chrome developer tools,Firebug
- 4.Bug maintain system - Jira
- 5.Version Control - Git
- 6.Api testing - Postman
- 7.Automation - jenkins
- 8.Task-Runner - Grunt

Objectives of the project: To create a Unit-Testing Suite which runs on any commit on a repository and provides feedback in the form of an email.

Outcomes of the project: Successfully created a unit-testing Suite for testing WebRTC-SDK.

Major Learning Outcomes: Learnt about WebRTC Api's,BackBone js, Automation,Unit Testing

Brief Description of working environment, expectations from the company: By working in Bluejeans Network, I have gained a lot of exposure as to how a tech company operates and what kind of work is given. Also, I have gotten acquainted with languages like JavaScript, frameworks like Node and Backbone and tools like Git. I was given work that was directly used by the releases made by the company making me feel that my work is important. I have grown on both a Professional and Personal level from this experience. The company does not have any pre-requirements although knowledge of JavaScript, C++,Html, Css could speed up the work.

Name: *Chittersu Raghu Vamsi Krishna (2013A7PS031P)*

Short Summary of work done during PS-II: Bluejeans is a cloud application. It is divided into number of micro services. Each micro service performs set of task. There are about 300 micro services across all environments and partitions. It is impossible to manually monitor all of these whenever there is a new update and compare it to the other partitions. So there is necessity of a new monitoring tool which uses data provided by New Relic monitoring tool. So the application gathers data in intervals runs anomaly algorithms on time series and report anomaly to slack channel. There is a UI available for detailed anomaly information.

Tools used (Development tools - H/w, S/w): Mongodb, Nodejs, express framework, javascript, python, front-end.

Objectives of the project: Maintain the data on different services, Perform anomaly operations in real time, Notify anomaly to the designated user.

Outcomes of the project: Maintain the data on different services, Perform anomaly operations in real time, Notify anomaly to the designated user.

Major Learning Outcomes: Learned how to implement the complete application stack. Managing and maintaining database.

Brief Description of working environment, expectations from the company: Bluejeans provided very good working environment where you can directly communicate and interact with directors. The environment is very friendly and understanding, people won't pressurise too much (at least on interns). The company expects enthusiastic employees. The skill and knowledge may not be required to survive here as they give ample amount of time to adjust to new technology.

Name: *Avyav Kumar Singh (2013A7PS084G)*

Short Summary of work done during PS-II: Worked on Front-End Development for the PrimeTime product app.

Tools used (Development tools - H/w, S/w): Javascript frameworks including Node.js, Marionette.js, Backbone.js etc.

Objectives of the project: Develop Maya, the UI repo of the product

Outcomes of the project: Working features of Maya

Major Learning Outcomes: Javascript frameworks

Brief Description of working environment, expectations from the company: Excellent atmosphere for learning, very conducive and helpful employees.

**PS-II Station: Bundl Technologies Private Limited (Swiggy), Bangalore
Faculty**

NAME: ANJANI SRIKANTH KOKA

Comments: Expectations from industry:

Project Areas: Marketing&Sales, Vendor Management, Operations, Analytics; Not much technical skills needed but advanced excel knowledge and strong soft skills are very much needed. Students will work on different projects during their PS II

Student

Name: Rudraraju Sai Krishna Snigdha (2013A2PS569H)

Short Summary of work done during PS-II: Project -1(Operations)

- Metric Management
- Target setting and TAT reduction
- Catalog information inventory
- Standard operating procedure formulation
- Preparation of allocation sheet using excel tools for daily assignment of files.

2. Project -2(Marketing)

- Process setting for segment of customers
- Process Improvement

Tools used (Development tools - H/w, S/w): Excel, Qlikview

Objectives of the project: Standardization of processes involving collection of data and analysis of data collected.

Outcomes of the project: Projects contribution to the organization:

This projects helped in automation of many procedures which were done manually before. This made analysis easy since the formats of data collection were also standardized. It basically reduced the time spent on preparing various reports shared between the stakeholders every week.

Major Learning Outcomes: Optimization of resources and streamlining the processes .

Brief Description of working environment, expectations from the company: Start up culture is seen everywhere, very helping and supportive in all aspects.

Name: Deepsha Jain (2013A2PS608H)

Short Summary of work done during PS-II: 1. Project -1

- Market Analysis of all the Trade Discounts that were live on Swiggy (Bangalore), during July and August.
- Found the share of profit generated by the installment of trade marketing collaterals at Swiggy's partner restaurants.
- Coordinated the entire process of deployment of Trade Marketing collaterals in 235 Restaurants in Bangalore and analyzed their Impact on customer creation.

2. Project -2

- Created a business case for the methodology that we used to increase the overall Average Order values in Partner restaurants all over India.
- Worked on Qlikview to extract data and create a dashboard, to analyze the end results of the proposed hypothesis.
- Analysed the price parity of items in partner restaurants in SWIGGY'S Platform as opposed to other platforms and created a business case for it.

Tools used (Development tools - H/w, S/w): A. Market Research and Analysis

B. Concepts of Qlikview and business Analytics

C. Study of Business Strategy and Expansion

D. Concepts of Excel VBA.

Objectives of the project: To increase the average order value of each order placed on Swiggy Platform at PAN India level.

Outcomes of the project: AOV Project helped Swiggy to generate an increment of Rs.8 in overall AOV and Increase of Rs, 5 in Hyderabad and Rs. 3.75 in Bangalore.

Major Learning Outcomes: Got to learn and code on business intelligence softwares like Qlikview which are based on SQL for data analytics, which I never used before. Many students from bits already in analytics team, so they helped me a lot throughout. Apart from that excel VBA for making macros was also needed, my mentors guided me enough. Making projection models was also new, but learned it eventually.

Brief Description of working environment, expectations from the company: Got to interact and present my proposals to the leading managers of other companies as well. Right from the start, they place interns at important positions and guide them through it. Your proposed strategies if backed down with relevant data, are actually implemented and worked on. Really good place to learn if one wants to start his/her own startup. You are incharge of the projects you are working on and they give you flexibility and freedom to implement in your own way.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Chennai

Faculty

NAME: ANJANI SRIKANTH KOKA

Comments: Expectations from industry:

Project Areas: Marketing&Sales, Vendor Management, Operations, Analytics; Not much technical skills needed but advanced excel knowledge and strong soft skills are very much needed. Students will work on different projects during their PS II

Student

Name: T Srikar (2013A3PS250H)

Short Summary of work done during PS-II: I got to work on various projects, the very first one being related to the most important component of their services: DEs. DE, short for Delivery Executive, is the guy who picks up the food from the restaurant and delivers it to the customer. So, he is the face of the company from the customer's point of view.

In this project, I was supposed to devise strategies to fill in the shortage of DEs. So, I had to understand their thought process so as to maximize the DE fleet size for Chennai; and by exploring the various channels for sourcing them such as Job-based ad websites, placement agencies, consultancy services, etc. Hence, most of the work was data collection and management. I also got to work with the marketing strategies in these projects. Later on, I got to work on competitive analysis on the demand front, where I listed out all the restaurants tied up with us and our competitors. These lists would be very useful for the company in the future.

Although most of the work was tiring and monotonous, I am satisfied with it as the work done will be very useful for the company.

Tools used (Development tools - H/w, S/w): Microsoft Office

Objectives of the project: To fill in the shortage of DEs by sourcing them through various channels; Expand the client base of the company and improve services.

Outcomes of the project: DE shortage problem was effectively solved and the company is working on expansion of their client base.

Major Learning Outcomes: Management skills, some aspects related to Sales and Marketing, Communication skills

Brief Description of working environment, expectations from the company: Being a start-up, the atmosphere here is very friendly. We were very involved in the improvement of their services, as the Chennai division was launched only a year ago (in November '15). Hence, there was a lot of scope for it.

However, getting a project with a fixed and rigid objective is difficult as all the departments and teams have to go hand in hand.

Do not expect a single project for all of the semester. You may be part of several smaller projects, under different teams, with one or two of these projects standing out as the better and bigger ones.

Name: Chandu Sai Hemanth (2013A1PS804H)

Short Summary of work done during PS-II: First, I chose the project titled Competitive Analysis of Marketing and Sales of Online Food Ordering Market Space in Chennai. The main objective was to strengthen the demand in catalogue by area, Cuisine & Restaurant popularity by the use of competitive intelligence. After completion of that project, I undertook the project of RFM (Recency, Frequency and Monetary) analysis with the objective of finding the most loyal customers from the huge customer

base. Later, I worked on the analysis of Order Cancellations of Swiggy Chennai due to the reasons of change of mind by Customer and Closing of Restaurants during the operating hours.

Tools used (Development tools - H/w, S/w): Excel 2016

Objectives of the project: i) To strengthen the demand in catalog, by Area, Cuisine & Restaurant popularity.

ii) To find the most loyal customers from the huge customer base.

iii.) To find the average time taken for the order cancellations due to the change of mind of customer and to find the pattern of the restaurants which are closing during the operating hours.

Outcomes of the project: 1.) I have found out the leading and lagging items, cuisines, restaurants and areas through sales perspective all over the areas in Chennai which are on live on Swiggy.

2.) I have found out the most loyal customers of Swiggy as well as the customers who faced horrible experience from the services of Swiggy.

3.) I have found the average time taken for the order cancellations due to the change of mind of customer and even i have found the pattern of the restaurants which are closing during the operating hours.

Major Learning Outcomes: 1.) I have learnt the concept of applying the competitive intelligence to find the solutions for the problems arises in the organization and to find the new ways to improve the organization position as a market's key player.

2.) I have learnt some of the most advanced features of Excel 2016 to cater the results for my projects.

3.) I have learnt the concept of RFM Analysis which is a powerful tool to find the customer behavior towards the organization.

Brief Description of working environment, expectations from the company: When coming to the working atmosphere, it is a better place to showcase ones talent as an employee. With the help of friendly work culture, one can surely improve themselves and can attain efficient performance in job. HR team organizes various activities frequently to improve the team work. Even the Star team trophy made a platform for the entire team to build a healthy competition.

Though most of my projects were done under the guidance of sales and marketing teams, I had some great time with even rest of the teams like Vendor Management team, Field Operations team, Sourcing and On-boarding team and Finance team. Everyone helped me to face the challenges that I have encountered during my internship. Especially my mentors, who monitored my progress in the work assigned every week and he made some valuable suggestions which enhanced my performance in pursuing the projects.

The company has already taken my analysis into account and started to operate by using them. The company is becoming a notable player in the market space of online food ordering. Till now Swiggy employed itself in creating a brand value and from now on, it changed its strategy to make an impact on the market.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Gurgaon

Student

Name: Mohit Katiyar (2013A2PS526P)

Short Summary of work done during PS-II: For the first 3 months I worked on Excel and VBA, after which they gave me a role in sales; I had to track the performance of sales manager of all the areas. Excel learning was very important as it helped me learn how to play with data, you have enormous amount of data and if you are able to extract the relevant information then it could be very useful for the company.

In my role in sales I have to interact with many people which helped me in my personality development. It was an overall learning experience.

Tools used (Development tools - H/w, S/w): MS excel,VBA.

Objectives of the project: To increase the orders of the company, to increase the efficiency of a team.

Outcomes of the project: Increase in growth rate of the company.

Major Learning Outcomes: You will learn to play with data and see how useful it is for a company to extract information from raw data.

Brief Description of working environment, expectations from the company: My 5.5 months spent at Swiggy was a very good learning experience. I can say this as my transition from academic life to corporate life. We all have plenty of time in our college but as you move in a fast paced startup like Swiggy, you have to do your work within a specified time. Sometimes time given for a project is so less that you don't even have the time to take a breath. In the starting months I was struggling with Excel, but in a startup like this city head sits beside you, no separate cabins nothing, here you get the knowledge of the entire company.

Name: R Vaishnavi (2013A1PS553P)

Short Summary of work done during PS-II: With some major competition in the online food delivery sector, a competitor analysis was essential. My first project involved analyzing the restaurants on the competitors platforms and setting priorities for all restaurants based on their ratings and votes.

My second project was on Swiggy Select, a pilot initiative in Delhi NCR offering a 40% cashback in case of delay in delivery. A select set of restaurants were chosen based on their metrics. The project involved liaising with the Sales, Vendor Management, Operations and the central team in Bangalore.

By collaborating with the operations team, I also worked on developing an Extra SLA(Service Level Agreement) Model. With inputs being the number of orders and the number of delivery executives available at point of time, banner factors were set based on which beef ups were added to the predicted SLA.

Tools used (Development tools - H/w, S/w): The aforementioned work required a high proficiency in MS Excel. Through the course of the project, I also got an exposure to VBA.

Objectives of the project: The aim of the project was to create a consolidated list of restaurants in the existing areas as well as new areas for onboarding new restaurants onto the platform based on the set priorities.

Swiggy Select intends on creating a niche set of restaurants which offer low SLA thereby offering a better customer service.

Extra SLA model was created to determine start and stop banner factors for all zones depending on the time of the day for optimizing the difference between the predicted and the actual SLA without hampering the compliance and increasing it if possible.

Outcomes of the project: The set of restaurants thus determined were used in shaping the Quality of Supply in existing areas and launching new zones in Ghaziabad and Noida.

Swiggy Select has ensured an increase in the city level automation of acceptance of orders, decrease in edits and cancellations, reduction in average preparation time and increase in overall compliance. By analyzing the customer cohorts, it was also observed that the number of new users acquired by the restaurants on select was more compared to a non-Select restaurant and thus the restaurants saw an average 15% growth in orders.

The extra SLA model ensured a reduction in the difference between predicted and actual SLA.

Major Learning Outcomes: 1. Competitor analysis for improving quality of supply.

2. Understanding customer cohorts and planning marketing initiatives based on it for attracting new customers and increasing retention and order frequency of the existing customer base.

Brief Description of working environment, expectations from the company: Swiggy, being a start-up, has a brilliant scope for learning and executing new ideas. By interacting with the higher officials on a day-to-day basis and working with them, one can understand the thinking that goes behind various activities conducted by e-commerce portals.

The teams are well knit making liaising with them easy.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Hyderabad

Student

Name: Ritesh Kumar (2013A2PS648P)

Short Summary of work done during PS-II: My project was to reduce item edits and increase item acceptance. I got a list of top defaulters and then I talked to restaurant managers. I explained the new feature of our vendor application using which they could mark any item out of stock for some time frame. After I was done with my calling I started to analyze any change in their performance. My second project was with field operations on order cancellation. This was a very interesting project for me as it was a very important project for the company. The company was losing a major part of their revenue due to order cancellation. The company had to pay restaurants for orders that got cancelled after the food was prepared. My job was to analyze the data for entire October month and provide a solution for reducing order cancellation. Other than this I was able to understand how the complex process of delivery is well managed during peak hours of business, bad weather, customer dissatisfaction.

Tools used (Development tools - H/w, S/w): MS Excel, MySQL, communication skills

Objectives of the project: Reducing item edits, loss due to item cancellation and increasing order acceptance.

Outcomes of the project: Reduction in edits, increased acceptance (outcome of my second project is yet to come).

Major Learning Outcomes: MS excel

Brief Description of working environment, expectations from the company: This company has a very flexible working culture. It allows employees to work from home in many cases. HR activities are really good.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Kolkata

Student

Name: Rishu Garg (2012B1A1757G)

Short Summary of work done during PS-II: During my time in Swiggy Kolkata I have sequentially worked on multiple work-streams, each giving a lot more ownership and learning than the previous one. I started off the semester by helping then in on-boarding of restaurants. Over the period of the next five months, I took complete ownership of cake delivery process which is new delivery process in the system. My biggest achievement in this internship is starting cake deliveries with modified cake delivery system and introducing hybrid packaging system for the cakes. In addition to the above, this experience has taught me to work and manage a team in a professional manner.

Tools used (Development tools - H/w, S/w): Qlikview, Excel

Objectives of the project: To analyze the restaurant metrics and initiation of cake delivery in Kolkata.

Outcomes of the project: Cake delivery is successfully started in Kolkata with 1000 cakes delivered so far.

Major Learning Outcomes: I have learnt to deal with stressful situations in a calm and collected manner as I was in vendor management team and on-ground operations coupled with the experience of large data management gave me an invaluable insight into the nuts and bolts of the food delivery business. Successfully managing the competing interests of multiple stakeholders while being steadfastly focused on the core company goals has been the most important takeaway from this experience. I learned good email communication, following up on work items pending with other teams, pro-active communication and presentation skills and verbal discussions.

Brief Description of working environment, expectations from the company: The experience of being a part of startup like Swiggy has been quite a fulfilling one. It has given me a great deal of insight into how sustainable companies are built brick by brick. Moreover, the very range of exposure; from City head to delivery boys has given me the ability to think from a macro to micro perspective which I believe which go a long way in the professional life ahead.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Mumbai

Student

Name: Divyanshu Nigam (2013A1PS544G)

Short Summary of work done during PS-II: My work here in Swiggy Mumbai was basically as a Business Analyst. Swiggy Mumbai is pretty new and still in its developing state. There are various different departments here and as an Intern I was attached to two departments namely Vendor Management and Business Operations.

In Vendor management, work basically included meeting the Vendors which generally are the Restaurant owner or Managers. So this work basically requires communication and negotiation skills.

In Business Operation, the main work keeps on revolving around Data Analysis and I have to make consolidated reports of the previous weeks and set the targets to achieve for the upcoming week.

The work culture is pretty good and people here are friendly and easy to work with.

Tools used (Development tools - H/w, S/w): MS Office, MS Excel, SQL

Objectives of the project: To increase the compliance percentage and set the targets to be achieved for the upcoming week.

Outcomes of the project: Compliance percentages were increased from 80% to 90% during my tenure.

Major Learning Outcomes: I learnt how to communicate with people more effectively and how to negotiate the deals in real world. As of software's, I learnt advanced Excel and SQL.

Brief Description of working environment, expectations from the company: Work environment is pretty cool and all the people are young here so the energy level of the office is tremendous. There is no dress code. We just need to focus on our work rest all is taken care off.

Name: Mansi Narang (2012B1A1815P)

Short Summary of work done during PS-II: 1. Project -1

- Increased customer acquisition and order count
- Working end-to- end on a new initiative of venturing into tiffin services delivery across the city
- Analyzed area wise business growth reports and increased business areas wise

2. Project -2

- Increased the Order acceptance and edit rate
- Increased the overall automation Rate and reduced restaurant cancellations.

- Worked on addition/removal of holiday slots, Restaurant on-boarding details and scheduling of photoshoots

Tools used (Development tools - H/w, S/w): MS Excel, SQL, Qlikview

Objectives of the project: Analyzing business opportunities and driving company growth by undertaking new initiatives.

Outcomes of the project: To drive business initiatives from customer and vendor side.

Major Learning Outcomes: Improvement in the productivity and efficiency of the product & services

Brief Description of working environment, expectations from the company: Work Environment is pretty cool and all the people are young here so the energy level of the office is tremendous. There is no dress code. We just need to focus on our work rest all is taken care of.

PS-II Station: Bundl Technologies Private Limited (Swiggy), Pune

Student

Name: Abhinav Patil (2012B2A1875H)

Short Summary of work done during PS-II: Swiggy is an Indian online food ordering and delivery platform founded by Sriharsha Majety, Nandan Reddy and Rahul Jaimini in August 2014. The company is based in Bangalore.

Coming to the project, I worked in two departments, sales and operations where i have learned communication skills and data analysis. My project in sales: competitor discount analysis, competitor bench-marking analysis, acquisition of few restaurants, I worked on reconciliation of errors. Reconciliation involves studying the causes involved in errors that happen in billing and cash exchange. Operations: worked on classifying delays, compliance and breach intervals, organized data into presentable manner.

Tools used (Development tools - H/w, S/w): EXCEL

Objectives of the project: To provide Swiggy services throughout the Pune

Outcomes of the project: Improvement in the productivity and efficiency of the Swiggy services.

Major Learning Outcomes: Excel, Communication skills

Brief Description of working environment, expectations from the company: The whole 5 1/2 month is quite interesting and I have learnt a lot of things from the people over here, they helped a lot. In future for upcoming students, I think they can learn so many things from this fastest growing start-up.

Name: Nandan Luthra (2012B5A1719P)

Short Summary of work done during PS-II: Vendor Relationship Management monitoring restaurant health indices and restaurant performance indices. Development of business analytics tools to assist the business development team.

Tools used (Development tools - H/w, S/w): Excel, VBA, Freshdesk, CMS, Qlikview

Objectives of the project: To improve Acceptance, Automation Rates and cut down restaurant edits and cancellations.

Outcomes of the project: Acceptance Rate increased by 8%, Automation Rate increased by 4% achieving quarterly targets.

Major Learning Outcomes: Vendor Relationship Management, Data Analytics

Brief Description of working environment, expectations from the company: The Working environment is perhaps the best one can find elsewhere. Every staff member is very cooperative and will go to heights to help you learn more.

PS-II Station: Busigence , Gurgaon

Mentor

NAME: PRANAV VERMA

Designation: Founder & CEO

The company is mainly into developing a product of its own using machine learning algorithm implemented using Python. Although all the interns were new to the technology, still they picked it up quickly. The BITS interns are dedicated and have an out-of-the-box thinking.

Student

Name: Raag Khandelwal (2012B4A2675P)

Short Summary of work done during PS-II: My work at Busigence Technologies is focused on developing novel techniques on data science. My role is that of a research and implementation intern, where I conduct research on the existing techniques on machine learning, algorithm optimization, statistics, & exploratory data analysis and develop modern & innovative techniques compared to merely adopting the traditional ones. I am currently working with the data science team on solving complex scenarios through statistical exploration & machine learning. I have gained practical knowledge on statistics, algorithms (classifiers, clustering, regression, bayesian, decision trees, random forest, neural networks) and hyperparameter optimization using various search algorithms on large data sets both supervised and unsupervised. I have also worked on feature selection. I shall be covering business acumen while working on analytics on real-world scenarios.

Tools used (Development tools - H/w, S/w): Python, Apache Spark

Objectives of the project: To code various steps of Data Science

Outcomes of the project: Various data science techniques

Major Learning Outcomes: Obtained knowledge and experience of that of an advanced data scientist.

Brief Description of working environment, expectations from the company: Company is located in an ideal location in Gurgaon and the working conditions are quite good. Hours are long, but the learning covers for that. The company expects you to research and implement very advanced data science techniques in python.

Name: Vinayak Mishra (2013D2TS987P)

Short Summary of work done during PS-II: I created a model that helps in optimizing hiring activities in an organization. To conduct this task first 2 months I was engaged in gathering information and completing research on why traditional hiring hampers the intake of quality candidates in an organization. We came up with very good strategies and then we finally reevaluated and submitted the final scenarios that helps in optimizing hiring activities.

Tools used (Development tools - H/w, S/w): Machine learning,

Objectives of the project: To optimize traditional hiring practices

Outcomes of the project: Scenarios were created which helped in solving those problems

Major Learning Outcomes: Major learnings were:

1. Data is so large that insights are very much required.
2. Traditional hiring does not match the right candidate to organizations.
3. Traditional hiring is outcome based hiring.

4. To optimize any problem, we need to use machine learning

Brief Description of working environment, expectations from the company: Working environment was good. It was very competitive and everyday was challenging. There was no single day where we felt that today we are not supposed to do anything. Every day there was new start and new activities for us. Company people were very coordinating; they helped us with every single problem of any intern over there.

Name: Ananya Banerjee (2013B4TS958P)

Short Summary of work done during PS-II: During my stay at Busigence, I have been exposed to the world of Data Science, Machine Learning and a part of Artificial Intelligence. I implemented several algorithms like Logistic regression, Deep Belief Networks, Neural Networks and Clustering algorithms from scratch using python and its relevant libraries like Numpy, Pandas, sklearn, etc. I also worked on hyperparameter optimization and doing deep research regarding problems like class imbalance and how to solve this problem.

Tools used (Development tools - H/w, S/w): I used Python, libraries like sklearn, tensor flow, theano, etc were also used extensively. Apart from that, I used Eclipse IDE for python, scala and spark.

Objectives of the project: This project was aimed at gaining a deeper insight into data science and machine learning using python as a tool. After testing and implementing a lot of algorithms both supervised and unsupervised, it was pretty clear how different algorithms work, their shortcomings and how to improve upon a few of them to get better accuracy. Also, we got a better and deeper knowledge of several machine learning paradigms and its intermingling nature with data science. Also, we attained a lot of knowledge about statistics and its high level of usage in Data Science.

Outcomes of the project: This project was aimed at gaining a deeper insight into data science and machine learning using python as a tool. After testing and implementing a lot of algorithms both supervised and unsupervised, it was pretty clear how different algorithms work, their shortcomings and how to improve upon a few of them to get better accuracy. Also, we got a better and deeper knowledge of several machine learning paradigms and its intermingling nature with data science. Also, we attained a lot of knowledge about statistics and its high level of usage in Data Science.

Major Learning Outcomes: Knowledge about Machine Learning basics, steps involved, and several algorithms ranging from Supervised, Unsupervised till Reinforcement learning paradigm associated algorithms. Also, we were exposed to python, functional programming paradigm, scala and spark.

Brief Description of working environment, expectations from the company: The company expects its aspirants to have a good knowledge of statistics, coding in Python and Machine learning. The working environment is suitable for people aspiring to really learn loads of important and essential things and work on real world projects.

PS-II Station: Centre for Artificial Intelligence & Robotics, Bangalore

Mentor

NAME: SHASHANK BHUSHAN

Designation: Scientist C

Excellent grip on the research area. Always ready to help.

Faculty

NAME: PRADHEEP KUMAR K

Comments: Expectations from industry:

Students are expected to have fair knowledge in embedded systems, robotics, VLSI projects, MATLAB and Labview

Student

Name: Tanya Shrivastava (2012B5A8941H)

Short Summary of work done during PS-II: Calculation of accuracy and precision of multiple object trackers using CLEAR MOT Statistics

Tools used (Development tools - H/w, S/w): OpenCV, QtCreator, NVIDIA's Jetson, C++

Objectives of the project: Calculation of accuracy and precision of multiple object trackers using CLEAR MOT Statistics

Outcomes of the project: Successfully debugged and tested a number of object trackers, while adding on a few blocks of code to it, and learned the algorithms involved: Including MCMO, Adaptive MOT, GMM, TLD, MeanShift, CAMShift, Canny Edge Detection, Image Subtraction

Major Learning Outcomes: Learnt C++, OpenCV, worked on Qt creator, wrote/added on to, debugged and tested multiple object trackers, and learnt about various algorithms including TLD, GMM, Image Subtraction and Canny Edge Detection.

Brief Description of working environment, expectations from the company: The working environment was far less than ideal. I witnessed multiple instances of highly unprofessional behaviour, that stopped me from feeling comfortable in the environment I work in, but more than that, it stopped me (and others) from giving the best we could, as professionals. Some such instances were also reported to PSD, and I truly applaud how maturely and gracefully they taught me to handle it. They were really helpful. However, I would strongly suggest against keeping CAIR as a PS2 centre in the future. I was quite disappointed, and did not expect a PS2 work environment for BITS Pilani students to be so colossally unprofessional.

In case you are unable to remove this as a PS station, do try to ensure mentors with reasonable and professional attitude for all. Professional ethics standards should be the same for everyone in the workplace. Lastly, since all this was excluding the economic problems, I must add that stipend is essential in a city like Bangalore. We got Rs 0/- for the whole July to December period, which included having to endure so much unnecessary havoc and coercion. And even though we ended up learning something, I don't see why we couldn't have done it anywhere else. It just simply wasn't worth it.

Name: Yashraj Saharia (2013A8PS495H)

Short Summary of work done during PS-II: We basically worked on the theory of vehicle dynamics and the first few days involved its theory, then we worked on developing pid heading angle controllers which was based in matlab, we estimated the cornering stiffness using vehicle parameters, we had to design the transfer function for our controller.

Tools used (Development tools - H/w, S/w): Matlab

Objectives of the project: Designing harding angle controllers for autonomous ground vehicles

Outcomes of the project: We designed pid controllers for agvs, developed the steering actuator model for the vehicle we simulated all the results and compared them to the experimental ones.

Major Learning Outcomes: Vehicle sensitivity analyses, Cornering stiffness estimation, Designing linear/non linear controllers.

Brief Description of working environment, expectations from the company:The environment is pretty relaxed,there is a lot of work for people who are interested to work ,the scientists are very helpful there guidance was very crucial for us , lot of opportunities for people who are willing to work.

Name: Harshit Sharma (2012B1A4814P)

Short Summary of work done during PS-II: Study of programming basics - DSA, fundamentals of autonomous robot navigation and SLAM techniques, In depth analysis of existing popular localization algorithms and modification of one such algorithm to include an extra variable of scale for each particle.

Tools used (Development tools - H/w, S/w): C++, ROS, Custom made bots running ubuntu 14.04

Objectives of the project: For an autonomous robot employed in the field of search and rescue, localization can be left dependent on the availability of a detailed, accurate map of an area, as standard localization algorithms require a map in order to guess where it on it and use this information for further purposes such as path planning and exploration. This study aims to remove the need for a map, replacing it with a user input, semi-accurate map by modifying the existing AMCL algorithm in order to allow for minute inaccuracies.

Outcomes of the project: A modified version of AMCL was built to cope with inaccuracies of scale and linearity in hand sketched maps. Though results were mixed, they can be improved upon by utilizing different versions of odometry, scanning and localization methods.

Major Learning Outcomes: Programming fundamentals, fundamentals of autonomous robot navigation and localization

Brief Description of working environment, expectations from the company:Working environment consists of a trainee room wherein all trainees have to be present most of the times, leading to a very unprofessional environment which is not conducive to either learn or work with full concentration. Internet facility is not officially provided but can be accessed through a separate internet room using some scientist's user credentials, but was mostly unused. Expectations may vary from scientist to scientist, but on average it is expected to stay in office for 6 hours, followed by additional research on work later on, since it's impossible to do so while at office.

Name: Umang Tiwary (2012B1A4814P)

Short Summary of work done during PS-II: My work was related to robotics and computer vision. Objective was: given a goal to the robot, it should navigate to that point avoiding all the obstacles. It should also create a map of the environment while navigation. This problem is known as Simultaneous Localization and Mapping.

Tools used (Development tools - H/w, S/w): ROS, CUDA

Objectives of the project: SLAM

Outcomes of the project: Map of the environment in the form of local and global costmaps, and path of the navigation process.

Major Learning Outcomes: Robotics software development and debugging.

Brief Description of working environment, expectations from the company: Working environment was good if you show interest in the field. Mentors have a good amount of practical experience who will help you if you ask them doubts. Some drawbacks are there is no internet inside the organization. Only one internet room is there which can be used by trainees. No mobile phones allowed. As it is a government organization, there are a lot of rules and regulations in the starting of the PS.

Name: Deeksha Sinha (2013A4PS202P)

Short Summary of work done during PS-II: Simulating the motion of a snake robot using MATLAB

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: To map the path followed by the tail of a robot when the path constraints for the head of the snakebot are given

Outcomes of the project: Successfully mapped the motion of the tail for a 12-link snakebot

Major Learning Outcomes: MATLAB, Tractrix equation

Brief Description of working environment, expectations from the company: Very poor working environment. Limited internet access made research work quite difficult. Scientists were usually busy, interaction was sparse. Computers given to us to work on were not up to the mark, very slow and old.

Name: Veni Lasya Jammalamadaka (2013A8PS449P)

Short Summary of work done during PS-II: Calculation of precision and accuracy of multiple object trackers using CLEAR MOT statistics. Coding role initially, testing role later in which artificial intelligence is used to find objects and people in surveillance videos. Also deals with computer vision tasks.

Tools used (Development tools - H/w, S/w): OpenCV, CPP, CLEAR MOT, not challenge 2016 benchmark

Objectives of the project: To find the accuracy and efficiency of trackers coded by scientists at the centre and if possible make them more efficient.

Outcomes of the project: Accuracy and precision found. Also multiple tasks completed in the fundamentals of computer vision and CPP for proficiency with tools.

Major Learning Outcomes: Strong grasp of various computer vision concepts, coding in CPP. Also familiarity with artificial intelligence topics. Product in various tools like OpenCV.

Brief Description of working environment, expectations from the company: Working environment was really good for research. Supportive mentor at CAIR, but he was busy during the last three weeks on assignment and hence the project slowed then. Good knowledge base of all mentors, very helpful, they want us to produce original research work. But a lot more improvement would have occurred if regular access to the internet was provided.

Name: Harshit Mathur (2012B1A4812P)

Short Summary of work done during PS-II: Simulated a heading angle controller for unmanned ground vehicles on SIMULINK.

Objectives of the project: Simulated a heading angle controller for navigating the vehicle

Outcomes of the project: Heading angle controller simulated and sensitivity analysis done.

Major Learning Outcomes: Knowledge of control systems and vehicle dynamics.

Brief Description of working environment, expectations from the company: Working environment not very conducive to learn. No internet facility and outdated systems and processors made available make research speed slow.

Name: Satchit Varma (2013A4PS318P)

Short Summary of work done during PS-II: Titled Snake Robot, the aim of my project was to simulate the locomotion of a hyper-redundant snake robot in MATLAB. The robot was modeled as a chain of rigid links connected by freely rotating joints. The motion of the snake was predicted based on the motion of the leading end.

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: To simulate the locomotion of a hyper-redundant snake robot moving in a three-dimensional obstacle course, in MATLAB.

Outcomes of the project: We have been able to successfully move the simulated snake robot in pre-defined paths and through specified waypoints, in two and three dimensional space. However, obstacle

avoidance was a challenge, since we were unable to prevent the body of the bot from colliding with the obstacle, although the head could be navigated around the obstacle with ease.

Major Learning Outcomes: Gained competency in MATLAB.

Brief Description of working environment, expectations from the company: The working environment is not great. One is mostly on one's own, and there is little help or support from the organisation. Scientists are mostly busy with their own work, and there is neither encouragement nor any incentive to work very hard on the project and complete the work. A student who is very interested in and dedicated to research will find good work and good research projects, but not one who is not.

Name: Deeksha Prakash (2013ABPS218P)

Short Summary of work done during PS-II: The project deals with developing, a Call Data Record Visualizer and Analyser software tool for analyzing the CDR logs provided by the cell phone service providers in a Windows based application with enhanced capabilities for social network analysis using MathWorks advanced Matlab Guide Platform to give advanced user interface. The work implemented till now allows the user to do a basic statistical and social network analysis of CDRs. Though the organisation had a tool for doing a statistical analysis on CDR, there was none present for call pattern detection which till current is being done manually.

The pattern detection logic embedded into the tool works pretty fast. The time taken for detection of a mediator- manager pattern using the tool when 2 CDRs were used was 1.671 s.

For 3 CDRs it was 1.893s , similarly for 4 CDRs it was 2.145 s .The time complexity of the code used for the detection of the pattern which was embedded into the tool was $O(\log N)$ types where N is the sum of total number of rows in the CDRs which were imported Hence the efficiency of the code is good enough as compared to the trivial method which is currently being used in the organization. The 100% efficiency of the tool in terms of output and result authenticates it to be further used for the call pattern detection in future. This tool can be enhanced by embedding various other call pattern detection logic.

Tools used (Development tools - H/w, S/w): Matlab's GUIDE Platform

Objectives of the project: In the tool the most important application we are focusing on is the social network analysis. The tool is basically used for the analysis of a suspects CDRs which in order is used to derive various other information like the movement of the suspect on particular day, the frequently people he /she is talking to. This analysis can hence be used to identify other potential suspects whose call records can be kept under surveillance. Basically we try to reduce the chances for the occurrence of any mishap around the world by strictly keeping the suspects under surveillance through their call data records.

Here in the project the concept of link analyzer and unusual call pattern detection logic has been used to identify the potential suspects.

Outcomes of the project: At present the unusual call patterns present in multiple CDRs are being detected by the organisation manually. So availability of a software tool which detects the call patterns

fastens and automates this process of detection hence increasing the productivity of entire screening and surveillance process.

Major Learning Outcomes: Increased capability of using Matlab's GUIDE Platform

Learnt about

* Social Network Analysis

*Centrality Measures

*OSM(Open Street Mapping)

Details of papers/patents:*Community Detection and Behavior Study for Social Computing

Huan Liu, Lei Tang, and Nitin Agarwal, Arizona State University ,University of Arkansas at Little Rock

*The Wealth of Networks by Yochai Benkler ,Yale University Press New Haven and London

*Social Network Analysis for Startups ,Maksim Tsvetovat and Alexander Kouznetsov

Brief Description of working environment, expectations from the company:The work environment was good in terms of mentor's involvement and help provided. The only drawback which resulted in slowing our work a bit was limited access to internet that we were provided and exemption from carrying any storage devices inside the institute might have also resulted in slowing the work being carried there. But CAIR being a defense organisation this has to be a norm followed by trainees.

So we had to mail the work we did on weekends.

But overall in terms of the project and the guidance provided by the mentor made it a very informative and educative experience and a very suitable place to work for 6-month internships.

Name: Himanshu Arora (2013A3PS306P)

Short Summary of work done during PS-II: The first part of the project was to implement an object detection system for a bot. This object recognition system trains the bot to recognize certain familiar objects and accordingly it can take actions to change its path or to capture the object. This similar object recognition technique is to be used for bot which will traverse outside and should be able to distinguish between roads , paths or any other object it can encounter outside. This project involved making my own dataset for CAIR , getting it labeled and further feeding it in the neural network to achieve detection for bot. Second part of project is Activity Recognition so that bot is able to recognise any usual activities happening around its path or anywhere nearby. This activity recognition is to be achieved via a Convolutional two stream model which has a spatial layer and temporal layer.

Tools used (Development tools - H/w, S/w): Python , Keras

Objectives of the project: Achieve a robust object and action recognition system using deep neural networks.

Outcomes of the project: Neural network model which could detect usual indoor and outdoor objects as well as action.

Major Learning Outcomes: Learnt about different deep learning models and also how to achieve good results using convolutional neural networks

Brief Description of working environment, expectations from the company: You're provided with a good enough system but without internet. Mentors aren't that strict.

Name: Saikrishna Konetisetty (2013A7PS041G)

Short Summary of work done during PS-II: My project is all about rendering of 3D spatial data as web service which is basically building 3D maps. For this project I have used geotiff files as source data, and I have used java script, three.js, gdal plugin, mapnik, python to build 3D maps.

Tools used (Development tools - H/w, S/w): three.js, gdal plugin, java script, mapnik, python

Objectives of the project: Rendering of 3D spatial data as web service

Outcomes of the project: Building 3D maps

Major Learning Outcomes: Built 3d maps of India that can be used by DRDO.

Brief Description of working environment, expectations from the company: The work environment was good in CAIR and my mentor was helpful all the time. The major drawback was that we had no internet connection while working, because of which my work was going slow. Otherwise I would have accomplished much more than I did, and we can't take any pendrives or hard drives inside CAIR which was also bad. My mentor expected to finish my project so that DRDO can use it as web application.

PS-II Station: Cisco Systems (India) Pvt. Ltd. , Bangalore

Mentor

NAME: MR. SRIKANTH NARASIMHAN

Designation: Distinguished Engineer, IT

Thank you for being proactive in thinking about your interns before performance issues develop.

Faculty

NAME: MOHAMMAD SALEEM BAGEWADI

Comments: Expectations from industry: At CISCO Systems you analyzes complex business problems to be solved with automated systems or using data from internal and external sources. Provides technical expertise in identifying, evaluating and developing systems and procedures that are cost effective and meet user requirements. Configures system settings and options; plans and executes unit, integration and acceptance testing; and creates specifications for systems to meet business requirements. Building teams that are expanding technology solutions in the mobile, cloud, security, IT, and big data spaces, including software and consulting services. As Cisco delivers the network that powers the Internet, connecting the unconnected.

Skill Sets :

- Design, develop, troubleshoot and debug software programs for enhancements and new products.
 - Develop software and tools in support of design, infrastructure and technology platforms, including operating systems, compilers, routers, networks, utilities, databases and Internet-related tools.
 - Determine hardware compatibility and/or influences hardware design.
-

Student

Name: Harsh Sharma (2013A7PS045P)

Short Summary of work done during PS-II: My work involved designing an iOS app in Xcode and delivering it for alpha testing. It included learning a new language Swift as well as the IDE required for iOS app development, Xcode. It involved the front end design on storyboard and all the necessary code for its functioning such as fetching data from the server based on a user differentiator and posting data on the server, different notifications to the user, etc. It also involved exploring machine learning algorithms and learning about recommender systems.

Tools used (Development tools - H/w, S/w): Xcode, Swift

Objectives of the project: Develop an iOS app which contextually helps employees with appropriate food suggestions.

Outcomes of the project: Pilot version of iOS App

Major Learning Outcomes: iOS app development, recommendation systems

Brief Description of working environment, expectations from the company: Working environment was good. Mentors were helpful. I was on my own to learn the language as well as the other tools, so that took some time. Since none of my mentors knew Swift hence it caused a little more time to remove the glitches in the app. There were conference calls with my co mentor almost on a daily basis which helped to keep the pace of project in check.

PS-II Station: Cubical Laboratories , Delhi

Faculty

NAME: SANDEEP KAYASTHA

Comments: Expectations from industry:

Marketing orientation.

Student

Name: Pratik Shekhar Jha (2012B2A1704G)

Short Summary of work done during PS-II: I was given the work related to marketing and operations. In this I had done search engine optimization for the website, Google and Facebook ads, content writing etc. Apart from this I had developed tools for better distribution system and inventory management.

Tools used (Development tools - H/w, S/w): Excel, Google Adwords, Facebook Business, etc.

Objectives of the project: Improving brand presence and distribution network.

Outcomes of the project: The page ranks of Cubical webpages have significantly improved making it more accessible to the audience. The distribution network has also improved, both in size and efficiency.

Major Learning Outcomes: Search engine optimization, Social media marketing, key words based content.

Brief Description of working environment, expectations from the company: The work environment was pretty average, with lack of proper administration and schedule. Though the individuals had a lot to offer in terms of their knowledge, the structure of the environment was a hindrance. The expectation of work was largely fair, with ample time and background understanding provided for the work to be done. This was the major learning experience, the work given by individuals.

Name: Hitesh Varma (2013A1PS637G)

Short Summary of work done during PS-II: The project was about developing new business channels for the company. The process included citing assumptions about a new business channel, testing out the assumptions and changing the assumption if the results didn't seem to justify the assumptions made in the first place. And, if the assumptions did prove to be right, other team members were also allocated to the same task to work on the same thing and increase the efficiency and the number of shots we gave at a particular business channel, so that we can increase the success rate.

Tools used (Development tools - H/w, S/w): Data management softwares- MS Excel, Postman, MS Powerpoint

Objectives of the project: Develop new channels for procuring business for the company. As well as Increasing the efficiency of the existing processes and bringing business for the company.

Outcomes of the project: The project contributed 35 lakhs to the company's revenue and increased the revenue by 15%. I was also responsible for managing client relationships. I realized that getting a client on board for business is slightly easier as compared to keeping the client on board. Apart from that, i found a new way of collecting data from just dial and indiamart website. The details were mostly about our possible business partners. I improved the efficiency of the data extraction process by 2400%. I was also responsible for managing the entire database of interested customers which improved my data management skills and i also explored the various uses of excel.

Major Learning Outcomes: The major learning happened in terms of the soft skills developed through the time. I have sat in a lot of presentations and have presented the solution to a lot of prospective business clients and customers. I also was cold calling about 10-13 people per day. Doing this, i could overcome my fear and uneasiness talking to unknown people over the phone. Pitching the business plan over the phone, made me confident of my talking skills. I could formally talk to people and interest them in my pitch and hold the interest over the duration of the call. It also made me very formal in my people skills as i was earlier very informal during my college days. I feel like i have achieved some thing and it gives me immense confidence going into on-campus placements. I have also improved my MS excel and MS power point skills. I am a much better now making a presentation than i was before. I can grasp things much quickly and talk to people in a confident manner.

Brief Description of working environment, expectations from the company:I was disappointed with the environment of the company. I expected a much more passionate environment where everyone is working for the company keeping aside the personal grudges and interests. Being in a startup, i expected i would be given a lot of tasks in many departments. But i was restricted to working in only one department. The environment was also not very conducive. The people were very egoist and had no vision as to what they working for. Also, they behaved rather childishly when asked some questions about the products and the standard reaction was mostly mocking the person who was asking the questions. A new manager was appointed who was a bully. He used aggression to get work out of people. I opposed his behavior in-front of all the people in the office. The company is doing great business but the management lacks the team bonding skills and managing a small team to get the best out of them is one thing which they are not very aware of.

PS-II Station: DreamWorks Animation, Bangalore

Student

Name: Varun Wachaspati J (2013A7PS166P)

Short Summary of work done during PS-II: I worked on the internal studio tools and Render Farm. We analyzed data generated from Render Farm and have successfully identified the straggler jobs on the farm using First Order Statistics. Built many other microservices to notify the stakeholders of the same in a visualized manner.

Tools used (Development tools - H/w, S/w): Python, Scikit-Learn, Cytoscape, Flask, Unicorn, Supervisor

Objectives of the project: To streamline the workflow of Technical Resource Administrators

Outcomes of the project: Highly efficient scheduling and preemption of jobs on Render Farm

Major Learning Outcomes: Analysis of Multi dimensional data

Brief Description of working environment, expectations from the company: A brilliant working environment for an Intern as we were treated on par with full time employees. We were given various degrees of freedom to explore our ideas and implementations, were also part of the decision making and road map planning of our respective teams. This is an optimum environment to explore and grow not just in Computer Graphics or Data Science but almost in every aspect.

Name: Mihir Biswal (2012B2A7767P)

Short Summary of work done during PS-II: I worked with the R&D team in DreamWorks Dedicated Unit, Bangalore to contribute to the development of DreamWorks' next generation animation and rigging software LUNA. I fixed a lot of bugs in the software and also added multiple features to the plugin. The work was majorly based on Qt (C++) with boost library. Some components of the software that I worked on also involved OpenGL. They used eclipse as editor, but used SCons to build and run the packages.

Tools used (Development tools - H/w, S/w): Eclipse, SCons

Objectives of the project: Development of LUNA

Outcomes of the project: Multiple bug fixes and new feature addition to the software.

Major Learning Outcomes: Gained experience in industry level software development. Learned about how animation works. Learned about SCons and learned organizing and building repositories through it. Worked in C++ and gained deep knowledge of Qt. Also worked with boost library.

Brief Description of working environment, expectations from the company: The work environment was great. Culture was very flexible and everyone was friendly and supportive. The workflow is very well organised and helps in working with full efficiency. You also get exposure to outside teams in US. Also all the perks from the company gave a great experience in the 6 months internship duration.

PS-II Station: EMC, Bangalore

Student

Name: Shubham Jain (2013A7PS007G)

Short Summary of work done during PS-II: Integrating Custom Type Feature in DFS (Documentum Foundation Services) and CMIS.

Tools used (Development tools - H/w, S/w): Java, Ant, Maven, DQL, IntelliJ, Tomcat

Objectives of the project: Integrating Custom Type Feature in DFS (Documentum Foundation Services) and CMIS. Exposing their REST and SOAP Services.

Outcomes of the project: These services can be used using REST and SOAP urls.

Major Learning Outcomes: Learnt about Web Services.

Brief Description of working environment, expectations from the company: Working environment is good and the culture is great. If you get under right team, then you get to learn a lot.

Name: Anurag Rai (2013A7PS693G)

Short Summary of work done during PS-II: My projects at EMC involved experiments for proof of concepts. I worked with the embedded NAS team in the VMAX division. VMAX is the SAN solution. The eNAS team was focused on providing NAS capabilities by utilizing the hypervisor provided in the VMAX system to host Guest OS inside containers. The projects involved studying the current environment of the system and testing improvement in performance by making required changes.

Tools used (Development tools - H/w, S/w): VI, Tmux, cscope, specSFS 2008, sysbench, SSH tools like Putty, scp etc.

Objectives of the project: 1. Integrating remote virtual FA ports for Cut-Through-Driver for embedded NAS.

2. Explore the network configuration of VMAX and examine the IO performance.

3. Modify the kernel of the Control Station with custom configuration to evaluate the benefits of converting a uniprocessor Linux guest into a multi-processor capable one.

Outcomes of the project: 1. Adding a remote virtual port increased the IOPS by almost 25%. More than one remote port on same FA emulation did not have substantial impact.

2. Time difference in using both subnets and only a single subnet is very small.

3. Custom kernel successfully built. Benchmarking remains to be done.

Major Learning Outcomes: VMAX and eNAS ecosystem, benchmarking, performance analysis, SCSI, linux kernel, linux IO stack, PXE.

Brief Description of working environment, expectations from the company: The people of the eNAS team with which I worked were very friendly. Mentors were very helpful. The team was very well knit and through the course of my PS program, I learned that the team organized many team-building activities to cultivate better relationships among peers and colleges within the team. This was not only refreshing to see but was a lot of fun to participate in as well. When it came to the technical work, the members had good knowledge and were very prompt in delivering solutions to the higher levels of management. The company expects the interns to be friendly and to be open to learning.

Name: Saurabh Devulapalli (2013A7PS030H)

Short Summary of work done during PS-II: Development of a new feature for one of EMC's products called AppSync, a software for copy data management. When an application database is added to AppSync for copy creation(data protection) on EMC storage, it's files are automatically discovered and mapped to the underlying storage when a service plan is run. The feature I worked on isolates these two processes from service plans and makes them available as on-demand operations for the user.

Tools used (Development tools - H/w, S/w): Eclipse, JBoss Server, REST Client, VMWare vSphere Client, Putty, pgAdmin

Objectives of the project: Feature development

Outcomes of the project: Feature completion

Major Learning Outcomes: Concepts related to storage, virtualization, RESTful web services, Java

Brief Description of working environment, expectations from the company: Worked alone. Mentor helped in guiding me whenever I approached him. Otherwise, he was very busy. Other employees were helpful and friendly. Manager expects the work to be done before the deadline. No strict rules about punctuality as long as work is done.

Name: N.Ananthapadmanabhan Pillai (2013A7PS130P)

Short Summary of work done during PS-II: I worked on the testing automation of the Documentation (EMC's Enterprise Content Management System).The work initially began with practicing Java and brushing up on Network Systems and creating Java sockets. Then the work became learning the Documentum product of the ECD Department to which I was assigned.I was then assigned a mentor who guided me and helped me understand automation and Apache Ant as a tool for doing so.I learned how windows event listeners are used to pick up occurrence of events and then run automated scripts (testing of new builds).I helped with the automatic mailer that reports the status of the automatic testing scripts.I also worked with the modularization and work flow control of the automation scripts.Then I was assigned the task of creating a web application to help make alterations to the properties files that configure the automated tests being run. The app also allows tests to be run from the app itself and the log files of the tests are displayed.The HTML Application forced me to acquire a

better understanding of using the ActiveX Software framework which was required to run files from a browser without downloading it. It also pushed me to understand JavaScript and Document Object Model for HTML.

Tools used (Development tools - H/w, S/w): Apache ANT, HTML Applications, JavaScript, Java.

Objectives of the project: HTML Application to configure the testing process and ANT Scripts to run the tests.

Outcomes of the project: HTML Application was completed and so have ANT Scripts for the automated testing.

Major Learning Outcomes: Scripting Languages (Javascript), HTML Applications, Document Object Model for HTML, Apache Ant (experience with automation tools), ActiveX software framework

Brief Description of working environment, expectations from the company: The work environment was really friendly. All of the employees were really nice and the general atmosphere was happy. The work was in something I had never dealt with before so I found it rather hard but they were patient and encouraging, my mentor especially so. The company was always coming up with new products which we could see in our mail. There were always things happening (there was a team outing, some celebrations in the canteen, people dress up for festivities). The company was merged with DELL in the largest ever merger in the software industry. The department I was assigned to ECD, was sold to OpenText. The atmosphere remained positive and people were still working hard. The cafeteria and lodging amenities were very welcome. The company expected me to do my best and contribute by not just completing tasks assigned but also to explore and think about alternate ways of approaching the problem. They expected us to first get accustomed to the product we were working with and then figure out the tools we were going to use. Then they assigned smaller tasks that helped with the product.

Name: Akhil Balaji (2012B4A7363G)

Short Summary of work done during PS-II: 1. The SCSI command monitor is responsible for intercepting SCSI commands being sent to a SCSI device

2. I/O request monitor is responsible for intercepting I/O requests intended for one SCSI device and redirecting it to another SCSI device

3. An approach for VPLEX insertion in an ESXi cluster environment.

Tools used (Development tools - H/w, S/w): VIM, CScope, VMware vCenter, VCLI, ESXCLI

Objectives of the project: The Non-Disruptive insertion of VPLEX in a data center with zero downtime for the host(s)

Outcomes of the project: Featured in Milestone -1 for the concept car "Non-Disruptive insertion of VPLEX"

Major Learning Outcomes: Linux kernel internals in terms of IO stack, ESX clusters, SCSI protocol

Brief Description of working environment, expectations from the company: Good working environment, friendly, great team cohesion, Opportunity to learn.

Name: Prajwal Sagar (2013A7PS695G)

Short Summary of work done during PS-II: For my first project, I worked in the field of DevOps in creating a continuous integration solution for an EMC product. In the second project, I wrote the code for the assigned test cases for another EMC product called NetWorker.

Tools used (Development tools - H/w, S/w): S/w tools: GoCD

Objectives of the project: The objective for the continuous integration solution was to create a working prototype for a software, which can be easily extended for the required use of the company.

Outcomes of the project: The prototype was completed in a Continuous Integration framework called GoCD.

Major Learning Outcomes: I learned about DevOps, which is crucial software engineering practice. Learning about working in a huge corporation was also a big add-on.

Brief Description of working environment, expectations from the company: The working environment was excellent. Most people enjoyed working in the office space. Also, there were many recreational avenues. The office timings weren't strict and so it was easy to adjust accordingly. The company expected work to be done, regular reports were to be submitted to the managers. The managers were pretty friendly and approachable too.

VIPUL SINGH (2012B3A7511G)

Short Summary of work done during PS-II: I worked on Continuous Integration for Block Based Backup Module of NetWorker. The basic idea was to create a framework which would help in reduction of regressions. So, I used tools like reviewboard and Jenkins and wrote a PHP script which would trigger the build remotely. I used webhooks extension of reviewboard for this purpose. For testing NetWorker I used SAT framework.

I also worked on end-to-end automation for NSM filesystems. The basic idea was to create a robust framework which would automate the whole testing process like :- creation of VMs, assigning IPs to VMs, adding LUNs to VMs, creating filesystem (.ext3), installing NetWorker on VMs and running TITAN which is a framework written in Python mainly for testing NetWorker Snapshot module.

Tools used (Development tools - H/w, S/w): ReviewBoard, Jenkins, SAT, TITAN, Vcenter, STAF, VmWare toolkit

Objectives of the project: To reduce the cases the regressions faced while combining all the source code.

Outcomes of the project: Significant Reduction in the development cycle as well as regressions for any NetWorker build.

Major Learning Outcomes: Understanding of the workflow of development cycle. Got basic idea about the functioning of NetWorker and protect point. Got to learn about various data storage and protection techniques like VMAX, VNX.

Brief Description of working environment, expectations from the company: The working environment was really good and conducive. All my team members were really helpful and assisted me in the project.

SNEHA KULKARNI (2012B4A7748G)

Short Summary of work done during PS-II: I was allotted the QE team for TaskSpace. My project involved automating the end to end testing for their products. Testing is an integral part of software development process. Automating test cases reduces the manual labour of testing and also reduces the chance of human error. I have used Selenium API with JBehave for automation. Test cases were written in form of scenarios which were then implemented using Selenium. Along with this, a GUI was also created to simplify the automation process.

Tools used (Development tools - H/w, S/w): I have used Selenium API with Java for automating test cases. I have also used BDD with JBehave.

Objectives of the project: The project aimed at development of automation framework using Selenium for end to end testing. A simple GUI was also created to simplify the automation process.

Outcomes of the project: The automation framework was developed as a outcome of this project. The project resulted in a one click process to carry out the entire end to end testing.

Major Learning Outcomes: Through this project I got to know how software development process is carried out. I learned about automation and scripting.

Brief Description of working environment, expectations from the company: EMC is known to have a very friendly working environment. The team I was allotted to was very co-operative and helping. I get to know many new concepts through them. I have learned a lot from them.

PARMOD KUMAR GARG (2013A7PS136H)

Short Summary of work done during PS-II: Worked on automating the test cases for emc networker. Tested different functionalities of EMC Networker like backup,clone,archive etc. SAT framework used. Scripts were written in TCL.

Tools used (Development tools - H/w, S/w): SAT framework used.

Objectives of the project: Automation of EMC Networker framework

Outcomes of the project: EMC Networker was tested for different functionalities

Major Learning Outcomes: Learnt TCL.

Brief Description of working environment, expectations from the company: When we joined the EMC, it was in merger phase with dell. Working environment is very cool. Any time come or leave. It helped us to prepare for our personal goal.

PS-II Station: GGK Technologies., Hyderabad

Student

Gona Aravinda Rao (2013A8PS399P)

Short Summary of work done during PS-II: Web application Development

Tools used (Development tools - H/w, S/w): React js ,node

Objectives of the project: To develop Web application using React

Outcomes of the project: Developed Web applications Using react

Major Learning Outcomes: React Js + Redux, node , Ruby , Webpack

Brief Description of working environment, expectations from the company: Working environment is good , people are friendly here .

KAUSTUBH (2013A3PS255P)

Short Summary of work done during PS-II: Web application Development

Tools used (Development tools - H/w, S/w): VS 2015, .Net, Angular2

Objectives of the project: Develop HRMS application for internal use.

Outcomes of the project: Created and enhanced HRMS app.

Major Learning Outcomes: .Net core concepts and basics of full stack application development.

Brief Description of working environment, expectations from the company: Amazing experience.

SAHIL (2013A3PS288P)

Short Summary of work done during PS-II: Worked in the project that is related to healthcare domain. We designed an application that manages all the aspects of a hospital's operation.

Tools used (Development tools - H/w, S/w): iReport Designer, java, angularjs

Objectives of the project: HIMS software

Outcomes of the project: Building an end to end integrated HIMS

Major Learning Outcomes: angularjs, jasperreport

Brief Description of working environment, expectations from the company: Friendly environment, good place to work.

KAMPARA SATYA NAGA JAGADEESH (2013A3PS320P)

Short Summary of work done during PS-II: My work was based on web development. i was asked to learn about the new technologies and frameworks like angular 2 ,SASS and Material design Lite and was assigned to work on creating User Interfaces of different modules in various projects. My majority of the work was on front-end side which i found was interesting and was were keen on asking for work and doing it which i enjoyed a lot.

Tools used (Development tools - H/w, S/w): Angular 2, MDL, SQL Server, Visual Studio, VS Code, BLISK ,Server Lite

Objectives of the project: The Project was to provide Quality Assurance team with a web application to Show Case their test results to clients and enable the clients to test their application built by the organization

Outcomes of the project: The outcomes of the project were to design and architect a project and how to use and combine different technologies together to get a efficient and faster results and got good knowledge on User Interface and front-end side technologies.

Major Learning Outcomes: The Major Learning Outcomes Were Sound and Profound Knowledge on Front-end Technologies like angular 2 and Material Design Lite Frameworks.

Brief Description of working environment, expectations from the company: The work environment in GJK technologies is very healthy and mature.It is a very good place to start your career in Information Technology Sector as they are constantly deprive to renovate themselves towards the new upcoming technologies and the mangers and mentors have a very healthy relationship with every employee and constantly help them in reaching their goals and help the employees to update them in new technologies. The company expects outcome from students which is as same as the employees working there which i feel is good for the student to navigate him to right direction as it drives him to learn harder. We were even assigned to learn new technologies and implement them in the projects which was a good move in boosting our morale. I would like to conclude with one last statement about the work environment here the employees here have a good bonding and are friendly in nature they helped us in every step through out the whole PS program.

HIMANSHU DWIVEDI (2013A3PS309P)

Short Summary of work done during PS-II: Automation of Software Delivery pipeline ,Worked as a DevOps engineer and Linux administrator

Tools used (Development tools - H/w, S/w): Ansible ,Git,H Aproxy,Jenkins ,TravisCI and Puppet

Objectives of the project: Zero Downtime deployment of a web application

Outcomes of the project: Building and deploying SpringMVC java app on AWS servers

Major Learning Outcomes: Python ,Scripting and Devops tools

Brief Description of working environment, expectations from the company: We had transparent & open communication ,they provided various trainings on new and old technologies and we used to have fun activities and yoga sessions every Friday.

JACOB JOSE (2012B1AA707H)

Short Summary of work done during PS-II: Worked on three POCs related to Machine Learning and Natural Language Processing. In the first POC, built a search index around shared files so that users could search based on the contents of the documents. In the second POC, made an application that could process clinical reports in order to get insights into patient health and current condition. Built a recommendation engine in Python in the last POC.

Tools used (Development tools - H/w, S/w): Java, Python, MongoDB, Apache Solr

Objectives of the project: Completion of various POCs in order to expand understanding of various subareas of Artificial Intelligence like Machine Learning and Natural Language Processing.

Outcomes of the project: Made an application that could process and analyze clinical reports in order to obtain insights into patient health. Also, built a recommendation engine in Python.

Major Learning Outcomes: Learned about Apache Solr, Apache OpenNLP and MongoDB. Brushed up on programming concepts and patterns with Java and Python.

Brief Description of working environment, expectations from the company: The working environment was very welcoming and encouraging. Explored completely new technologies and algorithms. Overall, it was a great experience.

AAHLADITHA GANDHE (2012A7PS080H)

Short Summary of work done during PS-II: Data science algorithms implementation

Tools used (Development tools - H/w, S/w): R Studio,Python,Ubuntu

Objectives of the project: Business Intelligence for applications of machine learning algorithms to increase sales.

Outcomes of the project: We were able to pitch in new clients with my POCs

Major Learning Outcomes: Python,R programming,ubuntu,algorithms

Brief Description of working environment, expectations from the company: The company was very good and helped us learn a lot.Learning environment has helped us learn more with a cool mind. Best PS ever.

PS-II Station: Busigence, Gurgaon

Mentor

Name: Pranav Verma

Designation: Founder & CEO

The Company is mainly into developing a product of its own using machine learning algorithm implemented using Python. Although all the interns were new to the technology, still they picked it up quickly. The BITS interns are dedicated and have an out-of-the-box thinking.

Student

Name: Raag Khandelwal

ID No: 2012B4A2675P

Student Write-up

Short Summary of work done during PS-II: My work at Busigence Technologies was focused on developing novel techniques on data science. The role was that of a research and implementation intern, to conduct research on the existing techniques on machine learning, algorithm optimization, statistics, & exploratory data analysis and develop modern & innovative techniques compared to merely adopting the traditional ones. I worked with the data science team on solving complex scenarios through statistical exploration & machine learning. I have gained practical knowledge on statistics, algorithms (classifiers, clustering, regression, bayesian, decision trees, random forest, neural networks) and hyperparameter optimization using various search algorithms on large data sets both supervised and unsupervised. I have also worked on feature selection. I have also attained business acumen while working on analytics on real-world scenarios.

Tools used (Development tools - H/w, S/w): Python, Apache Spark

Objectives of the project: To code various steps of Data Science

Outcomes of the project: Various data science techniques

Major Learning Outcomes: Obtained knowledge and experience of that of an advanced data scientist.

Brief Description of working environment, expectations from the company: Company is located at an ideal location in Gurgaon and the working conditions are quite good. Hours are long, but the learning covers for that. The company expects you to research and implement very advanced data science techniques in python.

Name: Vinayak Mishra

ID No: 2013D2TS987P

Student Write-up

Short Summary of work done during PS-II: I created a model that helps in optimizing hiring activities in an organization. To complete this task, for the first 2 months I was engaged in gathering information and doing research on why traditional hiring hampers the intake of quality candidates in an organization. When the research was done, we tried implementing it to find out the best way to solve the problem. We came up with very good strategies and then we finally reevaluated and submitted the final scenarios that help in optimizing hiring activities.

Tools used (Development tools - H/w, S/w): Machine learning,

Objectives of the project: To optimize traditional hiring practices

Outcomes of the project: Scenarios were created which helped in solving those problems

Major Learning Outcomes: Learnt how to optimize any problem using machine learning

Brief Description of working environment, expectations from the company: Working environment was good. It was very competitive and every day was challenging. There was not a single day when we felt that today we are not supposed to do anything. Every day there were new activities for us. Company people were very cooperative; they helped with every single problem of any intern over there.

Name: Ananya Banerjee

ID No: 2013B4TS958P

Student Write-up

Short Summary of work done during PS-II: During my stay at Busigence, I have been exposed to the world of Data Science, Machine Learning and a part of Artificial Intelligence. I implemented several algorithms like Logistic regression, Deep Belief Networks, Neural Networks and Clustering algorithms from scratch using python and its relevant libraries like Numpy, Pandas, sklearn, etc. I also worked on hyperparameter optimization and did deep research on problems like class imbalance and how to solve the problem.

Tools used (Development tools - H/w, S/w): I used Python and libraries like sklearn, tensor flow, theano, etc were also used extensively. Apart from that, I used Eclipse IDE for python, scala and spark.

Objectives of the project: This project was aimed at gaining a deeper insight into data science and machine learning using python as a tool.

Outcomes of the project: After testing and implementing a lot of algorithms both supervised and unsupervised, ways were devised to improve upon a few of them to get better accuracy.

Major Learning Outcomes: Knowledge about Machine Learning basics, steps involved, and several algorithms ranging from Supervised, Unsupervised till Reinforcement learning paradigm associated algorithms. Also, we were exposed to python, functional programming paradigm, scala and spark.

Brief Description of working environment, expectations from the company: The Company expects its aspirants to have a good knowledge of statistics, coding in Python and Machine learning. The working environment is suitable for people aspiring to really learn loads of important and essential things in the field of Data Science and their implementation on real world projects.

PS-II Station: Centre for Artificial Intelligence & Robotics, Bangalore

Mentor

Name: Shashank Bhushan

Designation: Scientist C

Excellent grip on the research area. Always ready to help.

Faculty

Name: Pradheep Kumar K

Comments: Expectations from industry:

Students are expected to have fair knowledge in embedded systems, robotics, VLSI projects, MATLAB and Labview

Student

Name: Tanya Shrivastava

ID No: 2012B5A8941H

Student Write-up

Short Summary of work done during PS-II: Calculation of accuracy and precision of multiple object trackers using CLEAR MOT Statistics

Tools used (Development tools - H/w, S/w): OpenCV, QtCreator, NVIDIA's Jetson, C++

Objectives of the project: Calculation of accuracy and precision of multiple object trackers using CLEAR MOT Statistics

Outcomes of the project: Successfully debugged and tested a number of object trackers, while adding on a few blocks of code to it, and learnt the algorithms involved: Including MCMO, Adaptive MOT, GMM, TLD, MeanShift, CAMShift, Canny Edge Detection, Image Subtraction

Major Learning Outcomes: Learnt C++, OpenCV, worked on Qt creator, wrote/added on to, debugged and tested multiple object trackers, and learnt about various algorithms including TLD, GMM, Image Subtraction and Canny Edge Detection

Brief Description of working environment, expectations from the company: The working environment was far less than ideal. We did well in our project, but could have done much better. I witnessed multiple instances of highly unprofessional behavior, that kept me from feeling comfortable in the environment I worked in, but more than that, it prevented me (and others) from giving the best we could, as professionals. Some such instances were also reported to PSD, and I truly applaud how they taught me to gracefully handle it. They were really helpful. However, I would strongly suggest against keeping CAIR as a PS2 Centre in the future. I was quite disappointed, and did not expect a PS2 work environment for BITS Pilani students to be so colossally unprofessional.

In case you are unable to remove this as a PS station, do try to ensure mentors with reasonable and professional attitude for all. Professional ethics standards should be the same for everyone in the workplace. Lastly, since all this was excluding the financial problems, I must add that stipend is a necessity, in a city like Bangalore. We got Rs. 0/- for the entire July to December period, which included having to endure so much unnecessary havoc and coercion. And even though we ended up learning something, I don't see why we couldn't have done it anywhere else. It just simply wasn't worth it.

Name: Yashraj Saharia

ID No: 2013A8PS495H

Student Write-up

Short Summary of work done during PS-II: We basically worked on the theory of vehicle dynamics and the first few days involved its theory, then we worked on developing PID heading angle controllers which was based in MATLAB. We estimated the cornering stiffness using vehicle parameters and designed true transfer function for our controller.

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: Designing heading angle controllers for autonomous ground vehicles

Outcomes of the project: We designed PID controllers for agvs, developed the steering actuator model for the vehicle, simulated all the results and compared them to the experimental ones.

Major Learning Outcomes: Vehicle sensitivity analysis, Cornering stiffness estimation and Designing linear, nonlinear controllers.

Brief Description of working environment, expectations from the company: The environment is pretty relaxed and there is a lot of work for people who are interested to work. The scientists are very helpful and their guidance proved very crucial for us.

Name: Harshit Sharma

ID No: 2012B1A4814P

Student Write-up

Short Summary of work done during PS-II: Study of programming basics - DSA, fundamentals of autonomous robot navigation and SLAM techniques. In depth analysis of existing popular localization algorithms and modification of one such algorithm to include an extra variable of scale for each particle.

Tools used (Development tools - H/w, S/w): C++, ROS, and Custom made bots running Ubuntu 14.04

Objectives of the project: For an autonomous robot employed in the field of search and rescue, localization can be left dependent on the availability of a detailed, accurate map of an area, as standard localization algorithms require a map in order to guess where it is on the map and use this information

for further purposes such as path planning and exploration. This study aims to remove the need for a map, replacing it with a user input, semi-accurate map by modifying the existing AMCL algorithm in order to allow for minute inaccuracies.

Outcomes of the project: A modified version of AMCL was built to cope with inaccuracies of scale and linearity in hand sketched maps. Though results were mixed, they can be improved upon by utilizing different versions of odometry, scanning and localization methods.

Major Learning Outcomes: Programming fundamentals, fundamentals of autonomous robot navigation and localization

Brief Description of working environment, expectations from the company: Working environment consists of a trainee room wherein all trainees have to be present most of the times, leading to a very unprofessional environment which is not conducive for either learning or working with full concentration. Internet facility is not officially provided but can be accessed through a separate internet room using some scientist's user credentials, but was mostly unused. Expectations may vary from scientist to scientist, but on average it is expected to stay in office for 6 hours, followed by additional research on work later on, since it's impossible to do so while at office.

Name: Umang Tiwary

ID No: 2012B1A4814P

Student Write-up

Short Summary of work done during PS-II: My work was related to robotics and computer vision. Objective was, given a goal to the robot, it should navigate to that point avoiding all the obstacles. It should also create a map of the environment while navigation. This problem is known as Simultaneous Localization and Mapping.

Tools used (Development tools - H/w, S/w): ROS, CUDA

Objectives of the project: SLAM

Outcomes of the project: Map of the environment in the form of local and global costmaps, and path of the navigation process.

Major Learning Outcomes: Robotics software development and debugging.

Brief Description of working environment, expectations from the company: Working environment was good if you show interest in the field. Mentors have a good amount of practical experience who will help you if you ask them doubts. Some drawbacks are there like there is no internet inside the organization, only one internet room is there which can be used by trainees and no mobile phones allowed. As it is a government organization, there are a lot of rules and regulations in the starting of the PS.

Name: Deeksha Sinha

ID No: 2013A4PS202P

Student Write-up

Short Summary of work done during PS-II: Simulating the motion of a snake robot using MATLAB

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: To map the path followed by the tail of a robot when the path constraints for the head of the snakebot are given.

Outcomes of the project: Successfully mapped the motion of the tail for a 12-link snakebot

Major Learning Outcomes: MATLAB, Tractrix equation

Brief Description of working environment, expectations from the company: Very poor working environment. Limited internet access made research work quite difficult. Scientists were usually busy, interaction was sparse. Computers given to us to work on were very slow and old.

Name: Veni Lasya Jammalamadaka

ID No: 2013A8PS449P

Student Write-up

Short Summary of work done during PS-II: Calculation of precision and accuracy of multiple object trackers using CLEAR MOT statistics. Coding role initially, testing role later in which artificial intelligence is used to find objects and people in surveillance videos. Also dealt with computer vision tasks.

Tools used (Development tools - H/w, S/w): OpenCV, CPP, CLEAR MOT, not challenge 2016 benchmark

Objectives of the project: To find and improve (if possible) the accuracy and efficiency of trackers coded by scientists at the Centre.

Outcomes of the project: Accuracy and precision found. Also multiple tasks completed in the fundamentals of computer vision and CPP to gain proficiency with tools.

Major Learning Outcomes: Strong grasp of various computer vision concepts, coding in CPP. Gained familiarity with artificial intelligence topics. Became proficient in various tools like OpenCV.

Brief Description of working environment, expectations from the company: Working environment was really good for research. Supportive mentor at CAIR, but he was busy during the last three weeks on an assignment and hence the project slowed then. Good knowledge base of all mentors, very helpful, they wanted us to produce original research work. But a lot more improvement would have occurred if regular access to the internet was provided.

Name: Harshit Mathur

ID No: 2012B1A4812P

Student Write-up

Short Summary of work done during PS-II: Simulated a heading angle controller for unmanned ground vehicles on SIMULINK.

Objectives of the project: To simulate a heading angle controller for navigating the vehicle.

Outcomes of the project: Heading angle controller simulated and sensitivity analysis done.

Major Learning Outcomes: Knowledge of control systems and vehicle dynamics.

Brief Description of working environment, expectations from the company: Working environment was not very conducive for learning. No internet facility and outdated systems and processors made available, made research work very slow.

Name: Satchit Varma

ID No: 2013A4PS318P

Student Write-up

Short Summary of work done during PS-II: Titled Snake Robot, the aim of my project was to simulate the locomotion of a hyper-redundant snake robot in MATLAB. The robot was modelled as a chain of rigid links connected by freely rotating joints. The motion of the snake was predicted based on the motion of the leading end.

Tools used (Development tools - H/w, S/w): MATLAB

Objectives of the project: To simulate the locomotion of a hyper-redundant snake robot moving in a three-dimensional obstacle course, in MATLAB.

Outcomes of the project: We have been able to successfully move the simulated snake robot in pre-defined paths and through specified waypoints, in two and three dimensional space. However, obstacle avoidance was a challenge, since we were unable to prevent the body of the bot from colliding with the obstacle, although the head could be navigated around the obstacle with ease.

Major Learning Outcomes: Gained competency in MATLAB.

Brief Description of working environment, expectations from the company: The working environment is not great. One is mostly on one's own, and there is little help or support from the organization. Scientists are busy with their own work, and there is neither encouragement nor any incentive to work very hard on the project and complete the work. A student who is very interested and dedicated to research will find good work and good research projects, but not the one who is not.

Name: Deeksha Prakash

ID No: 2013ABPS218P

Student Write-up

Short Summary of work done during PS-II: The project deals with developing a Call Data Record Visualizer and Analyzer software tool for analyzing the CDR logs provided by the cell phone service providers in a Windows based application with enhanced capabilities for social network analysis using MathWorks advanced MATLAB Guide Platform to give advanced user interface. The work implemented till now allows the user to do a basic statistical and social network analysis of CDRs. Though the organization had a tool for doing a statistical analysis on CDR, there was none present for call pattern detection that was being done manually till now.

The pattern detection logic embedded into the tool works pretty fast. The time taken for detection of a mediator- manager pattern using the tool when 2 CDRs were used was 1.671 s. For 3 CDRs it was 1.893s and for 4 CDRs it was 2.145 s. The time complexity of the code used for the detection of the pattern that was embedded into the tool was $O(\log N)$ types where N is the sum of total number of rows in the CDRs that were imported. Hence the efficiency of the code is quite good as compared to the trivial method which is currently being used in the organization. The 100% efficiency of the tool in terms of output and result authenticates it to be further used for the call pattern detection in future. This tool can be enhanced by embedding various other call pattern detection logics.

Tools used (Development tools - H/w, S/w): MATLAB's GUIDE Platform

Objectives of the project: In the tool, the most important application we are focusing on is the social network analysis. The tool is basically used for the analysis of a suspect's CDRs which in turn is used to derive other information like the movement of the suspect on a particular day, the people he /she is frequently talking to. This analysis can hence be used to identify other potential suspects whose call records can be kept under surveillance. Basically we try to reduce the chances of the occurrence of any mishap around the world by strictly keeping the suspects under surveillance through their call data records.

Here in the project the concept of link analyzer and unusual call pattern detection logic has been used to identify the potential suspects.

Outcomes of the project: At present the unusual call patterns present in multiple CDRs are being detected by the organization manually. So availability of a software tool that detects the call patterns, fastens and automates this process of detection thereby increasing the productivity of entire screening and surveillance process.

Major Learning Outcomes: Increased capability of using MATLAB's GUIDE Platform.

Learnt about

- * Social Network Analysis

- *Centrality Measures

- *OSM (Open Street Mapping)

Details of papers/patents:*Community Detection and Behavior Study for Social Computing

Huan Liu, Lei Tang, and Nitin Agarwal, Arizona State University, University of Arkansas at Little Rock

*The Wealth of Networks by Yochai Benkler, Yale University Press, New Haven and London

*Social Network Analysis for Startups, Maksim Tsvetovat and Alexander Kouznetsov

Brief Description of working environment, expectations from the company: The work environment was good in terms of mentor's involvement and help provided. The only factor which resulted in slowing our work down a bit was limited access to internet and restriction on carrying any storage devices inside the institute. So we had to mail the work we did on weekends.

But overall in terms of the project, and the guidance provided by the mentor made it a very informative and educative experience and a very suitable place to work for 6-month internships.

Name: Himanshu Arora

ID No: 2013A3PS306P

Student Write-up

Short Summary of work done during PS-II: The first project was to implement an object detection system for a bot. This object recognition system trains the bot to recognize certain familiar objects and accordingly to take actions to change its path or to capture the object. This similar object recognition technique is to be used for bot which will traverse outside and should be able to distinguish between roads, paths or any other object it can encounter outside. This project involved making my own dataset for CAIR, getting it labelled and further feeding it in the neural network to achieve detection for bot. Second part of the project is Activity Recognition so that bot is able to recognize any usual activities happening around its path or anywhere nearby. This activity recognition is to be achieved via a Convolutional two stream model which has a spatial layer and temporal layer.

Tools used (Development tools - H/w, S/w): Python, Keras

Objectives of the project: Achieve a robust object and action recognition system using deep neural networks.

Outcomes of the project: Neural network model that could detect usual indoor and outdoor objects as well as activities.

Major Learning Outcomes: Learnt about different deep learning models and how to achieve good results using convolutional neural networks

Brief Description of working environment, expectations from the company: You're provided with a good enough system but without internet. Mentors aren't that strict.

Name: Saikrishna Konetisetty

ID No: 2013A7PS041G

Student Write-up

Short Summary of work done during PS-II: My project is all about rendering of 3-D spatial data as web service which is basically building 3-D maps. For this project, I have used geotiff files as source data and I have used java script, THREE.JS, GDAL PLUGIN, MAPNIK, PYTHON to build 3-D maps.

Tools used (Development tools - H/w, S/w): THREE.JS, GDAL PLUGIN, JAVA SCRIPT, MAPNIK, and PYTHON

Objectives of the project: Rendering of 3-D spatial data as web service

Outcomes of the project: Building 3-D Maps

Major Learning Outcomes: Built 3-D Maps of India that can be used by DRDO.

Brief Description of working environment, expectations from the company: The working environment was good in CAIR and my mentor was very helpful all the time. The major drawback was that we had no internet connection while working because of which my work was going slow, otherwise I could have accomplished much more than I did. Also we couldn't take any storage devices inside CAIR which was also quite inconvenient.

PS-II Station: Cisco Systems (India) Pvt. Ltd., Bangalore

Mentor

Name: Mr. Srikanth Narasimhan

Designation: Distinguished Engineer, IT

Thank you for being proactive in thinking about your interns before performance issues develop.

Faculty

Name: Mohammad Saleem Bagewadi

Comments: Expectations from industry: At CISCO Systems you analyzes complex business problems to be solved with automated systems or using data from internal and external sources. Provides technical expertise in identifying, evaluating and developing systems and procedures that are cost effective and meet user requirements. Configures system settings and options; plans and executes unit, integration and acceptance testing; and creates specifications for systems to meet business requirements. Building teams that are expanding technology solutions in the mobile, cloud, security, IT, and big data spaces, including software and consulting services. As Cisco delivers the network that powers the Internet, connecting the unconnected.

Skill Sets:

- Design, develop, troubleshoot and debug software programs for enhancements and new products.
- Develop software and tools in support of design, infrastructure and technology platforms, including operating systems, compilers, routers, networks, utilities, databases and Internet-related tools.
- Determine hardware compatibility and/or influences hardware design.

Student

Name: *Harsh Sharma*

ID No: 2013A7PS045P

Student Write-up

Short Summary of work done during PS-II: My work involved designing an iOS app in Xcode and deliver it for alpha testing. It included learning a new language Swift as well as the IDE required for iOS app development, and Xcode. It involved the front end design on storyboard and all the necessary code for its functioning such as fetching data from the server based on a user differentiator and posting data on the server, different notifications to the user, etc. It also involved exploring machine learning algorithms and learning about recommender systems.

Tools used (Development tools - H/w, S/w): Xcode, Swift

Objectives of the project: Develop an iOS app which contextually helps employees with appropriate food suggestions.

Outcomes of the project: Pilot version of iOS App

Major Learning Outcomes: iOS app development, recommendation systems

Brief Description of working environment, expectations from the company: Working environment was good. Mentors were helpful. I was on my own to learn the language as well as the other tools, so that took some time. Since none of my mentors knew Swift hence it caused a little more time to remove the glitches in the app. There were conference calls with my co mentor almost on a daily basis which helped to maintain the pace of the project.

PS-II Station: Cubical Laboratories, Delhi

Faculty

Name: Sandeep Kayastha

Comments: Expectations from industry:

Student

Name: *Pratik Shekhar Jha*

ID No: 2012B2A1704G

Student Write-up

Short Summary of work done during PS-II: I was given the work related to marketing and operations. In this, I had to do search engine optimization for the website, Google and Facebook ads, content writing etc. Apart from this, I developed tools for better distribution system and inventory management.

Tools used (Development tools - H/w, S/w): Excel, Google Adwords, Facebook Business, etc.

Objectives of the project: Improving brand presence and distribution network.

Outcomes of the project: The page ranks of Cubical webpages have significantly improved making it more accessible to the audience. The distribution network has also improved, both in size and efficiency.

Major Learning Outcomes: Search engine optimization, Social media marketing, and key words based content writing.

Brief Description of working environment, expectations from the company: The working environment was pretty average, with lack of proper administration and schedule. Though the individuals had a lot to offer in terms of their knowledge, the structure of the environment was a hindrance. The expectation of work was quite fair, with ample time and background understanding provided for the work to be done.

Name: *Hitesh Varma*

ID No: 2013A1PS637G

Student Write-up

Short Summary of work done during PS-II: The project was about developing new business channels for the company. The process included citing assumptions about a new business channel, testing out the assumptions and changing the assumption if the results didn't seem to justify the assumptions made in the first place. And, if the assumptions did prove to be right, other team members were also allocated to the same task to work on the same thing to increase the efficiency and the number of shots we gave at a particular business channel, so that we could increase the success rate.

Tools used (Development tools - H/w, S/w): Data management softwares- MS Excel, Postman, MS PowerPoint

Objectives of the project: To develop new channels for procuring business for the company as well as to increase the efficiency of the existing processes.

Outcomes of the project: The project contributed 35 lakhs to the company's revenue and increased the revenue by 15%. I was also responsible for managing client relationships. I realized that getting a client on board for business is slightly easier as compared to keeping the client on board. Apart from that, I found a new way of collecting data from justdial and indiamart website. The details were mostly about our possible business partners. I improved the efficiency of the data extraction process by 2400%. I was also responsible for managing the entire database of interested customers which improved my data management skills.

Major Learning Outcomes: The major learning happened in terms of the soft skills developed through the time. I sat in a lot of presentations and presented the solution to a lot of prospective business clients and customers. I was also cold calling about 10-13 people per day. Doing this, I could overcome my fear and uneasiness talking to unknown people over the phone. Pitching the business plan over the phone, made me confident of my conversation skills. I could formally talk to people and keep their interest in my pitch over the duration of the call. It also made me very formal in my people skills in contrast to my informal attitude during my college days. I feel like I have achieved something and it gives me immense confidence going for on-campus placements. I have also improved my MS excel and MS power point skills. I am much better now in making a presentation than I was before. I can grasp things much more quickly and talk to people in a confident manner.

Brief Description of working environment, expectations from the company: I was quite disappointed with the environment of the company. I had expected a much more passionate environment where everyone is working for the company keeping aside their personal grudges and interests. Being in a startup, I expected to be given a lot of tasks in many departments, but I was restricted to working in only one department. The people were very egoistic and had no vision as to what they were working for. Also, they behaved rather childishly when asked questions about the products and the standard reaction was of mocking the person who was asking the questions. A new manager was appointed who was a bully. He used aggression to get work out of people. I opposed his behavior in-front of all the people in the office. The company is doing great business but the management lacks cooperation and coordination.

PS-II Station: DreamWorks Animation, Bangalore

Student

Name: Varun Wachaspati J

ID No: 2013A7PS166P

Student Write-up

Short Summary of work done during PS-II: I worked on the internal studio tools and Render Farm. We analyzed data generated from Render Farm and successfully identified the straggler jobs on the farm using First Order Statistics. Built many other micro services to notify the stakeholders of the same in a visualized manner.

Tools used (Development tools - H/w, S/w): Python, Scikit-Learn, Cytoscape, Flask, Unicorn, Supervisor

Objectives of the project: To streamline the workflow of Technical Resource Administrators

Outcomes of the project: Highly efficient scheduling and preemption of jobs on Render Farm

Major Learning Outcomes: Analysis of Multi-dimensional data

Brief Description of working environment, expectations from the company: A brilliant working environment for an intern as we were treated on par with full time employees. We were given various degrees of freedom to explore our ideas and implementations and were also part of the decision making and road map planning of our respective teams. It was an optimum environment to explore and grow not just in Computer Graphics or Data Science but almost in every aspect.

Name: Mihir Biswal

ID No: 2012B2A7767P

Student Write-up

Short Summary of work done during PS-II: I worked with the R&D team in DreamWorks Dedicated Unit, Bangalore to contribute to the development of DreamWorks' next generation animation and rigging

software LUNA. I fixed a lot of bugs in the software and also added multiple features to the plugin. The work was majorly based on Qt (C++) with boost library. Some components of the software that I worked on also involved OpenGL. We used eclipse as editor, but used SCons to build and run the packages.

Tools used (Development tools - H/w, S/w): Eclipse, SCons

Objectives of the project: Development of LUNA

Outcomes of the project: Multiple bug fixes and new feature addition to the software.

Major Learning Outcomes: Gained experience in industry level software development. Learnt about how animation works. Learnt about SCons and organizing and building repositories through it. Worked in C++ and gained deep knowledge of Qt. Also worked with boost library.

Brief Description of working environment, expectations from the company: The work environment was great. Culture was very flexible and everyone was friendly and supportive. The workflow is very well organized and helps in working with full efficiency. You also get exposure to outside teams in US. Also all the perks from the company gave a great experience in the 6 months duration of internship.

PS-II Station: EMC, Bangalore

Faculty

Name: Chandra Shekar RK

Comments: Expectations from industry:

Expectations from the industry - in terms of course requirements:

Student

Name: Shubham Jain

ID No: 2013A7PS007G

Student Write-up

Short Summary of work done during PS-II: Integrated Custom Type Feature in DFS (Documentum Foundation Services) and CMIS.

Tools used (Development tools - H/w, S/w): Java, Ant, Maven, DQL, IntelliJ, Tomcat

Objectives of the project: To integrate Custom Type Feature in DFS (Documentum Foundation Services) and CMIS. To expose their REST and SOAP Services.

Outcomes of the project: These services can be used using REST and SOAP urls.

Major Learning Outcomes: Learnt about Web Services.

Brief Description of working environment, expectations from the company: Working environment is good and the culture is great. If you get the right team, you get to learn a lot.

Name: Anurag Rai

ID No: 2013A7PS693G

Student Write-up

Short Summary of work done during PS-II: My projects at EMC involved experiments for proof of concepts. I worked with the embedded NAS team in the VMAX division. VMAX is the SAN solution. The eNAS team was focused on providing NAS capabilities by utilizing the hypervisor provided in the VMAX system to host Guest OS inside containers. The projects involved studying the current environment of the system and testing improvement in performance by making required changes.

Tools used (Development tools - H/w, S/w): VI, Tmux, cscope, specSFS 2008, sysbench, SSH tools like Putty, scp etc.

Objectives of the project:

1. To integrate remote virtual FA ports for Cut-Through-Driver for embedded NAS.

2. To explore the network configuration of VMAX and examine the IO performance.
3. To modify the kernel of the Control Station with custom configuration to evaluate the benefits of converting a uniprocessor Linux guest into a multi-processor capable one.

Outcomes of the project:

1. Adding a remote virtual port increased the IOPS by almost 25%. More than one remote port on same FA emulation did not have substantial impact.
2. Time difference in using both subnets and only a single subnet is very small.
3. Custom kernel successfully built.

Major Learning Outcomes: VMAX and eNAS ecosystem, benchmarking, performance analysis, SCSI, linux kernel, linux IO stack, PXE.

Brief Description of working environment, expectations from the company: The people of the eNAS team with which I worked were very friendly. Mentors were very helpful. The team was very well knit and through the course of my PS program, I learnt that the team organized many team-building activities to cultivate better relationships among peers and colleagues within the team. This was not only refreshing to see but was a lot of fun to participate in as well. When it came to the technical work, the members had good knowledge and were very prompt in delivering solutions to the higher levels of management. The company expects the interns to be friendly and open to learning.

Name: *Saurabh Devulapalli*

ID No: 2013A7PS030H

Student Write-up

Short Summary of work done during PS-II: Development of a new feature for one of EMC's products called AppSync, a software for copy data management. When an application database is added to AppSync for copy creation (data protection) on EMC storage, its files are automatically discovered and mapped to the underlying storage when a service plan is run. The feature I worked on isolates these two processes from service plans and makes them available as on-demand operations for the user.

Tools used (Development tools - H/w, S/w): Eclipse, JBoss Server, REST Client, VMWare vSphere Client, Putty, pgAdmin

Objectives of the project: Feature development

Outcomes of the project: Feature completion

Major Learning Outcomes: Concepts related to storage, virtualization, RESTful web services, Java

Brief Description of working environment, expectations from the company: Worked alone. Mentor helped in guiding me whenever I approached him. Otherwise, he was very busy. Other employees were helpful and friendly. Manager expects the work to be done before the deadline. No strict rules about punctuality as long as work is done.

Name: N.Ananthapadmanabhan Pillai

ID No: 2013A7PS130P

Student Write-up

Short Summary of work done during PS-II: I worked on testing automation of the Documentum (EMC's Enterprise Content Management System). The work initially began with practicing Java and brushing up on Network Systems and creating Java sockets. Then the work became learning the Documentum product of the ECD Department to which I was assigned. I was then assigned a mentor who guided me and helped me understand automation and Apache Ant as a tool for doing so. I learnt how windows event listeners are used to pick up occurrence of events and then run automated scripts (testing of new builds). I helped with the automatic mailer that reports the status of the automatic testing scripts. I also worked with the modularization and work flow control of the automation scripts. Then I was assigned the task of creating a web application to help make alterations to the properties files that configure the automated tests being run. The app also allows tests to be run from the app itself and the log files of the tests are displayed. The HTML Application forced me to acquire a better understanding of using the ActiveX Software framework which was required to run files from a browser without downloading it. It also pushed me to understand JavaScript and Document Object Model for HTML.

Tools used (Development tools - H/w, S/w): Apache ANT, HTML Applications, JavaScript, and Java.

Objectives of the project: HTML Application to configure the testing process and ANT Scripts to run the tests.

Outcomes of the project: HTML Application was completed and so are ANT Scripts for the automated testing.

Major Learning Outcomes: Scripting Languages (JavaScript), HTML Applications, Document Object Model for HTML, Apache Ant (experience with automation tools), ActiveX software framework

Brief Description of working environment, expectations from the company: The working environment was really friendly. All of the employees were really nice and the general atmosphere was happy. The work was in something I had never dealt with before so I found it rather hard but they were patient and encouraging, especially my mentor. The company was always coming up with new products which we could see in our mail. There were always things happening (there was a team outing, some celebrations in the canteen, people dress up for festivities). The company was merged with DELL in the largest ever merger in the software industry. ECD, the department that I was assigned to, was sold to OpenText. The atmosphere remained positive and people were still working hard. The cafeteria and lodging amenities were very welcoming. The company expected me to do my best and contribute by not just completing tasks assigned but also to explore and think about alternate ways of approaching the problem. They expected us to first get accustomed to the product we were working with and then figure out the tools we were going to use. Then they assigned smaller tasks that helped with the product.

Name: Akhil Balaji

ID No: 2012B4A7363G

Student Write-up

Short Summary of work done during PS-II: 1. The SCSI command monitor is responsible for intercepting SCSI commands being sent to a SCSI device.

2. I/O request monitor is responsible for intercepting I/O requests intended for one SCSI device and redirecting it to another SCSI device.

3. An approach for VPLEX insertion in an ESXi cluster environment.

Tools used (Development tools - H/w, S/w): VIM, CScope, VMware vCenter, VCLI, ESXCLI

Objectives of the project: The Non-Disruptive insertion of VPLEX in a data center with zero downtime for the host(s).

Outcomes of the project: Featured in Milestone -1 for the concept car "Non-Disruptive insertion of VPLEX".

Major Learning Outcomes: Linux kernel internals in terms of IO stack, ESX clusters, SCSI protocol

Brief Description of working environment, expectations from the company: Good working environment, friendly, great team cohesion, opportunity to learn.

Name: Prajwal Sagar

ID No: 2013A7PS695G

Student Write-up

Short Summary of work done during PS-II: For my first project, I worked in the field of DevOps in creating a continuous integration solution for an EMC product. In the second project, I wrote the code for the assigned test cases for another EMC product called NetWorker.

Tools used (Development tools - H/w, S/w): S/w tools: GoCD

Objectives of the project: The objective of the continuous integration solution was to create a working prototype for a software, which can be easily extended for the required use by the company.

Outcomes of the project: The prototype was completed in a Continuous Integration framework called GoCD.

Major Learning Outcomes: I learnt about DevOps, which is a crucial software engineering practice. Learning about working in a huge corporation was also a big add-on.

Brief Description of working environment, expectations from the company: The working environment was excellent. Most people enjoyed working in the office space. Also, there were many recreational avenues. The office timings weren't strict and so it was easy to adjust accordingly. The company expected work to be done, regular reports were to be submitted to the managers. The managers were pretty friendly and approachable too.

Name: Vipul Singh

ID No: 2012B3A7511G

Student Write-up

Short Summary of work done during PS-II: I worked on Continuous Integration for Block Based Backup Module of NetWorker. The basic idea was to create a framework which would help in the reduction of regressions. So, I used tools like reviewboard and jenkins and wrote a php script that would trigger the build remotely. I used webhooks extension of reviewboard for this purpose. For testing networker, I used SAT framework.

I also worked on end-to-end automation for NSM filesystems. The basic idea was to create a robust framework which would automate the whole testing process like :- creation of VMs, assigning IPs to VMs, adding LUNs to VMs, creating filesystem (.ext3), installing Networker on VMs and running TITAN, which is a framework written in Python mainly for testing Networker Snapshot module.

Tools used (Development tools - H/w, S/w): ReviewBoard, Jenkins, SAT, TITAN, Vcenter, STAF, VmWare toolkit

Objectives of the project: To reduce the cases that the regressions faced while combining all the source code.

Outcomes of the project: Significant Reduction in the development cycle as well as regressions for any NetWorker build.

Major Learning Outcomes: Understanding of the workflow of development cycle. Got basic idea about the functioning of NetWorker and protect point. Got to learn about various data storage and protection techniques like VMAX, VNX.

Brief Description of working environment, expectations from the company: The working environment was really good and conducive. All my team members were really helpful and assisted me in the project.

Name: Sneha Kulkarni

ID No: 2012B4A7748G

Student Write-up

Short Summary of work done during PS-II: I was allotted the QE team for TaskSpace. My project involved automating the end to end testing for their products. Testing is an integral part of software development process. Automating test cases reduces the manual labour of testing and also reduces the chance of human error. I have used Selenium API with JBehave for automation. Test cases were written in form of scenarios which were then implemented using Selenium. Along with this, a GUI was also created to simplify the automation process.

Tools used (Development tools - H/w, S/w): I have used Selenium API with Java for automating test cases. I have also used BDD with JBehave.

Objectives of the project: The project aimed at development of automation framework using Selenium for end to end testing. A simple GUI was also created to simplify the automation process.

Outcomes of the project: The automation framework was developed as a outcome of this project. The project resulted in a one click process to carry out the entire end to end testing.

Major Learning Outcomes: Through this project I got to know how software development process is carried out. I learnt about automation and scripting.

Brief Description of working environment, expectations from the company: EMC is known to have a very friendly working environment. The team I was allotted to was very co-operative and helping. I get to know many new concepts through them. I have learned a lot from them.

Name: Parmod Kumar Garg

ID No: 2013A7PS136H

Student Write-up

Short Summary of work done during PS-II: Worked on automating the test cases for emc networker. Tested different functionalities of EMC Networker like backup,clone,archive etc. SAT framework used. Scripts were written in TCL.

Tools used (Development tools - H/w, S/w): SAT framework used.

Objectives of the project: Automation of EMC Networker framework

Outcomes of the project: EMC Networker was tested for different functionalities

Major Learning Outcomes: Learnt TCL.

Brief Description of working environment, expectations from the company: When we joined the EMC, it was in merger phase with Dell. Working environment is very cool. Any time come or leave. It helped us to prepare for our personal goals.

PS-II Station:GGK Technologies., Hyderabad

Student

Name: Gona Aravinda Rao

ID No: 2013A8PS399P

Student Write-up

Short Summary of work done during PS-II: Web application Development

Tools used (Development tools - H/w, S/w): React js,node

Objectives of the project: To develop Web application using React.

Outcomes of the project: Developed Web applications using React.

Major Learning Outcomes: React Js + Redux, node, Ruby, Webpack

Brief Description of working environment, expectations from the company: Working environment is good, people are friendly here.

Name: Kaustubh

ID No: 2013A3PS255P

Student Write-up

Short Summary of work done during PS-II: Web application Development

Tools used (Development tools - H/w, S/w): VS 2015, .Net, Angular2

Objectives of the project: Develop HRMS application for internal use.

Outcomes of the project: Created and enhanced HRMS app.

Major Learning Outcomes: .Net core concepts and basics of full stack application development.

Brief Description of working environment, expectations from the company: Amazing experience.

Name: Sahil

ID No: 2013A3PS288P

Student Write-up

Short Summary of work done during PS-II: Worked in the project that is related to healthcare domain. We designed an application that manages all the aspects of a hospital's operation.

Tools used (Development tools - H/w, S/w): iReport Designer, java, angularjs

Objectives of the project: HIMS software

Outcomes of the project: Built an end to end integrated HIMS

Major Learning Outcomes: angularjs, jasperreptrs

Brief Description of working environment, expectations from the company: Friendly environment, good place to work.

Name: Kampara Satya Naga Jagadeesh

ID No: 2013A3PS320P

Student Write-up

Short Summary of work done during PS-II: My work was based on web development. I was asked to learn about the new technologies and frameworks like angular 2, SASS and Material design Lite and was assigned the work of creating User Interfaces of different modules in various projects. My majority of work was on front-end side which I found to be very interesting.

Tools used (Development tools - H/w, S/w): Angular 2, MDL, SQL Server, Visual Studio, VS Code, BLISK, and Server Lite

Objectives of the project: The project was to provide Quality Assurance team with a web application to showcase their test results to clients and enable the clients to test their application built by the organization.

Outcomes of the project: Designed and architected a project by combining different technologies together to get faster results and got good knowledge on User Interface and front-end side technologies.

Major Learning Outcomes: The Major Learning Outcomes were sound and profound knowledge on front-end technologies like angular 2 and Material Design Lite Frameworks.

Brief Description of working environment, expectations from the company: The working environment in GGK technologies is very healthy and mature. It is a very good place to start your career in Information Technology sector as they constantly strive to renovate themselves towards the new upcoming technologies. The managers and mentors have a very healthy relationship with every employee and constantly help them in reaching their goals and in updating them with new technologies. The company expects results from students which are as same as for the employees working there, which i feel is good for the student to navigate in the right direction as it drives him to learn harder. We were even assigned to learn new technologies and implement them in the projects which was a good move in boosting our morale. I would like to conclude with one last statement about the working environment that the employees here have a good bonding with each other and are friendly in nature. They helped us in each and every step throughout the PS program.

Name: Himanshu Dwivedi

ID No: 2013A3PS309P

Student Write-up

Short Summary of work done during PS-II: Automation of software delivery pipeline, worked as a DevOps engineer and a Linux administrator.

Tools used (Development tools - H/w, S/w): Ansible, Git, HAProxy, Jenkins, TravisCI and Puppet.

Objectives of the project: Zero Downtime deployment of a web application.

Outcomes of the project: Building and deploying SpringMVC java app on AWS servers.

Major Learning Outcomes: Python, Scripting and Devops tools.

Brief Description of working environment, expectations from the company: We had transparent & open communication. They provided various trainings on new and old technologies and we used to have fun activities and yoga sessions every Friday.

Name: Jacob Jose

ID No: 2012B1AA707H

Student Write-up

Short Summary of work done during PS-II: Worked on three POCs related to Machine Learning and Natural Language Processing. In the first POC, built a search index around shared files so that users could search based on the contents of the documents. In the second POC, made an application that could process clinical reports in order to get insights into patient's health and current condition. Built a recommendation engine in Python in the last POC.

Tools used (Development tools - H/w, S/w): Java, Python, MongoDB, Apache Solr

Objectives of the project: Completion of various POCs in order to expand understanding of various subareas of Artificial Intelligence, like Machine Learning and Natural Language Processing.

Outcomes of the project: Made an application that could process and analyze clinical reports in order to obtain insights into patient's health. Also built a recommendation engine in Python.

Major Learning Outcomes: Learnt about Apache Solr, Apache OpenNLP and MongoDB. Brushed up programming concepts and patterns with Java and Python.

Brief Description of working environment, expectations from the company: The working environment was very welcoming and encouraging. Explored completely new technologies and algorithms. Overall, it was a great experience.

Name: *Aahladitha Gandhe*

ID No: 2012A7PS080H

Student Write-up

Short Summary of work done during PS-II: Data science algorithms implementation

Tools used (Development tools - H/w, S/w): R Studio, Python, Ubuntu

Objectives of the project: Business Intelligence for applications of machine learning algorithms to increase sales.

Outcomes of the project: We were able to pitch in new clients with my POCs

Major Learning Outcomes: Python,R programming,Ubuntu,algorithms

Brief Description of working environment, expectations from the company: The Company was very good and helped us in learning a lot. Best PS ever.

Name: Laxmi Polam

ID No: 2013AAPS227H

Student Write-up

Short Summary of work done during PS-II: Front-end development of a health care product.

Tools used (Development tools - H/w, S/w): Angular-JS

Objectives of the project: Development of a health care product

Outcomes of the project: Health care product

Major Learning Outcomes: Angular JS

Brief Description of working environment, expectations from the company: 8.5 hours of work required. PPO chances are high.

PS-II Station: HCL Technologies, Chennai

Faculty

Name: Pradheep Kumar K

Comments: Expectations from industry:

Expectations from the industry - Students are expected to have fair knowledge in embedded systems, robotics, VLSI projects, MATLAB and Labview

Student

Name: Chandra Kashyap Vattipally

ID No: 2012B2A3715H

Student Write-up

Short Summary of work done during PS-II: Designed a transmitter based on ARINC-818 protocol used to transfer raw video data.

Tools used (Development tools - H/w, S/w): Verilog/VHDL, Cadence Innovus.

Objectives of the project: To complete an architectural level design of an ARINC 818 transmitter.

Outcomes of the project: Architectural level design of ARINC 818 transmitter.

Major Learning Outcomes: HDL, nuances of circuit design.

Brief Description of working environment, expectations from the company: Helpful colleagues and mentors. Decent work load.

Name: Pramod Kumar K

ID No: 2013A3PS332P

Student Write-up

Short Summary of work done during PS-II: 1. Training in physical design

2. Designing an ARINC-818 compliant transmitter. Documentation of the rules of the protocol and the high level architecture.

Tools used (Development tools - H/w, S/w): Tanner EDA

Objectives of the project: To Design an ARINC-818 transmitter

Outcomes of the project: Designed the high level architecture of an ARINC-818 transmitter and documented it.

Major Learning Outcomes: 1. Design flow

2. Design concepts

3. ARINC-818 protocol

Brief Description of working environment, expectations from the company: Assigned a reporting manager and a reporting team. We had 2-3 meetings a week. Rest of the time we were left on our own to do the work.

Name: Kiran C J

ID No: 2013A3PS300P

Student Write-up

Short Summary of work done during PS-II: First 3 months were spent on training in VLSI physical design - Logic synthesis, placement, power planning, routing, and verification and GDSII steps. Also got trained in UNIX and Perl scripting. Then I was assigned to a project for which I made a design for a transmitter circuit for video transmission in an aircraft, using the ARINC-818 protocol. Studied the protocol specifications manual and about the necessary logic components and designed a circuit under the guidance of the company team leads.

Tools used (Development tools - H/w, S/w): Strawberry Perl, Cygwin, Electric tool, Mentor Graphics tools for layout and schematic design, ARINC-818 timing calculator from Great River Tech

Objectives of the project: To design a transmitter for continuous transmission of uncompressed video data in an aircraft using the ARINC-818 protocol.

Outcomes of the project: Submitted a complete feasible logic design for the same.

Major Learning Outcomes: Learnt a lot about VLSI physical design steps and fabrication. Learnt about different protocols used for media transmission and also to design using them. Learnt UNIX and Perl scripting with real time coding. Also learnt about the flow of project work in a corporate company.

Brief Description of working environment, expectations from the company: The working environment was really sublime. All the employees treated us well and were really keen to help us in our work. The team lead engineers were always there to help us in times of need. Our manager also helped us a lot in getting us settled in the company as well as in Chennai. There was some delay in getting us assigned to a project, so we had to rush to complete the work. But overall, the experience was really good.

Name: Raja Sekhar Reddy Bhimavarapu

ID No: 2013A8PS456P

Student Write-up

Short Summary of work done during PS-II: The aim of the project was to find ways to minimize/eliminate the expertise required in LabVIEW development in the field of Instrument Control,

Data Acquisition. This concern is due to the Graphical Programming Nature of LabVIEW. It was achieved using the VI scripting facilities in LabVIEW. Also, other alternatives and a console based approach to Data Acquisition through LabWindows were researched upon.

Tools used (Development tools - H/w, S/w): LabVIEW, LabWindows/CVI, Python, and DAQ

Objectives of the project: To find ways to minimize/eliminate the expertise required in LabVIEW development in the field of Instrument Control, Data Acquisition.

Outcomes of the project: Alternatives to LabVIEW and their feasibility were researched upon, along with creating small PoC's for them.

Major Learning Outcomes: A lot of time to explore different kinds of technologies, insight into what the R&D team is currently working on.

Brief Description of working environment, expectations from the company: Work environment is very flexible and the transition into the corporate world was a breeze. It will be helpful if the students have prior knowledge or even a basic idea about the software and hardware used for instrumentation, especially NI modules.

Name: *Sai Ram Krishna Gilakamsetti*

ID No: 2013A8PS452P

Student Write-up

Short Summary of work done during PS-II: Research work to find ways to eliminate/minimize LabVIEW development in Data Acquisition through other external textual programming languages.

Tools used (Development tools - H/w, S/w): LabVIEW, Labwindows, Python, and ActiveX

Objectives of the project: The aim of the project is to find ways to minimize/eliminate the expertise required in LabVIEW development in the field of Instrument Control, Data Acquisition. This concern is due to the Graphical Programming Nature of LabVIEW, which is not native to most of the programmers, who are basically habituated to textual programming. The objective is endeavored to be achieved using the VI scripting facilities in LabVIEW. Also, other alternatives and a console based approach to Data Acquisition through Labwindows are researched upon.

Outcomes of the project: We found that the elimination of LabVIEW development is impossible. There is always a point where one has to build the Virtual Instruments(VI) in LabVIEW and one can only communicate with VI's from external by passing input and receiving output parameter values from the front panel of VI. We found similar software of NI i.e. which purely supports the C language and is used for Data Acquisition, Instrument Control as well.

Major Learning Outcomes: VI scripting, LabVIEW application building, Labwindows

Details of papers/patents: White papers on National Instruments website about LabVIEW, VI scripting, Labwindows

Brief Description of working environment, expectations from the company: Working environment was great with sportive and encouraging people around and flexible office timings.

Sometimes the company wasn't able to provide some resources because of unavailability and that time went unproductive.

Name: Pranay Reddy Gnani

ID No: 2013A3PS330H

Student Write-up

Short Summary of work done during PS-II: We worked on the architecture of ADVB protocol transmitter.

Objectives of the project: To develop the architecture of ADVB transmitter.

Outcomes of the project: We developed the architecture of ADVB protocol transmitter

Major Learning Outcomes: Learnt about the work culture in the corporate world. I learnt about the physical design of VLSI chip and various blocks of ADVB transmitter architecture.

Brief Description of working environment, expectations from the company: The working environment was good and our team leads and mentors were amiable. We were expected to work on the architecture of ADVB transmitter. Our team leads have always been there to help us work on the projects.

PS-II Station: HCL Technologies, Noida

Mentor

Name: Parveen Jain

Designation: Group Technical Manager

The project dealt with research in the domain of using PMML for Big data analytic using parallel algorithms. The BITS interns did a commendable job.

Student

Name: Upadhyay Gaurav Arvind

ID No: 2013A7PS030P

Student Write-up

Short Summary of work done during PS-II: PMML Development was the name of my Project. It was a research based project. Initially I was working on data processing, in short - transformation from unstructured data into structure data, processing of the structured data and finally analyzing the processed output. Thereafter few concepts of Machine learning were required to understand the papers related with project. At last I was given a few questions. They were related to compiler construction and issues involved while deploying a software on a system. Over all this entire project required little coding but theoretically most of the concepts we had learnt in college.

Tools used (Development tools - H/w, S/w): Eclipse only

Objectives of the project: To understand the usage of PMML- Predictive model markup language and problems faced while developing one of your own

Outcomes of the project: PMML itself

Major Learning Outcomes: Difficulties faced while deploying the software.

Brief Description of working environment, expectations from the company: On the first day itself they provided a desktop. Some members of the team were familiar with project while others were newbies like me. Initially older members helped a lot and addressed every question patiently while later everyone became result oriented and work pressure increased exponentially. Overall it was a healthy working environment and the only thing they expected from me was that I should learn at the end of the Day.

Name: Anshu Vyas

ID No: 2013A8PS347H

Student Write-up

Short Summary of work done during PS-II: In HCL, our managers were interested in making in their own version of a software known as Zementis, which is available commercially. This software basically

deploys predictive models. Predictive models are used for advanced analytics which is used to make predictions about unknown future events. This type of modeling uses many techniques from data mining, statistics, modeling, machine learning, and artificial intelligence to analyze current data to make predictions about future. Different people write models in different languages, so if a new member starts working on a same model, it would take him time to understand that model. Also during deployment, model should be written in python or R, and generally model is written in Java. So to overcome this problem a standard language is used which is termed as PMML (Predictive Model Markup Language). This language follows XML syntax. To deploy the models written in this language there are multiple platforms which include an open source software JPMML evaluator and a proprietary software Zementis. The advantage of Zementis is that it is very fast, which provides its users an edge in today's competitive market. So using JPMML evaluator as an example, we tried to give suggestions using which the company could develop their own software. Our suggestions were well received and appreciated.

Tools used (Development tools - H/w, S/w): JPMML evaluator was the major software used as most of the suggestions were given as to how to improve it to suit the requirements of the companies. Eclipse (JDE) was used a platform to deploy JPMML evaluator on.

Objectives of the project: Our objectives were:

- To explain the need for PMML.
- To determine how a High Level Language could be transformed to another High Level Language.
- To distribute data in such a way as to achieve parallel computing of data.

Outcomes of the project: We suggested some approaches to develop their own software. We explained the need for PMML, a way to convert any High Level Language to another High Level Language and a way to distribute the data.

Major Learning Outcomes: I learnt about software development and the importance of teamwork. I also got to know a lot about machine learning, data mining, big data, statistics, predictive analytics and much more.

Brief Description of working environment, expectations from the company: The best thing I liked in this company was that we were not spoon-fed. We were told what was expected of us, but whenever we required help, it was provided to us by our manager and other employees, working alongside us. The working environment was very good. We were given flexible timings so that we could work when we felt most productive. Our manager was a very knowledgeable person and helped us whenever we required

it. He also taught us about work ethics and team work. I learnt a lot about the corporate culture. Being a part of a Multinational company of this size, we got to meet with different types of personalities and learnt a lot from them. The HR division was also very active and used to conduct different type of events for their employees. The events ranged from cultural to social. During my time there, they conducted a free full body check-up for HCL employees and from time to time information brochures about seasonal diseases and their prevention, lifestyle diseases, were sent. Overall it was a smooth transition from academic environment to corporate environment enabled by the combined efforts of our manager, colleagues and HR division of HCL Technologies.

PS-II Station: Healthcare Technology Innovation Centre (HTIC),
Chennai

Student

Name: Paresh Maniyar

ID No: 2013A8PS525H

Student Write-up

Short Summary of work done during PS-II: Basic project on height, weight and respiratory rate measurement devices. Interfacing three different sensors namely, Ultrasonic sensor, load cell and Accelerometer with a microcontroller nrf51(BMD 200) and transferring to android tab using bluetooth low energy.

Tools used (Development tools - H/w, S/w): IAR workbench, Keil, nrf go studio, nrf51, accelerometer mma485, hcsr04

Objectives of the project: Make wearable respiratory rate device and kiosk of height and weight measurement device

Outcomes of the project: Three independent devices made

Major Learning Outcomes: Embedded systems -both hardware and software

Brief Description of working environment, expectations from the company: They expect decent amount of effort, very hard to get a PPO and unorganized environment. They don't have time for their juniors or interns. Not so good experience but tried on my own to learn a lot. Very basic level of work done. No importance given to deadlines.

Name: Sumeet Sahota

ID No: 2013A8PS440G

Student Write-up

Short Summary of work done during PS-II: I've been working on a project to develop a feature matrix to find features for developing a tool to help in the field of Arthroplasty.

Tools used (Development tools - H/w, S/w): ViewSTL, 3DViewerOnline, ScanIP (Simpleware), Materialize Mimics, Autodesk A360 Viewer, and so on various other DICOM viewers were used.

Objectives of the project: To look for similar tools available in the market and collect information about

their features, benefits, and drawbacks. Put the information about their features in a feature matrix to ease the process of comparison.

Outcomes of the project: The various tools and their respective features were collected and put together to form a feature matrix, which makes the job of other members of the project group to know what's the basic features and what is the latest update on features that need due importance in the making of their own tool and as per the project needs.

Major Learning Outcomes: Learnt about various topics like STL, STereoLithography, Arthroplasty, STL files, DICOM, DICOM viewer, DICOM editors and how to review and research on building a feature matrix.

Brief Description of working environment, expectations from the company: Healthcare Technology Innovation Centre (HTIC) is a multi-disciplinary R&D Centre, a joint initiative of Indian Institute of Technology Madras (IITM) and Department of Biotechnology (DBT), Government of India that brings together technologists, engineers, doctors and healthcare professionals, industry and government to develop healthcare technologies for the country. It is a good place to learn about the latest technologies, and get hands on experience in various R&D fields.

Name: Sanne Ujwal Sriharsha

ID No: 2012B5A8662H

Student Write-up

Short Summary of work done during PS-II: There is a vital need for portable and cost-effective point-of-care (POC) testing technologies providing reliable and rapid results. Lateral Flow Immunoassays (LFIA) are suitable POCT diagnostic tools with potential for use in a wide variety of point-of-care or field applications ranging from uses in clinical diagnostics to aiding law enforcement. There is a need for quantitative instrument readers to provide precise results to support decision making using the POC technologies. This report explores the use of point and shoot digital camera and mobile phone camera for fluorescence imaging of the immunoassay. Commercially available models which satisfy the working conditions imposed on the fluorescence imaging system are identified. A suitable Canon point and shoot digital camera was identified for the application but was rejected in favour of a mobile phone camera

due to the availability of an integrated platform for application development. The system performance of the mobile based LFIA quantitative reader is reported through tests conducted for Glycated Haemoglobin (HbA1c) in blood samples.

Tools used (Development tools - H/w, S/w): LabVIEW, MATLAB

Objectives of the project: The aim of the project is to develop a rapid quantitative lateral flow immunoassay reader. The objectives were to explore the usage of point & shoot digital cameras and mobile phone camera for fluorescence imaging system and identify suitable models available in the market. After identification, characterize the system performance of the imaging systems explored using reference and blood test assays.

Outcomes of the project: A mobile based fluorescence LFIA quantitative reader was developed and the system performance was characterized using Glycated Haemoglobin (HbA1c) blood samples.

Major Learning Outcomes: I have learned to use LabVIEW and MATLAB for image analysis and have learned the rigorous process of characterizing diagnostic instruments.

Brief Description of working environment, expectations from the company: I was working in a research team collaborating with the industry on a product. As such I was exposed to both the research and development side and the marketing side of the product. Working at HTIC enables to work on multidisciplinary projects ranging from mechanical to biology and electrical and electronics. The company has relatively small number of employees and is very active with lot of ongoing research. You will get to interact with the other projects sometimes even by providing them data, such as for heart rate measurement designed by the wearable team.

Name: *Sushmita Mulumudy*

ID No: 2013A3PS336H

Student Write-up

Short Summary of work done during PS-II: My project aims to create an e-dietitian software to help and enhance dieticians in determining and planning specific diets for patients as well as otherwise healthy personnel. The software aims to create a data repository of nutrients and diets, so that a practicing dietitian shall be able to develop and schedule a dietary plan as per the circumstantial requirements of

each individual. This web-based application is developed using Drupal, an open source content management system. Drupal has some great standard features like easy content authoring, reliable performance and good security. With the help of this software a dietician can store the details of the patient. Using the patient's body requirements, medical history, feeding method and food preferences, a diet is generated accordingly.

Tools used (Development tools - H/w, S/w): Drupal, php

Objectives of the project: To develop an e-dietitian software

Outcomes of the project: A web application

Major Learning Outcomes: Drupal

Brief Description of working environment, expectations from the company: Work environment at HTIC is very encouraging. Mentors are very resourceful and willing to help.

PS-II Station: Here Maps, Mumbai

Mentor

Name: Danny Savla

Designation: Manager, Engineering

Students are picking up skills very fast. Mentors are very happy from the interns.

Students performed the assigned tasks very comprehensively. Mentors are very happy with the practice school program.

Students get time to learn so many things, and to engage in a professional work environment. It's a very good initiative, students get time to groom in the organizational environment.

Faculty

Name: Swarna Chaudhary

Comments: Expectations from industry:

Software Tools Used: Hadoop, Maven, Github, Eclipse, Putty, Locus, JSON, Postman

Soft Skills: Ability to work in team environment, attention to details, adherence to timelines, good communication skills, promptness and timeliness

Students can prepare better by building basic concepts in topics such as Data Mining, Android Programming, DBMS (SQL Query Designing), Java Programming

Industry expect PS2 interns to have a learning attitude, and willingness to work hard. While industry people understand that students will not know everything beforehand, but expect students to learn quickly. Industry also expects sincerity and discipline from students.

Student

Name: Yash Kriplani

ID No: 2013A8PS453P

Student Write-up

Short Summary of work done during PS-II: I worked on the User Interface of a software

Tools used (Development tools - H/w, S/w): Javascript, angular JS, CSS, HTML, java

Objectives of the project: To make the user interactive interface

Outcomes of the project: Made a good looking user interface

Major Learning Outcomes: Learned about how to make interactive user interface

Brief Description of working environment, expectations from the company: Working environment is pretty cool, employees are very helpful, Although they didn't allot me good work to do. So from My experience i didn't learned much from this company from tools point of you. I was expecting more from the company and there is not proper training session in which you can learn something, the training session they provide is just waste of time, Student who are coming and didn't know any skill they will not able to learn from that type of training. And if they are not interested in taking you then they will treat like external person from company which is bad, atleast if you are not interested in taking then they should provide good project so that students can learn and that will help them in placements.

Name: *Anuj Gupta*

ID No: 2012B5A8428G

Student Write-up

Short Summary of work done during PS-II: Developed a software in Java which extracts data from an Oracle database using SQL queries and appends it to a text output file according to user specified details.

Tools used (Development tools - H/w, S/w): JAVA, Maven, and SQL

Objectives of the project: To develop a software that extracts data from an Oracle database and appends it to a text output file according to the mapping details provided by the user.

Outcomes of the project: Developed the basic structure of the software. A few essential features still need to be added.

Major Learning Outcomes: Learned the terminologies and methodology of producing a software. Learnt about Basic JAVA programming, SQL Queries, concepts of multithreading and JavaScript engines.

Brief Description of working environment, expectations from the company: HERE Maps is a very good place to work at. The employees are friendly and helpful. Office timings are not fixed and there is no restriction about dress code. Therefore, one may plan their work according to their own convenience. The work culture here is really helpful in learning.

Name: Utkarsh Gupta

ID No: 2013A8PS465P

Student Write-up

Short Summary of work done during PS-II: Designed a webpage according to the requirement of the project.

Tools used (Development tools - H/w, S/w): HTML/CSS, Javascript and JQuery

Objectives of the project: The objective was to design a software and automate the process of converting data from the database to various formats.

Outcomes of the project: A webpage that is user interactive and user friendly.

Brief Description of working environment, expectations from the company: The working environment is very conducive for working purposes and helps to deliver 100%. Mentors in HERE are very experienced and are very helpful.

Name: Viksit Sapra

ID No: 2013A8PS447P

Student Write-up

Short Summary of work done during PS-II: Create a custom POIToPlaceXML Map-reduce job which converts POI formats into Place XML.

There are three types of mapping for POI to Place XML format

1. Simple Type: It is a direct mapping from POI to Place XML.
2. Rule Based Mapping: Apply some formatting rules on POI attributes and the result is mapped to Place XML.
3. Lookup Based Mapping: Use a lookup file to find the corresponding value in Place XML. Example: the mapping of ISO language codes into corresponding BCP-47 language code in Place XML.

Each POI Xml has 7 major elements namely:

- Contacts

- Name
- Category
- Chain
- Relationship
- Extended Attributes
- Rich Attributes

Every child element from poi xml is mapped to place xml using Adeptia tool. My job was to prepare JAVA Objects for poi xml data and prepare a unit test to check whether the mapping is done properly or not. I also prepared the excel document depicting the whole mapping for any future use

Tools used (Development tools - H/w, S/w): ECLIPSE, HADOOP SERVER, XML COMPARATOR, and ADEPTIA

Objectives of the project: This project aims at mapping different POIs to Place XML using MAP REDUCE job. It also involves properly documenting the whole mapping process. The company aims to move away from the traditional adeptia tool and find a better way of handling the mapping process.

Outcomes of the project: A custom mapping for POI TO PLACE WAS designed and got into production.

Major Learning Outcomes: BASIC HADOOP, O.O.P., XML, BASIC SQL

Brief Description of working environment, expectations from the company: Environment is quite friendly and we were treated equally to the employees. I was given ample time to learn and complete my project. Office hours were flexible as long as you are doing your job and you just have to inform the manager beforehand for a leave without any pay cut.

Could have had a better mentor though.

Name: Akshay

ID No: 2012B4A3631P

Student Write-up

Short Summary of work done during PS-II: I contributed to natural guidance using image processing as well as automated the natural guidance tool.

Tools used (Development tools - H/w, S/w): Eclipse, JAVACV.

Objectives of the project: Fully automate the natural guidance tool

Outcomes of the project: It will significantly reduce the time and effort to complete every single task that my team does.

Major Learning Outcomes: Understanding of object oriented programming concepts, computer visions, image process using java.

Brief Description of working environment, expectations from the company: I found it very comfortable working here. There were great learning opportunities, my mentor was really helpful to me and I learnt how to work in team and to get the best out of team work.

Name: Yashwanth Kolla

ID No: 2013AAPS352H

Student Write-up

Short Summary of work done during PS-II: Have written java code (Java developer) for a task given. Built a user interface (Both Front-end and Back-end). Documented many important things that are uploaded on the internal wiki page.

Tools used (Development tools - H/w, S/w): Eclipse

Objectives of the project: Performance enhancement, User Interface.

Outcomes of the project: User Interface, Performance enhancement.

Major Learning Outcomes: Java, SQL, JS, HTML , CSS

Details of papers/patents:Uploaded documentations on the internal wiki page of company

Brief Description of working environment, expectations from the company: This short span of around five and half months as an intern played a crucial role in bridging the gap between theoretical and conceptual knowledge we get, and practical one. It helped me understand the workings and organizational culture and behavior in a global level. Besides my communication skills are also strengthened. Apart from that, I had also developed my programming skills through various programs I

have done. This helped me sharpen my skills in java since most of the source code I worked on is hard coded in java. In sum, the actives that I learned during this short span are useful for me in future to face challenges in working environment. Throughout the industrial training, I found that thinking out of box, time management, goal management and colleague interactions are very much important. Courses like Java, DBMS, have been very useful in grasping things easily. In my free time, I'm leaving no opportunity to venture into learning new things from online courses. In a nutshell, this internship has been an excellent and rewarding experience and I'm looking forward to making the best of this.

Name: Aman Taneja

ID No: 2013A8PS473G

Student Write-up

Short Summary of work done during PS-II: Worked in various fields like Databases, Algorithms and Data Structures, Networking. Developed a load testing tool to check read and write performance. Developed and deployed a web service to run multiple sql queries on multiple servers and compile resultant data. Developed and deployed a tool to automate python integration testing on JSON properties of various CMS endpoints.

Tools used (Development tools - H/w, S/w): Locust for Performance and Load Testing. Apache Maven for deployment of web services. Eclipse for developing projects in Java and Python.

Objectives of the project: Create a tool to assess performance. Help ease and automate the tedious task of writing test cases. Develop a useful tool to run multiple sql queries on multiple servers and compile data together.

Outcomes of the project: Helped the company by completing 3 major projects and various other small tasks which would have been lying in the TODO list had I been not present.

Major Learning Outcomes: My skills in the Computer Science domain have increased many-fold. My manager helped me with developing skills by giving work in all the different fields of Computer Science and gave a lot of training. I attended all the team meetings and they were really useful.

Brief Description of working environment, expectations from the company: The working environment is really cool. There are no fixed timings and no compulsorily formals for work. My manager and mentor

were really helpful. There is a PS4 room, a TT room and a Nap Room and you can use them whenever you feel like relaxing. The work given was completely from Computer Science domain and it really helped me expand my knowledge. The company expects you to know basics of Databases and Object Oriented Programming and experience in Java. It is really helpful if you know shell scripting and python scripting, majority of the work however is in Java and Maven.

Name: Brij BhushanTripathi

ID No: 2013A8PS463P

Student Write-up

Short Summary of work done during PS-II: I was working with community team. My main work was related to configuration of different versions of existing code and configuring different tools with it. I worked loads testing and documentation of the web service.

Tools used (Development tools - H/w, S/w): I had to user two tools. First of them is called SWAGGER. In my second task which was related to load testing of the system, I had to use a new top. Named Gatling.

Objectives of the project: My first task was supposed to give a well-documented dynamic user interface of the current web service. In my second I was supposed to give a system performance base. Line under stress.

Outcomes of the project: As a result of my first task, company got a dynamic UI that is easy to use and well documented. As a result of my second task, I had created an environment for system performance base line under stress using Gatling tool.

Major Learning Outcomes: In coding perspective, I did not learn anything. All the work was oriented towards configuration. I did learn some architecture related things like maven.

Brief Description of working environment, expectations from the company: Environment is quite good and relaxed. I met some really amazing and talented people. Company is expanding so there are some PPO opportunities although that completely depends on which team you get into.

Name: Mudda Swathi Sree Durga

ID No: 2012B1A8834P

Student Write-up

Short Summary of work done during PS-II: Modelled data in order to observe associations between features in the map and derive rules of association using Apriori

Tools used (Development tools - H/w, S/w): Java8, Neo4j, R

Objectives of the project: Represent data in a way to derive rules of association between features in the map

Outcomes of the project: How different features in a map are associated with each other

Major Learning Outcomes: Databases and proficiency in Java

Brief Description of working environment, expectations from the company: It is a great place to learn and contribute. The managers and other team members are very friendly, willing to give the interns an ample amount of time to help with the projects despite their very busy schedules. The projects are very skill effective and they help us improve our own skills at an efficient pace. The company expects sincere, hardworking students with good work ethic and will to learn as their interns and they help the interns strive to be the same.

Name: *Saurav Jain*

ID No: 2013A7PS052G

Student Write-up

Short Summary of work done during PS-II: Customising activiti for performance optimization.

Tools used (Development tools - H/w, S/w): Eclipse, PostgreSQL, Sublime

Objectives of the project: To increase the performance of query processing.

Outcomes of the project: Faster outcome of the task assignment after processing.

Major Learning Outcomes: Activiti, Database optimization, Postgres

Brief Description of working environment, expectations from the company: The organization provides a perfect working environment. The employees working at HERE are very friendly and are always ready

to help. In short, It is a good company to work with for computer science students and it was a great journey being an intern at HERE Solutions.

PS-II Station: Hortonworks, Bangalore

Student

Name: Vadicherla Sathwika

ID No: 2013A3PS171H

Student Write-up

Short Summary of work done during PS-II: Developed a runback that performs health checks on a cluster.

Objectives of the project: To be proactive on cluster analysis

Outcomes of the project: Successfully performed health checks on HDFS components

Major Learning Outcomes: Python, Cluster analysis

Brief Description of working environment, expectations from the company: The working environment is employee friendly and everyone is very helpful. It is always better to know python beforehand and also a little knowledge on how big data works.

PS-II Station: IDeaS - SAS, Pune

Faculty

Name: Ankur Pachauri

Comments: Expectations from industry:

Expectations from the industry - As a hotel revenue management company, IDeaS uses a variety of forecasting and data analysis modules for prediction. It contains many departments to carry out forecasting the value of the rooms of the hotels. One of them is TechOps, which is responsible for monitoring the functioning of product deployment from the Software Development Department to the clients and work on the smooth functioning of the products on the available environments. Managing the databases is also one of the major responsibilities of the department. The organization also provides other services like hosting sites, maintaining them and keeping regular backups. Also it provides the facility to integrate various third-party softwares, applications and facilities. Among them are the PMS services provided by Oracle, SMS etc. It is the job of the company to maintain the integrated third-party facilities along their own facilities. This integration of third-party facilities is also done manually by filling in all the details manually over and over again and running multiple scripts to ensure that the subscriber is provided the third-party facility.

Student

Name: Rahul Phatak

ID No: 2013A8PS411G

Student Write-up

Short Summary of work done during PS-II: As a hotel revenue management company, IDeaS uses a variety of forecasting and data analysis modules for prediction. I worked on Function Space Revenue Management during my PS2. As a part of my project, I tested the accuracy and evaluated the performance of many of these modules. I wrote test programs in SAS to test the modules and benchmark the output with the production code. I also provided feedback about the module documentation. I fixed various defects in the currently existing modules which were then incorporated into the production code.

Tools used (Development tools - H/w, S/w): SAS

Objectives of the project: Testing analytical software related to function space revenue management research

Outcomes of the project: I tested multiple modules and completed their documentation

Major Learning Outcomes: I learned the terminology and (a part of) the process used for revenue optimization. I learnt SAS and logical thinking.

Brief Description of working environment, expectations from the company: The Company DOES NOT has paid leave. I had very good mentors at my PS. They were very helpful and supported me throughout the PS. I obtained the SAS base programmer certification for free during my PS. Since IDeaS is owned by SAS, I had free access to the official SAS documentation and courses. I would suggest this to people who are interested in data analysis.

Name: Rishabh Agarwal Jain

ID No: 2013A1PS508P

Student Write-up

Short Summary of work done during PS-II: Project was a web application

Tools used (Development tools - H/w, S/w): Eclipse, mysql, java, javascript, J2EE

Objectives of the project: To develop a web application to support daily banking tasks.

Outcomes of the project: A full-fledged web application that can do tasks similar to banking system.

Major Learning Outcomes: Knowledge of Java Enterprise.

Brief Description of working environment, expectations from the company: Company expects student to already know a lot and prefer students which have some past experience.

Name: Manoram Bedmutha

ID No: 2013A7PS100G

Student Write-up

Short Summary of work done during PS-II: Some database operations were done in the initial stages. Some automation was made to integrate third party applications with the existing clients and provide proper subscriptions to the clients. These applications were different property systems (eg. Agilysys, Springer Miller) and they were integrated with the existing clients and all their files were stored on some server dedicated to the third party applications. Some scripting was also done for modifying and updating the server files.

Tools used (Development tools - H/w, S/w): Jenkins tools, MSSQL server management studio, Windows Powershell, SQLyog

Objectives of the project: Automation of configuration management tools for G2 integration

Outcomes of the project: Automation were created for integrating third party applications for existing subscribers and updating the server files.

Major Learning Outcomes: Learned Powershell, Jenkins tools

Brief Description of working environment, expectations from the company: There is not a lot of work and the working environment is not good. Most of the managers are sadist and have a lot of ego. There

is a lot of difference in their treatment of freshers and interns. The HR department people do not help at all. The team members also are not helpful. One of the worst working environments. Most of the employees are Marathi-speaking. So unless you know Marathi, you will have problem communicating with the people there. **AVOID THIS COMPANY. DO NOT COME TO IDEAS.**

Name: Manoj Gottipati

ID No: 2013A8PS456P

Student Write-up

Short Summary of work done during PS-II: I have worked with the Quality Assurance department for majority of the time in my PS. My major work was to write unit test cases in JAVA and other automation techniques.

Tools used (Development tools - H/w, S/w): Eclipse, Apache Tomcat

Objectives of the project: Writing unit test cases for the code which has already been developed

Outcomes of the project: Helped the QA team with automation and testing

Major Learning Outcomes: Immense knowledge gained in Software Development and JAVA programming language

Brief Description of working environment, expectations from the company: The working environment was pretty good. Most of the employees are willing to help when in need. However, the company employees lack professionalism. Some of them are quite rude in their approach towards the interns. Also, employees didn't seem motivated to work for the company.

PS-II Station: IMI Mobile, Hyderabad

Faculty

Name: T V Rao

Comments: Expectations from industry:

Expectations from the industry - They expect students to possess good knowledge of basics, OOAD, web development, SQL/NoSQL databases, analytics, and testing. During internship students need to work with the preferred frameworks, libraries suggested by their groups. Some of the concerns heard from mentors include non-compliance to coding standards, need for better documentation, and ownership of tasks.

Student

Name: *Abhishek*

ID No: 2013AAPS308H

Student Write-up

Short Summary of work done during PS-II: I had to collect data from various websites by scraping. I have researched cloud platforms like AWS and Docker.

Tools used (Development tools - H/w, S/w): Python, AWS, Docker

Objectives of the project: Research on Cloud platforms and their services. I had to identify appropriate services which can be used by organization. Also I had to collect and query data from various sources to train algorithms.

Outcomes of the project: I have researched about various cloud platforms and conducted a case study on autoscaling of applications

Major Learning Outcomes: Learnt SQL, Python, Containers (Hot topic in the field of virtualization)

Brief Description of working environment, expectations from the company: My team expected me to have strong coding skills. Working environment is good.

Name: *Abhiram*

ID No: 2012B4A8558G

Student Write-up

Short Summary of work done during PS-II: Website building Product management

Tools used (Development tools - H/w, S/w): Python, CSS, HTML, UXPIN

Objectives of the project: Website building

Outcomes of the project: Website

Major Learning Outcomes: Python

Brief Description of working environment, expectations from the company: I've worked in two departments. The working environment of product team was very friendly compared to analytics.

Name: *Mounika Yallamandhala*

ID No: 2013A8PS060H

Student Write-up

Short Summary of work done during PS-II: Got to know about chatbots and how are they prevailing in the market. Market research on chatbots, chatbot building platforms. Hunting contacts of working professionals from various companies using the resources available.

Objectives of the project: Different usecases for chatbots existing in the market, exploring various bot builders, Finding out contacts for launching campaigns

Outcomes of the project: Feedback on the bot builders, existence of various usecases in different sectors, Campaigns launched to the contacts found.

Major Learning Outcomes: Finding out what is necessary before launching a product which is similar to the ones existing in the market.

Brief Description of working environment, expectations from the company: Working environment is quite good. People around here are very cool. Managers, team members help you with any doubts. One can be given an option to shift his/her work if he/she is not very good at it and want to learn some other thing.

Name: *Vivek Jain*

ID No: 2013A3PS278P

Student Write-up

Short Summary of work done during PS-II: After completion of this internship or more precisely this PS-II course at IMI mobile, these five months have been a wonderful learning experience. Working with team on live projects has helped me grow as a person. I have learned many industry specific tools, software and computer languages which are currently an advantage to know. They include but are not limited to SQL, Python, MS Excel, basic Tableau and Anaconda (IPython), HTML, CSS, jQuery, d3.js.

Followed the best practices while writing a code, writing descriptive variables, commenting on code, making the scripts readable and of the standards which currently the industry follows. I used many packages in python which are very useful in the current data science environment such as pandas for managing .csv files, BeautifulSoup for parsing, and urllib & urllib2 for crawling into webpages. I have learned about data art and learnt about the various tools to visualize data that can be used to draw important and valuable insights from the available data and be presented to the various stake holders, who can use these insights for their advantage.

Tools used (Development tools - H/w, S/w): SQL Server, Tableau, Python, HTML, CSS, JavaScript, d3.js

Objectives of the project: Reorganization and Cleansing of database, Data Visualization

Outcomes of the project: Cleaned Database, which can now be queried using filters through a UI, even by a layman with no SQL programming experience.

Automated the process of custom data visualization, by writing back-end codes to prepare the data from raw data through python codes, and supplying the data to the front end codes to visualize the data

Major Learning Outcomes: Gained knowledge on RDBMS, python data science modules, data visualization using JavaScript library D3.

Brief Description of working environment, expectations from the company:

Engaging working environment, where you are supposed to figure out things by yourself, but are also helped out at every stage by immediate manager. The management is accessible even for interns, and even the VP of the function you work in is interested in the outcomes of your project. Timings are dependent upon your manager, most of them are flexible with working hours if output is not hampered.

Name: Anand Sahoo

ID No: 2013A3PS200P

Student Write-up

Short Summary of work done during PS-II: Managed enterprise campaigns, data analytics using SQL, Python

Tools used (Development tools - H/w, S/w): S/w - MS-SQL, Excel

Objectives of the project: Manage enterprise campaigns

Outcomes of the project: Made summary of various campaigns and helped in their better management

Major Learning Outcomes: Using analytics tools, such as MS-SQL, Python, Excel

Brief Description of working environment, expectations from the company: Friendly people, team helps in getting the best out of you.

Name: Anirudh Thukral

ID No: 2012B4A8773G

Student Write-up

Short Summary of work done during PS-II: Digital Marketing activities. Business writing: writing case studies about IMI's solutions for different industries, website content for IMI India website and multiple campaigns, brochures for offline events and conferences.

R&D: Market research about existing chatbot use cases and chatbot development platforms.

Analytics: Predictive analysis for a campaign.

Tools used (Development tools - H/w, S/w): MS Office, SQLite, Tableau, MailChimp, IMIcampaign, IMIchat.

Objectives of the project: Improving lead generation, presentation about chatbots.

Outcomes of the project: Objectives fulfilled.

Major Learning Outcomes: Corporate culture, analytics tools, digital marketing activities.

Brief Description of working environment, expectations from the company: Good stuff.

PS-II Station: Innovation Labs, Bangalore

Student

Name: Shikhar Bhuddi

ID No: 2012B2A8778P

Student Write-up

Short Summary of work done during PS-II: Handled the UI developments and feature development in TrKr and entire android application end of the Soul project (From researching to development and testing of the developed prototype).

Tools used (Development tools - H/w, S/w):Android Studio, Java

Objectives of the project: To develop a mobile based geonavigation and routing application designed to optimally provide convenient routes and navigation & to target health and nutrition industry with the help of recent technologies like WebRTC, allowing users to learn Yoga with an online yoga studio, providing real time two way interaction between instructor and class attendees.

Outcomes of the project: TrKr: Sold to Wonobo, backed by Quikr and Soul: Going to raise funds soon, Framework of android app ready to showcase as prototype to the final product, Beta tests running on the prototype.

Major Learning Outcomes: Mobile application development

Brief Description of working environment, expectations from the company: Hosted in a rented house, small teams, and huge workload. Better internet speed expected, a more newbie friendly atmosphere expected.

Name: Mayank Kumar

ID No: 2012B1A2806P

Student Write-up

Short Summary of work done during PS-II: The work started on Day 1 and things start happening even before I started to understand everything, exactly what a young enthusiast like us should expect. I was

given a few small tasks to do on my own. Later these tasks decided which project I'll work on. And once I was appointed a team I was contributing to it from the beginning.

I worked on 3 projects during my internship (1 majorly and 2 a little). So I got to know different things during this period. My mentors sat in the same room as me and were ready to help whenever I had a doubt. But if I missed a deadline they were very pissed. All employees are very intellectual and passionate about their project.

Objectives of the project: To create an online office suite and to create an app that makes decisions easier

Outcomes of the project: The office suite was created and the app named 'Krowd' is on Google and Apple app store.

Major Learning Outcomes: I coded in mostly in C++ and Python. I also learnt R, Autoit and SQL. My mentors were working on the AI and ML part of the project and used to tell me about their tasks and discussed it with me on a regular basis. So I got an exposure to these areas too. They are ready to let interns work in these areas too but interns should have prior knowledge about it.

Brief Description of working environment, expectations from the company: The office is in a residential bungalow in the Koramangala area. The first look doesn't give a very good feeling but once you enter this place and see around you will be flabbergasted. It is a budding startup and things are as it should be - bean bags, extension cords everywhere, white boards, computer peripherals scattered here and there.

But once I got to know the work that is being done and the amazing people there all the above stated things didn't matter. They are an incubation center and provide technical help to people/projects who need it. So there are always around 5-6 projects on which different set of people are working. Interns were shifted to different projects during the internship. I think there are around 15-20 employees who might be 3-4 years older than us and all of them are major contributors to their projects.

Name: Karthikeyan R

ID No: 2013A7PS145P

Student Write-up

Short Summary of work done during PS-II: During my tenure, I worked on 2 projects - development of a mobile app which would suggest restaurants and development of cloud office software. In the first project, I worked on the client and server side of the app - designed a number of pages and features on both iOS and Android platform, created a few services and improved the performance of the app. With the second project, the works was mainly confined to fixing some of the bugs and modify the UI features as per specifications.

Tools used (Development tools - H/w, S/w): React Native framework, Node.js, kDevelop IDE, JavaScript, Java, C++

Objectives of the project: (1) (Cloud office application) The currently available cloud office applications are browser based. They are much slower compared to the desktop office applications and also pale in comparison to the variety of features offered by the latter. So this project aims to combine the advantages of both cloud based and desktop based applications and offer the best out of both in a single package.

(2) (App development) This project aims to build an app for both Android and iOS users which would suggest restaurants based on some initial input that they provide. By making use of Artificial Intelligence, the objective is to enable a way to help users with decision making. Every possible data about the user's activity on the app would be used to learn more about the user and present him/her with better choices in the future.

Outcomes of the project: The application is complete and is available for download in both Android and iOS store. The performance of the app has been improved significantly and the code base has been cleaned to a considerable extent.

Major Learning Outcomes: (1) Learning to skim through a large code base and isolate the piece of code that needs to be modified.

(2) Adapting to different types of platforms and also learning to browse and find a framework which would suit your needs

(3) Assimilated the entire process and different stages in the production and deployment of software products

(4) Hand on experience in implementing and adopting data structures and their relevance and impact on real life situations

Brief Description of working environment, expectations from the company: It is an up and coming start up located in Koramangala, Bengaluru. They have a number of interesting and varied projects to work on. It is a highly flexible environment and the mentors, manager, project heads are easily approachable. Thus, one would not only be fully equipped with details about the projects they are involved in, but also the remaining ones. If learning is your main objective for grabbing this opportunity, you won't be disappointed.

Name: *M S Preetham*

ID No: 2012B1A1698G

Student Write-up

Short Summary of work done during PS-II: This is a startup dealing with all the projects related to software. They are currently working on 4 to 5 projects which require skills of Javascript, Knex.js, Android, etc. Work environment is not that great. Employees are helpful, friendly and will always help you when required. Work hours are flexible and overall the PS-2 experience would be good for learning and experiencing. They pay your stipends through the funding received and we had problems related to this due to shortage of funds, but later resolved.

Tools used (Development tools - H/w, S/w): JavaScript, node.js, Knex.js

Objectives of the project: Web -Scraping (Had to crawl data from websites like zomato, foodpanda, payscale.com which was stored in the database and later utilized for the new app)

Outcomes of the project: The data was successfully crawled and was used in the build of new app which worked with all the entities and reviews.

Major Learning Outcomes: Learnt Html, CSS, JavaScript and few modules required in the process

Brief Description of working environment, expectations from the company: Work environment was not that great though work hours were flexible. Employees are really helpful, friendly and interactive. It is a startup, so do not expect a lot from this station.

PS-II Station:J. P Morgan CIB-RFT, Bangalore

Student

Name: Tanmay sharma

ID No: 2013A8PS156P

Student Write-up

Short Summary of work done during PS-II: I would really recommend this station to people who're interested in understanding how technology works with finance. JP Morgan is one of the biggest banks in the world and therefore, the scale at which projects are undertaken is mind boggling. I was fortunate enough to be a part of one such project and got to witness how a project is kick started while involving people from various domains. Developing a web UI while keeping the interest of all the users and risk managers isn't nearly as easy as writing about on some pdf that probably someone is going to read.

Tools used (Development tools - H/w, S/w):D3.js. Angular.js polymer.js. JQuery.js

Objectives of the project: Development of a web UI

Outcomes of the project: Developed web UI

Major Learning Outcomes: A plethora of web technologies

Brief Description of working environment, expectations from the company: People are really amicable and helpful. Don't be surprised if the person sitting next to you is a Python god. People work on java, hadoop and Python depending on the team you're part of.

PS-II Station: JDA Software Solutions, Bangalore

Mentor

Name: Soumya Nayak

Anudeep was assigned the project of automating the product web UI using Selenium as a tool after going through the initial task of learning about the product workflows. Anudeep has successfully completed the above project for 8.2 version of the product and has been instrumental in suggesting some of the design changes in the framework. He has been diligent in his attendance and took minimum break. He constantly follows up his doubts till the thing is resolved. The work done by Anudeep is now part of the automation framework.

I wish him all the best for his future endeavors.

Name: Yamini Deivendran

Krishna has developed the test framework using Selenium in JAVA. He has automated most of the important features. The scripts will be used in regression testing of the product. The test cycle has reduced considerably due to the test framework. Krishna has been a quick learner and could understand the framework in short time and started developing scripts very fast. He has been able to solve any complex problem in quick span of time which is highly commendable. He has been punctual at work.

Faculty

Name: Akanksha Bharadwaj

Comments: Expectations from industry:

Course requirements - basic coding skills, software testing

Hardware/software tools - students should be keen to learn new tools and technologies

Soft skills - Team player, good learner, proactive, good communication skills

Student

Name: Krishna Teja K

ID No: 2013A8PS514H

Student Write-up

Short Summary of work done during PS-II: The project entails developing an Automation Testing Suite that can automate all the features of SRM product as well as testing the SRM suite on various platforms. This framework can help reduce the drudgery of manual data entry too.

Tools used (Development tools - H/w, S/w): Java, Selenium

Objectives of the project: My work for the team Building an Automation Testing Suite for the product they designed which can be used to write test cases to test the product.

Outcomes of the project: I've completed building the major part of the suite using Java's Selenium framework and simultaneously writing test cases using the classes in the built suite.

Major Learning Outcomes: Working at JDA has given me the exposure to the industry out there and it also gave me an opportunity to understand how differently the things are done at academic and industry level.

Brief Description of working environment, expectations from the company: The work environment of the company is pretty good but the student needs the self-drive to ask and do the work as the supervisors won't give much attention to the interns. PPO wise you can easily get the offer if you work. Overall it isn't such a bad company to work for.

Name: Anudeep Majji

ID No: 2012A3PS262H

Student Write-up

Short Summary of work done during PS-II: Automation of Regression Testing of User Interface for the Product Agile Control Tower using the Selenium Tool in Java

Tools used (Development tools - H/w, S/w): Selenium, Java, Oracle, Weblogic

Objectives of the project: Attain optimal Automation of the UI Regression Testing in a manner balancing Code coverage with Efficiency and Time taken.

Outcomes of the project: Quicker and more accurate Automated testing

Major Learning Outcomes: 1) Selenium and various uses of File Reading especially Excel File Reader.

2) Deeper understanding of Web Designing not to use it per say but more on how to work with it to our advantage.

3) Optimization of workflow so as to reuse same function in multiple ways without compromising the final objective while saving time.

Brief Description of working environment, expectations from the company: A more helpful environment you will have a hard time to find as the employees and our managers are always ready to help and guide us if we are willing to put in the effort. The company does extract the worth of what they pay for but it is beneficial for beginners as a very good stepping stone and thus is encouraged to try for PPO.

Name: Aishwarya

ID No: 2013A3PS211G

Student Write-up

Short Summary of work done during PS-II: Automation testing in WMD area. Test scripts written in MOCA

Tools used (Development tools - H/w, S/w): Fitnesse, Jenkins

Objectives of the project: P&G product development

Outcomes of the project: P&G product was developed

Major Learning Outcomes: I learned how to use Fitnesse

Brief Description of working environment, expectations from the company: Work environment is likeable. People are helping but the company is taking students from all branches including civil so don't expect much in terms of learning.

PS-II Station: JDA Software Solutions, Hyderabad

Student

Name: Prem Prakash Sharma

ID No: 2013A8PS351G

Student Write-up

Short Summary of work done during PS-II: Worked on a customized framework using selenium Webdriver and JAVA to create specialized methods for testing

Tools used (Development tools - H/w, S/w): Eclipse, Selenium Webdriver, and Java.

Objectives of the project: Creating a simpler and faster testing framework specialized for the product

Outcomes of the project: Made new framework consisting different methods to reduce efforts in current methods of testing

Major Learning Outcomes: Java, selenium api

Brief Description of working environment, expectations from the company: Work timings are flexible and less work load.

Name: Sonali Kallani

ID No: 2012B1A1800P

Student Write-up

Short Summary of work done during PS-II: Learnt basics of Configuration management and version control. Built a cross-platform installer using InstallAnywhere. All the validations were done using Java code. Migrated a product platform from ClearCase to GIT.

Tools used (Development tools - H/w, S/w): InstallAnywhere, Eclipse

Objectives of the project: To build an installer for the product Warehouse Management.

Outcomes of the project: Successfully built the installer.

Major Learning Outcomes: Learnt to work with a team against strict deadlines.

Brief Description of working environment, expectations from the company: Work environment is quite chill. There is no pressure of a sort.

Name: Vamshi Bachaneboina

ID No: 2013A2PS843H

Student Write-up

Short Summary of work done during PS-II: Complete project is on Quality Assurance by testing Web-Application using Selenium and updating the builds to latest patches so that there exists no difference in databases and results in no errors.

Tools used (Development tools - H/w, S/w): Selenium, Batch Scripting

Objectives of the project: Testing Web –Application

Outcomes of the project: Learned about testing tools and how to ensure 100% results

Major Learning Outcomes: UI Automation

Brief Description of working environment, expectations from the company: Working environment is quite good and company just expects discipline and fast learning skills.

Name: Sarita Kumari

ID No: 2013B1TS996P

Student Write-up

Short Summary of work done during PS-II: UI Automation of web application using selenium framework

Tools used (Development tools - H/w, S/w): Selenium, Jenkins, Toad, Java, SQL, GIT, batch scripting

Objectives of the project: To improve and increase the testing efficiency by automation the test cases.

Outcomes of the project: Automation will increase and improve the efficiency of JDA fulfillment product.

Major Learning Outcomes: Got to learn about a lot of new software and tool. Along with improved skills and knowledge got to learn the implementation of academic knowledge practically and professionally.

Brief Description of working environment, expectations from the company: The environment and work culture at the organization was very great. My fellow colleague, mentor and manager all were very helpful throughout my PS. There was proper training of the work before assignment of new work.

Name: Y Gopi Krishna Rao

ID No: 2013A3PS435H

Student Write-up

Short Summary of work done during PS-II: UI Automation

Tools used (Development tools - H/w, S/w): Selenium,Sahi,FitNesse

Objectives of the project: Testing

Outcomes of the project: UI Automation

Major Learning Outcomes: Testing,Automation

Brief Description of working environment, expectations from the company: Legendary Lite

PS-II Station: Leap Consulting, Trivandrum

Faculty

Name: Sindhu S

Comments: Expectations from industry:

Expectations from the industry - LEAP CONSULTING is a management consulting, financial advisory and auditing firm centered at Trivandrum, with offices in Dubai and Kochi. About two years into the business, they have acquired a sizeable clientele and are looking forward to expanding to overseas business, mainly in the Middle-East. The projects allotted were research based and involved comprehensively going through industry reports, annual reports of firms relevant to the field of study, Govt. notifications and statistics collected from various sources. Apart from this, the company is under contract to perform an internal management and financial audit of SI Properties, which forms a major portion of this project. Another important work involved making a business proposal and financial projections report for another client a manufacturing firm in its set-up phase for the sake of potential investors, to raise investment for operations and set-up.

Other research works included studying relevant sections of the Companies Act 2013, to find out various compliances relating to partnership firms, and other similar research works.

Course Requirements

1. Finance courses

As the work is related to Auditing, accounting as well, knowledge on these area is preferable.

Good communication skill

Industry is looking for students who can support them by gaining experience in the theory they have done and give new ideas based on that.

Student

Name: Pulkit Purohit

ID No: 2013A2PS564H

Student Write-up

Short Summary of work done during PS-II: The work done at the PS station included assisting with the ERP implementation process which was going on since July, other than that I did some research works based on the market conditions like finishing school, travel & tours industry & the latest on the GST bill. Making a plan for a school of which the financials were provided and each and every other detail regarding the teacher allotment & fee structure were given. The main aim for the plan was the tuition fees should be able to cover the expenses of the school. Training was given to the employees about the ERP, learning the software from the team (software) then explaining it to the employees was the major work which I did at the PS station.

Tools used (Development tools - H/w, S/w): ERP Software

Objectives of the project: Implementation of ERP at the Client location, giving training to the employees for the ERP software.

Outcomes of the project: Once the ERP gets implemented, the place will be free from the bunch of files and documents which make the work place a complicated space, since ERP requires logins & different accounts based on the job of employees, it will ensure to maintain the workflow at the place, previously there was no hierarchical work order at the office. The new ERP system will ensure each and employee doing his/her own work without interfering in others work.

Major Learning Outcomes: The working of a ERP software, advance excel use while making plans of school & preparing other product related templates, Most of the other work included market research so a brief exposure to that too while doing research on various industries.

Brief Description of working environment, expectations from the company: Company's working environment was very friendly, not that much strictness, timings were flexible too. The carefree nature of employees and leniency towards the ERP implementation resulted in delay of the implementation process (almost by 3 months). The company expects us to be well introduced to the market research topic & Microsoft excel related work.

Name: Sumant Bakshi

ID No: 2013A2PS137P

Student Write-up

Short Summary of work done during PS-II:

- Research and analysis of market trends to estimate the feasibility of business in the domestic market and at a global level.
- Finding out opportunities the current market scenario presents for the business.
- Identifying the risks and threats and mitigation strategies.
- Study into relevant policies, schemes and legislation that will potentially have an impact on the business.
- Evaluation of the internal control procedures in a company and finding and amending the risk areas.

Tools used (Development tools - H/w, S/w): Excel

Objectives of the project: The first part of the project involves market research on the behalf of a client of the firm - a manufacturing firm in its initial set-up phase with operations expected to begin in January 2017. The data collected is to be a part of a business proposal and financial projections report to be submitted to investors and banks. The business has two main services - manufacturing of patient support equipment and a facility for outsourced job work contracts. Data was collected from secondary sources including annual reports of companies, financial journals, industry analysis reports of trade associations and finally Govt. websites and notifications regarding policy related matters.

Outcomes of the project: Project was part of the work done for clients. It helped client gain insight into the prevalent and expected trends in the market and prepare accordingly. The data was added to business report which would help raise funding.

In other case, the audit benefited the higher management of the company to take decisions to enforce stricter control measures to check losses and negligence.

Major Learning Outcomes: MS Excel, Tally.ERP.9, Basics of finance and accounting, financial management, management consulting

Brief Description of working environment, expectations from the company: Free working environment with lot of flexibility in terms of how to approach the work. Mentors were always present to help overcome any hurdles that came in the way.

PS-II Station: LEXINNOVA, Gurgaon

Mentor

Name: Manish Kumar

Students are exposed to extensive web development using latest technologies including Angular JS, Node JS, NoSQL databases, Wordpress, PHP etc. Interns have worked on both backend and front end technologies. Interns have significant improvements in our application and supported us as full time employees. We look forward to have interns who are sharp learners having good programming skills.

Faculty

Name: *Ashish Narang*

Comments: Expectations from industry:

Lex-Innova, is a legal solution provider that caters to litigation related needs of clients across the globe. Project assignment for interns include patent invalidation, infringement, landscape reports and Web Development. Presently, Organization is more focused towards IT division. They look forward to have interns who have good programming skills. Technologies include WordPress, PHP, SQL, Angular JS, Node JS etc.

In order to have better internship experience, students must learn one of the Version Control System(Preferably GIT), revise course on design patterns and data structures. Students should go through standard coding guidelines and follow the same during project assignments. Although most of students have good communication skills, it's better to have soft skill training which also includes email writing etiquette's.

Student

Name: K.S.M. Vidya Deepthi

ID No: 2013AAPS081H

Student Write-up

Short Summary of work done during PS-II: I worked on a varied projects ranging from Patentability, invalidity and portfolio analysis. I have worked on a good number of patents for patent Invalidation project. Patents in domains like semiconductors, multimedia, networking and medical scanning equipment were analyzed which helped me gain insight into the details and components necessary for their manufacture. The majority of the patents that I worked on involved inventions in electronics domain including semiconductors. This helped me in deep understanding of applications of the concepts that I have learned in electronics. I have worked on two patentability projects. We perform high-quality prior art searches, including an analysis of references and an in-depth discussion with counsel, where appropriate. We also extracted information of cases that were at a certain stage of prosecution and the attorneys involved with it, to help the patent litigation related cases with our expertise in patent infringement.

Objectives of the project: The main objective of the project is to help clients(attorneys) working in real-time litigation cases with consulting services that involves providing pre-litigation analysis, intellectual property discovery assistance, prior art analysis, litigation consulting, expert witness reports. We engineers find and review patent, non-patent and product references to support IP invalidity analysis.

Outcomes of the project: I have successfully helped in finding prior-art (a patented document) for a patentability project. I have also found some sound prior-arts for two of patent invalidation projects. One related to semiconductor wafer manufacturing method to reduce the consumption of power.

Major Learning Outcomes: I have had a great learning experience working on patents. This expanded my knowledge base in new research areas, technology and has involved me in working on real-time client projects that demanded some sound work attached along with deadlines, hence learned to work well on time-constrained environments.

Brief Description of working environment, expectations from the company: The working environment was perfect for learning new things every day with great technical experts and curious interns working together. We had discussion on every patent that we were working on. Although there were many such

unknown terms and terminology, it wasn't hard enough to understand them because of the help we had from our mentors. Before start of any new stream of project, we were given a crisp and clear description of what to do, how to carry with it and our primary purpose of the work. I have discovered my interest in learning more about electronic related products and processes. Specially while working on apple patents, and simultaneous release of apple iPhones and events made me very curious of their technology. I followed every newly released feature in their products. And in this process, I have also come across many patent litigation cases that apple was involved in. The biggest suit in recent times was "Apple vs Samsung" on the design of the hand-set infringement. Apart from the working culture, everyone was very cordial and helpful during emergency needs. I discovered that I am more comfortable in working on new projects, changing periodically and quite frequent rather than working on same kind of project that doesn't demand new skills time-to-time. And patent analytics best suited my interest, as I could learn more about the emerging technologies and was challenging as I wished for.

Name: *Manav Mishra*

ID No: 2013A7PS123G

Student Write-up

Short Summary of work done during PS-II: Work was on one project, a website (lexinsight.com), for which a demo website was created by the team using the LEMP stack with wordpress. The main application was developed on NodeJS, ReactJS with noSQL DBEnvironment.

Tools used (Development tools - H/w, S/w): linux, nginx, mysql, php, wordpress, javascript, jquery, reactJS, nodeJS, noSQL

Objectives of the project: To create a freelance marketplace for lawyers (web development)

Outcomes of the project: The website, lexinsight.com is up and available on the internet.

Major Learning Outcomes: We learnt how to develop websites on two major web development platforms(LEMP and the NodeJS) and optimization of workflow so as to reuse same function in multiple ways without compromising the final objective while saving time.

Brief Description of working environment, expectations from the company: Lexinnova has recently shifted to the technology domain, due to which there were some minor hurdles to cross. However, our project manager was really experienced and helped us all along the project. The working environment

was also rather unstable since they were shifting offices during the time. Other than that the people are very helpful and will help you with whatever issues you may face.

Name: Sonali Durga

ID No: 2011B4A3623G

Student Write-up

Short Summary of work done during PS-II: I have been involved with the Products team at Lexinnova who have been working towards creating a marketplace in US. They have been creating a product and a website for the same. Our work as interns was on the project of developing the minimum viable website, its testing and fixing the bugs after beta testing. The work was rewarding on grounds that it involved complete product life cycle, introduced us to the idea of how web applications work and are developed, APIs and their integration, open source technologies, version control, etc.

Tools used (Development tools - H/w, S/w): Node JS, React JS, Javascript, PHP, Wordpress, LEMP Stack, Git, MySQL, Linux, Nginx Webserver

Objectives of the project: To create a website which would serve as an online marketplace

Outcomes of the project: We created a standalone website which assisted in freelancers to create profiles, bid for projects, collaborate and work on projects, generate invoices, and receive payments.

Major Learning Outcomes: Web application flow, product life cycle, version control

Brief Description of working environment, expectations from the company: Ever since Lexinnova has transformed themselves into a products company, the environment has become like a typical startup with small team, hectic work, more ownership and responsibility if work, high expectations, self-motivation and close knit team work.

Name: Vedant Pareek

ID No: 2013A7PS074H

Student Write-up

Short Summary of work done during PS-II: I have been involved with the Products team at Lexinnova who have been working towards creating a marketplace in US. They have been creating a product and a website for the same. Our work as interns was on the project of developing the minimum viable website, it's testing and fix the bugs after beta testing. The work was rewarding on grounds that it involved complete product life cycle, introduced us to the idea of how web applications work and are developed, APIs and their integration, open source technologies, version control, etc.

Tools used (Development tools - H/w, S/w): Node JS, React JS, Javascript, PHP, Wordpress, LEMP Stack, Git, MySQL, Linux, Nginx Webserver

Objectives of the project: To create a website which would serve as an online marketplace

Outcomes of the project: We created a standalone website which assisted in freelancers to create profiles, bid for projects, collaborate and work on projects, generate invoices, and receive payments.

Major Learning Outcomes: Web application flow, product life cycle, version control

Brief Description of working environment, expectations from the company: Ever since Lexinnova has transformed themselves into a products company, the environment has become like a typical startup with small team, hectic work, more ownership and responsibility if work, high expectations, self motivation and close knit team work.

PS-II Station: Media Iq Digital, Bangalore

Mentor

Name: Abhinav Saxena

Designation: Team Lead

Contribution by the student appreciated for effective and timely completion. Motivation, self-reliance and team work are basic qualities expected apart for technical skills

Name: Vishal Shah

Designation: Team Lead

Contribution by the student appreciated

Name: Atul Saurabh

Designation: Product Manager

Appreciated students involvement and contributions

Name: Abhishek

Designation: Principal Software Engineer

Students contribution appreciated on live assignments

Faculty

Name: C.H. Ramesh Kumar

Comments: Expectations from industry:

Recommended Tools/Skills are the subset from R, map-reduce Hadoop, SQL, Java, JS and C depending on the activities allocated

General requirement suggested by the organization are

- Interest or experience with marketing, analytics
 - Good working knowledge of excel, SQL
 - Good with numbers and logical thinking
 - Out of the box thinking
 - Proactive and eagerness to learn
 - Open mindset to work hard and deliver.
-

Student

Name: Somya Gupta

ID No: 2013A1PS655G

Student Write-up

Short Summary of work done during PS-II: Campaign analyst

Tools used (Development tools - H/w, S/w): SQL

Objectives of the project: To optimize the campaign and improve market visibility

Outcomes of the project: Improved market visibility

Major Learning Outcomes: Soft skills and hard skills

Brief Description of working environment, expectations from the company: Work culture is really cool.

Name: Abhishek Sharma

ID No: 2013A4PS419P

Student Write-up

Short Summary of work done during PS-II: Worked as campaign analyst. Managed and optimize campaigns. Worked on MS Excel and MySQL. Also worked on various company tools to download the reports. Worked with traders and help them to optimize the campaigns in digital advertising industry. Created Insights using MS PowerPoint for the clients.

Tools used (Development tools - H/w, S/w): SRS,DPI, AppNexus, CMS, CLS, MS Excel, MS PowerPoint, Slack,MySQL

Objectives of the project: Targeting the audience at niche level using KWs, Site Domains etc. Strategies for ads. Optimize the ad campaigns. Working with trader for further optimization. Creation of insights to present to the clients.

Outcomes of the project: Successfully optimizing the campaign thereby fulfilling the needs of the clients and making profit for the company. Showing ads to the target audience.

Major Learning Outcomes: Various tools such as Excel, SQL, SRS etc. Work life balance. Professionalism. How ad industry works. Opportunities outside.

Brief Description of working environment, expectations from the company: Working environment is very cool. Young batch of employees. Nice place to work. Everything easily accessible. Nice cool people. And helpful too. Very less vacancies. Tough to get a PPO.

Name: Aishwarya Singh

ID No: 2013A8PS372P

Student Write-up

Short Summary of work done during PS-II: Analytics

Tools used (Development tools - H/w, S/w): Sql

Objectives of the project: Media analysis

Outcomes of the project: Insights for clients

Major Learning Outcomes: Digital advertising and its regulations

Brief Description of working environment, expectations from the company: Cool work environment

Name: Anmol Shrivastava

ID No: 2013A1PS466P

Student Write-up

Short Summary of work done during PS-II: Worked on different advertising campaigns to obtain better performance. Also worked on sales pitching(CMP) and verticals. Insight reports were prepared to be sent to the client to give insights on how the campaign performed.

Tools used (Development tools - H/w, S/w): sql, Excel, Power point

Objectives of the project: Objective was to work on different advertising campaigns and to optimize these campaign to get better performance in terms of delivery, ROI etc.

Outcomes of the project: Most of the Campaigns were optimized to get desired delivery.

Major Learning Outcomes: Major learnings were SQL to pull data from database for different campaigns and using Excel to do the analysis to optimize the campaign. Real time bidding (RTB) process, Market Research.

Brief Description of working environment, expectations from the company: Working environment is very friendly and employees are really helpful.

Name: Hanish

ID No: 2013A1PS605G

Student Write-up

Short Summary of work done during PS-II: Campaign optimization and Analysis

Objectives of the project: Campaign optimization and analysis

Outcomes of the project: CPM increased and fetched more campaigns in the following months

Major Learning Outcomes: Corporate level communication, Advanced Excel, SQL, DBMS, Business Intelligence

Brief Description of working environment, expectations from the company: All colleagues are very friendly and cooperating by nature, most important of all is the professional conduct maintained in the company - they will be unbiased while giving you the feedback which enhances your learning.

Name: Ayush Garg

ID No: 2013A1PS667P

Student Write-up

Short Summary of work done during PS-II: Ad Campaign Optimisation

Tools used (Development tools - H/w, S/w): SQL, Excel, Powerpoint, and Hive

Objectives of the project: Campaign Analysis

Outcomes of the project: Optimization Of Various Ad Campaigns

Major Learning Outcomes: SQL,Excel,Powerpoint

Brief Description of working environment, expectations from the company: Good working Culture with emphasis on Creativity and learning

Name: Ashwin Sahay

ID No: 2012B2A8633G

Student Write-up

Short Summary of work done during PS-II: Worked on Data analysis using SQL and Hive

Tools used (Development tools - H/w, S/w): SQL,MS Excel,and Hive

Objectives of the project: To analyze data to prepare insights useful for company.

Outcomes of the project: Insight report directly used by clients.

Major Learning Outcomes: Introduced to Data Science

Brief Description of working environment, expectations from the company: Good, helpful people with a great work life balance. Company works on latest technology so it is a great place to learn and grow.

Name: Dushyant

ID No: 2013A1PS466P

Student Write-up

Short Summary of work done during PS-II: Analytics

Tools used (Development tools - H/w, S/w): Excel, R, Java, Python, sql

Objectives of the project: To analyze data

Outcomes of the project: Analyzed data

Major Learning Outcomes: how to analyze data

Brief Description of working environment, expectations from the company: Very good PS

Name: *Shubham Dhoble*

ID No: 2013A8PS445P

Student Write-up

Short Summary of work done during PS-II: Worked for a complete project for web data aggregator for recording user's activity for analyzing user's behavior. Apart from this I worked on a website both frontend and backend, using ReactJs. This firm gives a lot of independence to work on anything of our choice. I got to work completely on both backend as well as frontend, for different websites. The technical team here is well advance, and works and adapts to new technology available.

Tools used (Development tools - H/w, S/w): ReactJs, Spring Framework, SQL, Apache Maven, Nginx, Apache Kafka, Druid, Jenkins.

Objectives of the project: To collect the activity of user and analyze it to find his probability to click on our advertisement and even to find computerized bots based on anomaly.

Outcomes of the project: This project has helped in finding the bots working on our advertisements. Even the probability based on the average time spent by the user on the page was found. This helped in optimizing the users we target and hence reducing the cost of advertising. The UI build by me helped the analyst to keep a record of running queries for extracting the social media(Tweeter) Data. This UI helped in validating the queries and checking the approx. load the query would give on server based on past one month's data.

Major Learning Outcomes: I learned everything regarding building a project from scratch. Testing servers, building UI, running JavaScript code on website to extract user details, working on websockets, making GET and POST calls, setting webapps for receiving the calls and logging data and analyzing the data are the fields I have worked on. Working in our own way without any restrictions and seeing the changes immediately on the production helped me to learn a lot.

Brief Description of working environment, expectations from the company: The environment of the company is very friendly. You can even reach to the CTO in case of any urgency, without any sort of prior appointment. Most of the employees working here are young which helps in communicating even the basic problems in a better way. The company conducts many outing which helps in knowing different team members. My mentor helped me in solving every small problem faced by me. Apart from office,

even sport activities are conducted and even gym facilities are provided which helped me to remain physically fit.

Name: Dwarkesh

ID No: 2012B4A4356G

Student Write-up

Short Summary of work done during PS-II: I worked on making dashboards to monitor and manage the various the advertisement campaigns that Media IQ is running.

Tools used (Development tools - H/w, S/w): SQL, in built company Business intelligence tool

Objectives of the project: To make dashboards

Outcomes of the project: Easy data visualization and hence make strong insights.

Major Learning Outcomes: Learnt SQL and excel

Brief Description of working environment, expectations from the company: Very nice work culture. No pressure on the interns. Company just expected us to do the work that was assigned to us.

Name: Ayush Garg

ID No: 2013A1PS667P

Student Write-up

Short Summary of work done during PS-II: Data analytics and pulling data from amazon redshifts and analyzing it to predict our audience etc.

Tools used (Development tools - H/w, S/w): SQL,excel,PowerPoint

Objectives of the project: To optimize a running campaign

Outcomes of the project: Increase in budget to the allotted campaign

Major Learning Outcomes: SQL,excel

Brief Description of working environment, expectations from the company: Good working environment

Name: Surabhi

ID No: 2013A8PS414G

Student Write-up

Short Summary of work done during PS-II: Worked on building an optimization dashboard using ShinyApp and R

Tools used (Development tools - H/w, S/w): R, ShinyApp

Objectives of the project: Building an optimization dashboard using ShinyApp and R to better visualize data

Outcomes of the project: Improving accuracy and interpretation of data

Major Learning Outcomes: Learnt how to work with different tools used in predictive modeling

Brief Description of working environment, expectations from the company: Good work given. Relaxed work atmosphere.

Name: Harshil Garg

ID No: 2012B2A3562G

Student Write-up

Short Summary of work done during PS-II: UI Development

Tools used (Development tools - H/w, S/w): REACTJS, GIT , JIRA, JAVASCRIPT

Objectives of the project: UI Development

Outcomes of the project: UI Development

Major Learning Outcomes: UI Developer

Brief Description of working environment, expectations from the company: One can become full stack developer and have a great learning experience.

Name: Pinky Moolani

ID No: 2012B2A1507P

Student Write-up

Short Summary of work done during PS-II: Web development

Tools used (Development tools - H/w, S/w): Javascript, angularjs, elastic search

Objectives of the project: UI redesigning & implementing elastic search

Outcomes of the project: Modified UI

Major Learning Outcomes: Development and integration of front end and back end

Brief Description of working environment, expectations from the company: Chill out working environment

Name: Sumit Rajan

ID No: 2013A3PS230G

Student Write-up

Short Summary of work done during PS-II: I have worked extensively with Microsoft Office for reporting. I have also helped run campaigns and got acquainted with AppNexus and related proprietary platforms for Digital Display Trading. I have learnt SQL along with various campaign strategies and tools used to execute the same.

Tools used (Development tools - H/w, S/w): SQL, Excel, R

Objectives of the project: To describe the Research and Analysis strategies deployed in Digital Display Advertising and the various tools I have used to execute the same during my time at Media IQ Digital.

Outcomes of the project: My work at Media IQ Digital has revolved around Reporting and Campaign Analysis, contributing to the productivity and efficiency of the campaigns, while at the same time also

helping in the development of proprietary products at Media IQ Digital through constant scrutiny and feedback.

Major Learning Outcomes: My work at Media IQ Digital has revolved around Reporting and Campaign Analysis, contributing to the productivity and efficiency of the campaigns, while at the same time also helping in the development of proprietary products at Media IQ Digital through constant scrutiny and feedback.

Brief Description of working environment, expectations from the company: This project provides documentation of various methods of Data Visualization, while at the same time describing the numerous online tools that help execute these strategies and their uses for a particular campaign.

Name: Sharmistha Jain

ID No: 2013A8PS336G

Student Write-up

Short Summary of work done during PS-II: I worked here as a campaign analyst. My work here majorly focused on campaign optimizations, analyzing data and deriving insights out of it. Worked on Demand Side Platforms like Appnexus and DBM and used My Sql as one of the language.

Tools used (Development tools - H/w, S/w): My Sql

Objectives of the project: To optimize campaigns based on given Key Performance Indexes

Outcomes of the project: Improved performance of the campaign and helped company increase margin on few campaigns.

Major Learning Outcomes: Different KPI's terms in digital advertising, My Sql, Appnexus, DBM, company based few products used for developing insights and improving campaign performance.

Brief Description of working environment, expectations from the company: Work culture is good; seniors are very helpful and cooperative. Learning process is easy. Training is not so good but once allotted respective teams, learning improves. Good place to get experience but not the right one to expect a PPO.

Name: Reshmanth Simha Reddy Lingopalli

ID No: 2013A2PS628H

Student Write-up

Short Summary of work done during PS-II: My work at Media IQ Digital has revolved around Reporting and Campaign Analysis, contributing to the productivity and efficiency of the campaigns. I have worked extensively with Microsoft Office for reporting. I have helped in running campaigns and got acquainted with AppNexus and related proprietary platforms for Digital Display Trading. I have learnt SQL along with various campaign strategies and tools used to execute the same. The work can be summarized as unlocking insights in order to help drive business growth based on the data acquired from running the campaigns.

Objectives of the project: To describe the Analysis strategies deployed in Digital Display Advertising and the various tools I have used to execute the same during my time at Media IQ Digital.

Outcomes of the project: Documentation of various methods of Data visualization like Insight reports, Dashboards, etc.

Major Learning Outcomes: Insight into the world of online advertising and learnt a lot about how it works. Apart from the technical aspects, this experience has helped me in becoming more disciplined by adhering to deadlines and also helped me in enhancing my soft-skills.

Brief Description of working environment, expectations from the company: The work environment at Media IQ is great. The transition from being a student in college to an intern in corporate sector, working alongside the employees was very smooth, thanks to fantastic work environment, and the friendly and helpful nature of the people working here. The people working here are so knowledgeable and they expect us to be pro-active and are always there to help us. They value our opinions and suggestions related to the work assigned and are patient in helping us if things don't go well sometimes. I am very grateful to have worked with a wonderful team, who made it very easy for me to adjust to the corporate lifestyle. In a nutshell, it was a great experience filled with lots of learning.

PS-II Station: Mediology Software Pvt. Ltd., Gurgaon

Mentor

Name: Piyush Pathak

Designation: Principal Engineer and Technology Architect

Students have worked on READWHERE Website and Android App using PHP, Android development studio, React native and Java. Interns have made significant improvements in Android module. We look forward to have interns from core computer science background who are proactive, creative, can contribute to new ideas, eager to learn new stuff and have excellent communication skills.

Faculty

Name: Ashish Narang

Comments: Expectations from industry:

Mediology is a software Solutions Company focused on providing end to end technology solutions for the media and publishing industry. Project assignments includes developing and improving READWHERE website and Android App. Organization look forward to have interns who have done core computer science courses, should be proactive, creative and contribute to new ideas. Organization technology stacks includes PHP, Android, Angular JS, Node JS, React Native etc.

In order to have better internship experience, students must learn one of the Version Control System(Preferably GIT), revise course on design patterns and data structures. Students should go through standard coding guidelines and follow the same during project assignments. Although most of students have good communication skills, it's better to have soft skill training which also includes email writing etiquette's.

Student

Name: Bhuwan Mohan

ID No: 2013A3PS262P

Student Write-up

Short Summary of work done during PS-II: My project was to make a completely new website from the ground up, using the Yii framework v2.0, leveraging the enhanced capabilities it offers to optimize the code.

A primary requirement of the project is to incorporate all the features and functionality offered by the old website into the new one. The present Readwhere store website is based on the older Yii version 1.1, which is compatible only with an older PHP version 5, and has stopped receiving any updates or bug fixes from its developer team, which is now focusing on its new product, Yii 2.0, which promises better performance, support and security features, and is also compatible with the latest versions of PHP, making it indispensable for any future development.

Tools used (Development tools - H/w, S/w): Yii framework, PHP, jQuery, Elasticsearch

Objectives of the project: New and better main website for the company store

Outcomes of the project: Website created and successfully tested for production deployment

Major Learning Outcomes: Experience working as a team player, following rigorous and well tested coding practices, Web development using Yii framework and PHP

Brief Description of working environment, expectations from the company: An informal work environment, with high emphasis on results with an outcome-oriented approach. It's good to have a work from home option as long as you can meet the deadlines and have no backlogs. A work hard and party harder culture as the median age of employees is about 25-26 years.

Name: Virajit Singh

ID No: 2013A8PS441P

Student Write-up

Short Summary of work done during PS-II: 1. Worked on ElasticSearch queries to manipulate database apis.

2. Built an app in React Native, multi and cross platform environment developed by Facebook which is based on JavaScript.

3. Built an app in the native building environment, i.e. Android Studio.

4. Worked on Shell Scripting to automate the overall gradle build process of an android app.

Tools used (Development tools - H/w, S/w): JavaScript, ElasticSearch Port, Imagick, PHP, Android Studio

Objectives of the project: 1. Helped in familiarizing with Elasticsearch

2. Helped in familiarizing with React native

3. Helped in familiarizing with languages like JavaScript, PHP, ShellScript, Java

Outcomes of the project: 1. HTML form to perform various kinds of information extraction from an Api using elasticsearch.

2. HTML form to perform conversion and resizing of an image in various other formats.

3. A NewsHunt like app with React Native.

4. A NewsHunt like app with Android Studio.

5. A Shell Script for app gradle build.

Major Learning Outcomes: Major knowledge booster in terms of different languages that are being used in web and app development.

Got an insight to how a IT organization functions and its course of action.

Brief Description of working environment, expectations from the company: Working environment was great. It was something that I never heard of before as most of the companies today are very peculiar about their work. But, it is not the case in Mediology, as I got to experiment with my procedures to get something done. The other major thing was everyone was very supportive especially my mentor, Mr. Piyush Pathak. They often made me feel as if they were my family members. My expectations from this organization are quite optimistic, as the personals working here have immense talent and the company is also coming up with some great value products.

PS-II Station: Mindfire Solutions, Bhubaneswar

Student

Name: Amrit Tripathi

ID No: 2013ABPS628P

Student Write-up

Short Summary of work done during PS-II: Our work revolved around Android Application Development. The basic concept used in the development of the application was Augmented Reality. We studied the topic for the first 2-3 weeks and then developed a proof of concept for the application. After that, we started our work on developing the full-fledged application, and were successfully able to complete the development by the end of our Practice School.

Tools used (Development tools - H/w, S/w):A laptop with Android Studio installed.

Objectives of the project: Developing an Android Application enabling people to virtually try-on costumes.

Outcomes of the project: A full-fledged Android Application has been developed.

Major Learning Outcomes: Good mentoring and project opportunities have made me quite confident in the field of Android Development.

Brief Description of working environment, expectations from the company: The working environment in the company is great. In spite of being a 16 year old company, the work environment is quite similar to those of start-ups. The mentors are always ready to help and clear the doubts. The chances of a PPO are not that good, as of now. Apart from that, this can be counted as an IT station, where there is an opportunity to develop something, rather than just doing the routine testing or debugging work.

Name: Y.Ch.Nagasiva Reddy

ID No: 2013A7PS037P

Student Write-up

Short Summary of work done during PS-II: My project was creating an Android App with NFC(Near Field Communication) features. The company asked me to create an NFC app for their new startup DateTheRamp. DateTheRamp is an ethnic dress renting service portal, to every dress is an NFC chip is

attached in order to track them. What our app does is that it reads the chip and get the details of the dress, write some necessary details to the NFC chip, send server requests to do tracking operations.

Tools used (Development tools - H/w, S/w): Android Studio,Swagger,Post Man,An NFC enabled Android Device(Samsung Galaxy J3).

Objectives of the project:

1. Read/Write operations on NFC
2. Sending server requests for -
 - a. registering the NFC chip,
 - b. sending read/write operations output to server,
 - c. sending tracking related data

Outcomes of the project: A complete Android App with NFC features and usable for tracking dresses for DateTheRamp startup.

Major Learning Outcomes: Java coding,Android App Development ,a part of Web Development(server side).

Brief Description of working environment, expectations from the company: The environment is friendly,co-operative and provides a good learning experience for a trainee.The company expected me to complete the Android App which I completed, so the company is happy.

Name: Ahmad Omar Javed

ID No: 2012A3PS246G

Student Write-up

Short Summary of work done during PS-II: Assisted Form Filling Using Speech Recognition and Natural Language Processing.

Tools used (Development tools - H/w, S/w): Python, HTML, CSS, JS, Selenium

Objectives of the project: To fill online form by taking input in normal conversational English from the user

Outcomes of the project: Successfully filled a demo site.

Major Learning Outcomes: Learned in detail about various libraries and modules of python such as BS, CGI, SELENIUM etc.

Brief Description of working environment, expectations from the company: Working Environment is exceptional. People are very friendly and helpful. The projects allotted are interesting.

Name: Deeptanu Choudhury

ID No: 2013A7PS014P

Student Write-up

Short Summary of work done during PS-II: The project title is

DEVELOPING A WEB APPLICATION FOR VOICE ENABLED ONLINE FORM FILL UP.

Different stage of completing the project and the Time plan are listed below:

- 1) Studying Python and other web-designing techniques: - From 4th July, 2016 onwards till the end of month.
- 2) Learning and incorporating NLTK and RegEx to extract relevant data from user input: -August.
- 3) Using Beautiful-Soup to parse and extract web-attributes from Online-Form: - September & October.
- 4) Matching the data with the respective web-attributes, Filling them back to the Online-Form and shaping the overall project in the form of an Application using Python Tkinter GUI (incorporating Google Voice-to-Text API perfectly), Looking for possible optimizations and accuracy improvement :- November to 14th December , 2016.

Tools used (Development tools - H/w, S/w):A UNIX platform , Python 2.7 Interpreter, Selenium Web driver, Chrome Browser, NLTK , Python Tkinter GUI module, Google Voice-to-Text API etc.

Objectives of the project: To combine NLP and Voice-to-Text Conversion and other relevant modules of Python to come up with an application that can help users to fill online forms using voice input.

Outcomes of the project: A working application to fill a given Online - Form using voice input.

Major Learning Outcomes: Python, NLP, Selenium, Various Modules of Python such as CGI, NLTK, TextRazor, RegEx, advanced knowledge of Web Designing in AJAX and JS.

Brief Description of working environment, expectations from the company: My experiences:

- 1) The workplace is really very interactive and friendly to wholeheartedly take part in our assigned project work.
- 2) Flexibility of choosing project work as well as expressing our own thoughts for the betterment of the project we are going to dive into.
- 3) Reasonably good stipend as well as food facilities and also a lot of other facilities as well.
- 4) Our CEO (Mr. Chinmoy Panda Sir, BITS Alumni) is an extremely helpful personality and the employees over here are even very frank and friendly too.
- 5) The place Bhubaneswar itself is even quite decent to stay and there are reasonably good facilities available for our official work too.
- 6) Having been a new PS2 station (in fact for the first time) this company greeted us so warmly and made such a remarkably good work-environment for us , which is inexplicable.
- 7) The most important point to be stated is that our projects are quite worthwhile and related to real-life Computer Science domains and we are really satisfied with our incrementally sound learning experiences which I think will definitely help us later on to continue our professional career .

I personally thank PSD(Practice School Division), BITS Pilani again for giving me such a nice opportunity to work in a wonderful company called Mindfire Solutions, Bhubaneswar which even having been in a relatively smaller scale (as compared to companies like Amazon, Adobe etc.) manages to cater to all the attributes that a typical renowned Software company does impart !!!

Indeed Agile Software Development is the aspect which this company has set the goal for captivated me a lot.

Finally, I would highly recommend my juniors of the upcoming batches to opt for this PS2 (Practice School - II) station which, I think, would definitely help them inculcate their Software Development skills as well as skills related to real-life Computer Science domains for their professional and technical upliftment required later on.

PS-II Station: Mordor Intelligence, Hyderabad

Mentor

Name: Rohith Sampthi

Designation: Head of the Automotive, Aerospace and Defense Department

PS students who worked in automotive area, worked on search engine optimization, social bookmarking, title generation, preparing samples and preparing full length report. All the students were able to complete a full report in 24 hours. Two of the students were able to make a sale and the remaining were able to generate 300 leads a month. Outstanding student's characteristics are: Most hard working, Innovative and Smart work, Ability to hold the team together, Very responsible and reliable. The characteristics the company looks for in interns is: Interest to learn, Punctuality and Smart work.

Faculty

Name: Varsha Mamidi

Comments: Expectations from industry:

Mordor intelligence is a market research company. The students conduct extensive primary and secondary research. From the data collected, they generate insights on the market, identify niche areas and produce reports. There is no specific skill required to do this job. It will be helpful to have working knowledge of MS Office. Some students may be involved in lead generation and interacting with clients. Training in soft skills may be handy but there is no mandatory requirement for the same. Students are well trained by the organization to develop the skills required to perform the role of a market research associate.

Student

Name: Juhi

ID No: 2013A7PS003P

Student Write-up

Short Summary of work done during PS-II: Mordor Intelligence is a market research and consulting firm. The Company comprises of mainly two teams - Sales and Research. I got to work initially for two months in Sales and later moved on to healthcare research team. The work is selling market reports which give the brief idea to client about the market. Its restraints, drivers, challenges, opportunities, market segmentation on basis of type and applications. It also provides geographical segmentation of that market. The sales department helps selling the report and the research department makes the report. Our company has 14 domains and some of them are chemicals, healthcare, agriculture, Animal Feed, Automotives etc.

Tools used (Development tools - H/w, S/w): Microsoft Excel, MS Word, and Notepad

Objectives of the project: Market Consulting and Analytics

Outcomes of the project: Data Analytics, Market Prediction

Major Learning Outcomes: Data Analytics, Market Prediction

Brief Description of working environment, expectations from the company: Learning environment, opportunity to work with young growing minds

Name: Vipul Goyal

ID No: 2012B2A1611G

Student Write-up

Short Summary of work done during PS-II: In Mordor Intelligence, I worked on Report Description, Table of Contents, Sample and different parts of a report such as Drivers, Opportunities, Restraints, Market Segmentation, Regional Analysis and Company profiles of particular market. In report description we write summary of the particular market, in sample we elaborate one part of each segment of the report and in company profiles we write about company's history, its products/services related to that particular market, financials, SWOT analysis, recent developments and analyst view.

Objectives of the project: Using secondary research make a report on specific chemical material

Outcomes of the project: I learnt about all the skills that an analyst would require, to succeed in his career. I learnt what market research analysis is and techniques utilized in analyzing a market. PS has taught me how to work in a team. I learnt about market strategies adapted by global leaders, interpreting the data available to forecast the market, understanding the market conditions and its driving factors. I also learnt a lot through interacting with my senior members of the team and discussing things with my peers.

Major Learning Outcomes: Communication and Analytical Skills, Teamwork, Typing speed

Brief Description of working environment, expectations from the company: Mordor Intelligence is a very good place to work and learn new things in the field of market research. For a beginner like me, it was a great experience to work with market research firm like Mordor Intelligence.

I feel the very purpose of PS2 is fulfilled as I got to work as a part of a team where synergies make a big thing come true. I learnt to perform in pressure conditions with accuracy. I got clear about my future prospects and learned the fact that this is where a person starts and eventually grow. When you work as a part of a big firm and you share responsibilities, you need to be confident for every step you take as at the end you are answerable for any outcomes. So it was a good experience here in Mordor Intelligence, lots of things learnt, a sudden change of mindset and I am sure eventually these things will be reflected in my daily actions too.

Name: *DVVGs Murthy*

ID No: 2013A1PS357H

Student Write-up

Short Summary of work done during PS-II: I learnt about understanding various market conditions, impact of the major decisions in industrial growth interpreting the data available to forecast the future growth of an industry or market and about the strategies adopted by leading players in the market to overcome fluctuations and environmental regulations. I also learnt the technical skills regarding the tools that are used by the analysts in market research. Working with the team is all alone different experience when compared with all of the above mentioned advantages because it helped me to overcome some of the preconceived ideas and weaknesses and gave me an ability understand the

strengths of different individuals to face challenges while learning new techniques and pressure to meet the deadlines of the reports that have to be submitted where I learnt time management and distribution of work within the team. This helped to gain confidence to work not only with the familiarities in the market research analytics field but also in any other industry and for my professional career that I am supposed to face in future and confidence to start anything on my own by cumulating the efforts of different individuals to a directed target.

Tools used (Development tools - H/w, S/w): MS Excel, MS word

Objectives of the project: Making samples of the market, RD's and TOC's, Company profiles of the industry players.

Outcomes of the project: Analytical skills to use tools and estimate the market prospects of different industries in various regions

Major Learning Outcomes: skills to forecast market with data available from various sources and team work to produce effective results.

Brief Description of working environment, expectations from the company: Work environment is friendly with little restrictions on timings and particulars and also stress free environment. Proper guidance from seniors in the team to work on the reports we have to make.

Name: Vipul Agrawal

ID No: 2012B2A1679H

Student Write-up

Short Summary of work done during PS-II: I got the opportunity to get a hands-on experience on the workings of a detailed market reports, analysis the scope of growth for a particular market, its current global scenario, factors driving the market, factors that may act as the roadblocks for the growth of the market, growth opportunities in the future, information regarding the producers, vendors, suppliers, consumers of the particular product, variations in the demand of the product specific to the regions/countries as required, and every other detail regarding the product which was demanded by the client.

Objectives of the project: Performing quantitative and qualitative analysis in chemicals and materials domain.

Outcomes of the project: You get to work on real-time projects, the reports. Apart from that, the important outcome is the learning part- understanding of the service sector market in India (corporate exposure), understanding of the global market and the factors influencing it and market research.

Major Learning Outcomes: My experience here has helped me have enough knowledge in writing a report on any topic related to the chemicals and materials, which according to me, is going to serve me a great deal of advantage in the future. This has also helped in improving my MS excel and MS words skills.

Brief Description of working environment, expectations from the company: Being a startup, the work culture at the firm is very comfortable in the sense that there is no compulsory dress code. In case of any problem, you can directly contact the co-founders (one of them is a BITS alumnus) and this eradicates all sorts of problems that might arise due to sticking to the hierarchical system of working. Quite a lot of persons in my team are ex Bitsians and the work culture is very friendly. Almost all of the team members were of the same age group, and this helped in developing a bond rather quickly, and in the end, made the experience enjoyable.

Name: Abhijeet Manu

ID No: 2013A5PS602P

Student Write-up

Short Summary of work done during PS-II: I worked for two different segments in the company viz. Sales and Market Research. For Sales, my work was to pitch market reports to various clients from different companies around the world. The contact was searched using LinkedIn and cold calling was done. Around 100 different international clients were called and reports were pitched to them.

In the domain of Market Research for healthcare, my work was to conduct Secondary Research to find relevant market data. This was done by extensive google search using correct keywords, reading annual reports of various companies and literature survey. The data and information obtained was verified by conducting Primary Research. Big officials from relevant companies were called and information was

validated through a scheduled interview or conversation. An excel sheet containing all the data was made and using some excel formula, forecast was done.

Tools used (Development tools - H/w, S/w): Excel

Objectives of the project: To conduct secondary and primary research as parts of Market Research and prepare Market Report.

To pitch various report samples to clients either on phone or via email, negotiate with the clients about the price of the report, address his issues and close the deal.

Outcomes of the project: Work of Sales worked as a marketing strategy for the company that is expected to reap long term benefits. The clients to whom projects were pitched might come back in the future and purchase reports that will boost company's revenue.

Market Research helped in on-time delivery of the market reports to the clients. This indirectly added to the company's revenue as the efforts that were put in, ensured that the company could take more projects which in turn increased its revenue.

Major Learning Outcomes: For sales, I learnt how to perform cold calling. In Market Research, I learnt how to perform secondary and primary research, some excel formula and how to analyze data and write market segmentation parts.

Brief Description of working environment, expectations from the company: The work culture is chill for market research and strict for sales where there is more pressure to close the deal and sell the product. The work of sales becomes very redundant as it comes down to calling different people and pitching them reports on the phone. In market research, however, the reports are of various topics on, every other day. So, it is not redundant and there is relatively very much opportunity to know new things. Nevertheless, the learning scope is not so much as the company is still in its initial phase. I expected data analysis on excel but that was not extensive.

Name: Virendra Maka

ID No: 2012B2A2714H

Student Write-up

Short Summary of work done during PS-II: The overall learning experience at Mordor Intelligence, Hyderabad was satisfying. I was exposed to different segments of the market report. Most of the information collected is from primary and secondary research. I learnt about various big players in the chemical and materials industry. The information we collected was mainly from the annual report of that company. Learning the process of developing a market report helped me build my analytical and communication skills. We were always working in a team, which developed my soft skills. The experience of working in this company helped not only with learning new things but also with decision-taking abilities. The size of the company is moderate which helped me understand the whole structure and chain of the market research firm.

Tools used (Development tools - H/w, S/w): Microsoft Excel and Word

Objectives of the project: Performing quantitative and qualitative analysis in chemicals and materials domain.

Outcomes of the project: Market reports were prepared using primary and secondary research.

Major Learning Outcomes: Enhanced analytical skills and communication skills

Brief Description of working environment, expectations from the company: Mordor Intelligence has no more than 150 employees. It is in the Gachibowli, which is corporate area of the city. Most of the employees are in their 20's. They are friendly and always helping. There are no such skills required to do the job but it will improve your knowledge of the domain you are working in.

Name: *Sunil Kumar*

ID No: 2013D2TS992P

Student Write-up

Short Summary of work done during PS-II: In the company, I was given a chance to work on each of the above areas, and eventually on complete segments and then actual reports requested by customers. The experience I got assisted me in many ways which include putting together relevant information on a variety of topics, providing analysis meaningfully and in a structured manner and picking up on the formatting options available in MS Excel and MS Word. I also gained deep understanding of variety of topics related to Automotive. I am also given content writing positions, which helped me develop my writing skills and the skill to analyze and write articles on diverse topics on short notice. I also learn to

work under pressure, since Mordor Intelligence often has to deliver within very tightly packed deadlines.

Tools used (Development tools - H/w, S/w): MS Word, MS Excel

Objectives of the project: Analysis of Market and Forecasting the market.

Outcomes of the project: I got to know about the Advanced Driver Assistance System Market and foretasted this market.

Major Learning Outcomes: Market Estimation, Porters, Competitive Landscape, Market Segmentation and Company Profiles.

Brief Description of working environment, expectations from the company: Being a very young start-up, it often has to deliver a lot of information to clients in short notice. To achieve this and keep ahead of the competition in this Market, the company has highly motivated teams of analysts. Hence, I was often encouraged to come up with advanced ways to work.

In MI, analysts often work on samples and send it to clients for free of cost which in return might not be profitable many times so I suggested them to maintain a large database of all the samples that they had done till date and give access to some of the potential clients for a reasonable cost. This idea of mine was appreciated and put in motion by my team FAAD.

Hence, the company gives interns to work in a start-up environment, where even though the work may not be very engaging on the learning curve too steep, interns can still harness their skills to brainstorm, innovate, team work and deliver results under pressure.

Name: Bhavya Mittal

ID No: 2013A1PS533P

Student Write-up

Short Summary of work done during PS-II: During my PS-II, I got the opportunity to work for different departments according to the requirements of the company. I started in the Sales team where we spent learning about Mordor goes about acquiring clients. I learnt about cold calling and then after few days, I was given the permission to go actually look for potential clients and the call them. I worked with the Sales team for about two months after which I had to work in the healthcare department where a new project had come up with a short deadline. I worked in the healthcare department gathering news

related to the animal feed market and segregating the news events of major companies based on the requirements of the client. After this project, I was sent to the Investment Opportunities team. So, I worked in the investment opportunities department writing Report descriptions, TOC's, company profiles, samples etc. I worked on many market entry reports as well which had tight deadlines.

Objectives of the project: Data analytics and Market research in the domain Investment Opportunities

Outcomes of the project: Projects helped Mordor Intelligence doing more extensive and comprehensive research for their projects. Moreover we helped the organization with Ideas in new and unique markets.

Major Learning Outcomes: I worked in the domain - investment opportunities and it majorly involved looking for new markets in the Middle East. So I learnt a lot about the market.

Brief Description of working environment, expectations from the company: The working environment is good and the team leads are very supportive. Overall it was a good experience.

Name: Himanshu Rana

ID No: 2013A1PS524P

Student Write-up

Short Summary of work done during PS-II: I worked in the Sales Department as well as the Market Research Department. The work in Sales team mainly included generating leads and then cold calling potential clients. The work in the research team was to work on sample reports. It mainly included writing report samples and gathering data for market estimation

Objectives of the project: To learn the work done by a market research analyst

Outcomes of the project: Worked on market research reports and learned about the kind of work done in completing market research reports.

Major Learning Outcomes: Learned some market size estimation techniques.

Brief Description of working environment, expectations from the company: The Company expected us to work mainly when they sold their reports and we had to work to assist the employees in finishing the reports within deadlines.

Name: Shashwat Chaterji

ID No: 2013A1PS876G

Student Write-up

Short Summary of work done during PS-II: At Mordor Intelligence, I got a glimpse of what it is like to work with a start-up. A client-centric Market Research and Consulting firm, the company makes research reports, which are compiled by carrying out qualitative and quantitative analysis and gathering information from primary and secondary sources. Thus its clients can make better decisions through accurate data, market forecasts and expert insights. The company provides reports in various domains are prepared depending on the client's requirements, often tailored to meet specific needs and budget constraints. The reports are exhaustive, consisting extensive descriptions of the market summary, and the drivers, constraints and opportunities of the market. This is followed by the market segmentation which is done by usually type, by application and by geography. Some reports may have others sub segmentations depending on the market. The company also provides a competitive landscape of the major players in that particular market, including the summary of the strategies adopted by the key players for their growth, as well as the most active players. The company has two main work profiles, namely Sales (Business Development) and Research.

Tools used (Development tools - H/w, S/w): Excel, Word.

Objectives of the project: The Company gives interns to work in a start-up environment, where even though the work may not be very engaging on the learning curve too steep, interns can still develop their skills to brainstorm, innovate, work with teams and deliver under pressure.

Outcomes of the project: I started work in the sales team. My role as a business development intern gave me the opportunity to converse with executives at important position in major companies, which taught me to speak clearly and concise language with people who are hard pressed for time and patience. After the mid-sem, I was shifted to research upon request. In between, my short stint as a content writer helped me develop my writing skills and the skill to research and write articles on diverse topics on short notice. The company has 14 domains working on different market domains, and I was attached with the Automotive, Aerospace, Defense and Feed market research team.

Major Learning Outcomes: I was given a chance to work on each of the above listed topics, and eventually on complete segments and actual reports requested by clients. Such hands on experience

helped me in many of ways. I was able to quickly search for a put together relevant information on a variety of topics, and learnt about the intricate formatting options available in MS Word. I learnt to work under pressure, since Mordor often had to deliver within very tight deadlines. Also, working on the plethora of topics as I did, I was able to gain knowledge and an understanding of a range of things in the automotive, aerospace, defense and animals feed sectors.

Brief Description of working environment, expectations from the company: The Company provides reports in various domains are prepared depending on the client's requirements, often tailored to meet specific needs and budget constraints. The reports are exhaustive, consisting extensive descriptions of the market summary, and the drivers, constraints and opportunities of the market. This is followed by the market segmentation which is done by usually type, by application and by geography. Some reports may have others sub segmentations depending on the market. The company also provides a competitive landscape of the major players in that particular market, including the summary of the strategies adopted by the key players for their growth, as well as the most active players. The company has two main work profiles, namely Sales (Business Development) and Research.

Name: Nidhi Chaudhary

ID No: 2013B4PS978P

Student Write-up

Short Summary of work done during PS-II: I had worked in 3 departments in the company which are SEO, Business Development and Market Research. I learnt the basic skills that are required to optimize search engine in order to get more leads. In the business development department I learnt how to deal with the clients and their requirements and come up with the strategies that are best for the company and its clients. In market research I was trained on the techniques that are required for analyzing the market. I had mastered in primary and secondary research and also learnt market mapping and market engineering. So i have assimilated all the skills that a market research analyst would require.

Tools used (Development tools - H/w, S/w): MS Word, MS Excel, and MS PowerPoint.

Objectives of the project:

1. To optimize the number of leads by improving the search engines and social media.
2. To find potential buyers of the products and deal with client needs.
3. To do primary and secondary research to obtain the market data and perform market analysis.
4. To compile the data into a report.

Outcomes of the project: The project has helped me learn the necessary skills of a market research analyst and has provided me with a positive perspective on business development. I have gained skills on improving the site's rank by optimizing the search engines and social media results. Overall the project has provided me with good amount of motivation to pursue my career in any of these fields.

Major Learning Outcomes:

- Market Research Insights
- Business leads and prospect generation
- MS Excel
- Communicational Fluency
- Negotiation Skills

Brief Description of working environment, expectations from the company: One gets to learn a lot as it's a startup; you can work in a bunch of departments and learn about them. Work timings are quite flexible, it's just you have got to work for 8 hours. All the employees are very helpful and friendly and can provide you with a lot of guidance.

Name: Aditi Bansal

ID No: 2012B2A1754P

Student Write-up

Short Summary of work done during PS-II: Mordor Intelligence is a market research firm and sells market reports to major stakeholders of an industry, which aids in taking key decisions for them. It is organized into 14 domains like agriculture, chemicals and materials, healthcare, automotive and defense, food and beverage etc. Market is analyzed on the basis of current trends, government policies, competitive scenario, etc. On the basis of this analysis, a forecast for the next five years (may vary, according to client's requirement) is made and a detailed analysis of it is provided in the form of a

report. Important components of a typical market report written here are drivers, restraints, opportunities, market segmentation (on the basis of product type, applications, end-user industries and geography), company profiles of major players, value chain analysis, Pestle Analysis, competitive landscape, etc. There was no single project that any one of us worked on, but multiple reports and samples and some documentation work of the firm, based on sale of the reports and demand from the sales department who are in touch with potential clients for samples.

As a part of the Chemicals and Materials team in this firm, I have written almost all the sections of a report, on different markets, that have been included in the reports sold during my stay here. I have also worked on a report individually, that has given me a lot of clarity on how to make a market report. I have also worked on a number of samples that are given to the client, on the basis of which the client makes a purchase decision.

Tools used (Development tools - H/w, S/w): No tools were used in the project- just Excel and Word

Objectives of the project: Do market research and analyze the market trends to give detailed description and forecast for the next five years.

Outcomes of the project: You get to work on real-time projects, the reports. Apart from that, the important outcome is the learning part- understanding of the service sector market in India (corporate exposure), understanding of the global market and the factors influencing it and market research.

Major Learning Outcomes: I got to learn a lot about the market in the chemicals field, the economies of a lot of countries, how different forces affect the market scenario, how to analyze these factors and trends and how to forecast. I've also gotten exposed to measurement of the market size of different segments.

Brief Description of working environment, expectations from the company: Work environment is very lenient. Work allotted extends for a maximum of two days. So the projects are very short term, making it relatively simple. Working hours are flexible, and can be managed according to the work allotted to you. The more responsible and sincere you are for the work, the more important (involving more learning opportunities and higher risk) work you get. The environment is such that you do and learn. It is good to ask questions and discuss and work for more learning and higher efficiency. It varies from team to team. The best working environment is in chemicals and materials and in automotive teams, both in a different way. But rest of the teams are not so transparent.

Name: G. Prabhath Mourya

ID No: 2013A3PS323P

Student Write-up

Short Summary of work done during PS-II: Outbound pitching of reports to potential clients from companies across the globe. Cold calling and following to close successful deals. Working on inbound leads to generate sales revenue for the company by selling market research reports. Worked on company profiles and financials like market share, size and charts for an assignment. Sold various reports generating huge revenue for the company.

Tools used (Development tools - H/w, S/w): Ring Centra, Knowlarity, Prosperworks, Excel spreadsheets, MS- Word, LinkedIn

Objectives of the project: Generating revenue by selling Market research reports

Outcomes of the project: Successfully closed deals worth \$20,000

Major Learning Outcomes: Communication skills, Negotiation, problem solving and approach, handling a tough situation

Brief Description of working environment, expectations from the company: Target oriented working environment which helps an individual get used to facing today's competitive work culture in the world. Supporting the employees by their approachability and encouragement to innovative ideas and bringing out the potential in an individual. Taught me how to maintain the balance between hard work and smart work to obtain maximum productivity. Encouraged me equally by providing incentives for all the sales that I closed. A great platform for people aiming at learning oriented work culture with a great scope and ambitious future.

Name: Manoj Kumar Pavuluri

ID No: 2013A2PS590P

Student Write-up

Short Summary of work done during PS-II: I worked in the AFNB market research team in Mordor. I mainly worked on domain building in the first two months. After that I made report samples which were

sent to the clients. As the design of sample was changed, we included new sections like market trends to attract the clients. I also collected information for the reports by means of primary research. Finally I worked on different sections of the reports like drivers, restraints, opportunities, company profiles and market segmentation etc.

Objectives of the project: To create an insight on the working of a consultancy firm and understand market research analysis.

Outcomes of the project: I learnt market research analysis and understood how startups work.

Major Learning Outcomes: I learnt market research analysis and can make my own report of any market now.

Brief Description of working environment, expectations from the company: The Company is located in the fifth floor of Brigade towers in the Gachibowli financial district. It has central AC and operates via LAN. We can either work on a laptop or a desktop. There are no specific rules regarding the clothing. Work is given on a daily basis and varies with the sales of reports. We are expected to work at least 8 hours a day. Initially, choice is given to work either in sales or in market research teams. There are several domains and each domain has their own segment in the company. As an intern, I was guided by a senior analyst in the company. The office timings vary depending upon your domain.

Name: *Sainath Addagatla*

ID No: 2011B1A4700H

Student Write-up

Short Summary of work done during PS-II: Writing Market Research Reports, Analyzing Market trends of products or services.

Tools used (Development tools - H/w, S/w): No special tools used, work is majorly done in Microsoft Word and Excel.

Objectives of the project: Learn to Market Research. Study Market Trends of products and services.

Outcomes of the project: Market Research Reports.

Major Learning Outcomes: Learned about work done by market research industry.

Brief Description of working environment, expectations from the company: Good working environment, great time flexibility. Expected a much lively market research but didn't reach my expectation.

Name: Vatsalya Patel

ID No: 2013A1PS067P

Student Write-up

Short Summary of work done during PS-II: During my PS-II, I got the opportunity to work for different departments according to the requirements of the company. I started in the Outbound Sales team after which I worked with the Healthcare team on a secondary research project. After this project got over, I was shifted to the Automotive and business development team where I began working on LinkedIn Ad campaign. As the LinkedIn project got over, I worked on the quarterly magazine of the automotive department where I had to find recent product launches. Eventually I ended up in the Energy and Power department, although I did work for the Investment Opportunities and the HealthCare team for brief periods in between. I worked on different report titles from diverse sectors writing company profiles and report samples according to the client's needs. Working for different departments presented different challenges and greatly enhanced my learning experiences which would not have been possible if I had only worked for a single department.

Tools used (Development tools - H/w, S/w):Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Grammarly

Objectives of the project: Data analytics and Market research in Energy and Power domain

Outcomes of the project: Researching about a particular market and then using predicting the trends depending on certain factors

Major Learning Outcomes: I worked with different departments helping teams which required additional people to meet deadlines which would not have been the case due to the small size of their teams. I worked on a number of things starting right from client acquisition through cold calls and LinkedIn ads to completing market research reports in different domains.

Brief Description of working environment, expectations from the company: Mordor Intelligence provided a comfortable working environment with helpful and approachable employees. The company

provided us with challenging and mentally stimulating tasks. Thus it fulfilled all the expectations and learning experiences I wanted from a PS 2 station.

PS-II Station: MSCI, Mumbai

Mentor

Name: Mr. Saurabh Katiyar

New Product Development

Contributed in construction of indexes using Equity Research Platform. Vishad (intern) came up with the idea of two factor indexes and constructed it using modular framework at MSCI Inc. The mentor appreciated the work done by BITs interns in general and said the quality of work carried out by them was great. The entire process worked well for the organization in general and new product development department in particular.

Faculty

Name: Mahalakshmi Mudliar

Comments: Expectations from industry:

Knowledge of MATLAB, SQL, basic programming, good presentation and communication skills, aptitude and willingness to learn. They will also prefer to have continuing students to lessen the impact of learning curve.

Student

Name: Vishad Bhalodia

ID No: 2012B3A4603P

Student Write-up

Short Summary of work done during PS-II: i. Develop an understanding of the various factor indexes.

ii. Analyze the results and check the relative performance of the simulated indexes to match the existing ones.

iii. Validate the results and match the constituents and weights with the existing indexes in production.

Tools used (Development tools - H/w, S/w): MATLAB, Excel, SQL, Git, MSCI Proprietary Tools

Objectives of the project: Construction and Maintenance of new/existing factor and thematic indexes

Outcomes of the project: Construction and Maintenance of new/existing factor and thematic indexes

Major Learning Outcomes: 1. Factor Investing

2. Thematic Investing

3. Coding in MATLAB/SQL

4. Proprietary Software

5. Index Construction and Maintenance

Brief Description of working environment, expectations from the company: MSCI working environment is very good. The team is very friendly. The company expects you to understand the index construction and maintenance process in detail so that you can contribute to the work there.

Name: Kunal Dharamsi

ID No: 2013B3PS369P

Student Write-up

Short Summary of work done during PS-II: Worked for the Index Management Research team.

Tools used (Development tools - H/w, S/w): MATLAB, SQL, and Excel

Objectives of the project: Develop an understanding of thematic and factor indexes.

Outcomes of the project: Developed an understanding of thematic and factor indexes. Helped the team with quarterly and semiannual rebalancing of indices.

Major Learning Outcomes: Learned how to code in MATLAB and SQL.

Brief Description of working environment, expectations from the company: Great environment, great colleagues. Excellent opportunity to learn.

Name: Pratul Agarwal

ID No: 2012B3A3606H

Student Write-up

Short Summary of work done during PS-II:

Project -1 : Index Creation

- Research on environment based indices are seen as the latest trend setters and a mini-study on Factor metrics
- Specializing in single factor equity indices (Value, Low Size, Low Volatility, Momentum, Quality and Dividend Yield) and Diversified multi factor indices
- Integrating ESG into single factor indices, performance measurement and attribution; integrating ESG into a highly diverse set of benchmarks to accommodate a broad spectrum of sustainable investing mandates.

Project -2 : Portfolio Optimization

- Creating multifactor indexes by setting an optimization with tracking error constraint along with other constraint using Barra Portfolio Manager; quarterly rebalancing the index
- Formulating a typical mean-variance portfolio optimization in Barra Optimizer, based on client's constraints

Tools used (Development tools - H/w, S/w): MATLAB, JSON, Git, SQL

Objectives of the project: Creating and managing new factor and ESG based indexes based on on-going research and client requirements

Outcomes of the project: Helped in transitioning certain indexes from old ERP to new modular format. Most of the indices that I was working on, were either research, that will be presented to clients for further comments and finally sent to production, or custom indices that were client's requests. The clients include some of the largest asset management companies and institutional investors.

Major Learning Outcomes: A. Market Research

B. Active Portfolio Management

C. Passive investments

D. Following deeper insights into the drivers of performance and risk in a portfolio, broad asset class coverage and innovative research

E. Data analytics

Brief Description of working environment, expectations from the company: The timings are flexible, and the team is very helpful. The work culture is quite strict, and expects strict adherence of corporate culture within the organization. Have a strong understanding of core subjects in finance like Security Analysis and Portfolio Management, Equity Research and Financial Engineering. CFA Level 1 is preferred.

PPO opportunities vary on the basis of vacancies. A prior knowledge of SQL and MATLAB would be helpful.

PS-II Station: My smart price, Hyderabad

Mentor

Name: Arun

Designation: CTO

Students worked on applications which helps to improve the performance of the search. One project worked is Desktop application of the company website. It is a new application initiated by the company.

This is one of the major work done by one intern.

Faculty

Name: Y V K Ravi Kumar

Comments: Expectations from industry:

Good Programming & Analytical Skills.

Particularly knowledge of PHP,CSS is useful in the work.

Student

Name: Ch. Akshitha

ID No: 2011B2A3673H

Student Write-up

Short Summary of work done during PS-II: Software development - Backend coding in PHP to write two mailer codes. Developing extensive database for Mutual Fund Comparison project.

Tools used (Development tools - H/w, S/w): S/w - PHP, Composer, MySQL, JS, and HTML.

Objectives of the project: -To get Page speeds of most visited URL's daily to Analytics and SEO team.

- To get Ranking of keywords and change in them with respective to the day before and last week's average to SEO team.

- To lay foundation (creating extensive database) for Mutual

Major Learning Outcomes: Very proficient in PHP and backend coding, HTML, CSS, MySQL.

Brief Description of working environment, expectations from the company: Working Environment was good.

Name: Pranay Chandekar

ID No: 2012B5A3601H

Student Write-up

Short Summary of work done during PS-II: Development of MySmartPrice Desktop Application for Windows System.

Tools used (Development tools - H/w, S/w): Electron along with npm packages.

Objectives of the project: To make a basic Windows desktop application which can be easily updated whenever needed.

Outcomes of the project: Project was successfully developed and launched on the official website. As of now more than 600 users have downloaded and installed it.

Major Learning Outcomes: How to work under a product manager and feel of corporate environment.

Brief Description of working environment, expectations from the company: They gave a major individual project which was later released on their official website. All this was much more than expected. Overall the work environment was friendly and productive.

PS-II Station:Myntra.com, Bangalore

Student

Name: Shivam Khandelwal

ID No: 2013A3PS225P

Student Write-up

Short Summary of work done during PS-II: Development of an entire industry level functional app for mobile platform takes in strategic planning and structured approach. Not only is designing the front end (the User Interface) and backend (API's) an important task, but their seamless integration is also a vital part of the development phase. This project is focused on development of such an inbound application for the buyers in Myntra team who currently do not have a well-defined procedure for rating and selecting which styles and brands to buy for the upcoming sales season. After a lot of thought and planning that had been put into the app, the platform decided to be react-native for UI development and java spring framework for backend development. The UI part is planned to be ready by October and thereafter the work on backend will be taken up. The application has mostly been coded in ES6 and JavaScript and is primarily focused on android platform for MVP release. This project will help the buyers to be able to keep a handy reference of all roadshows they visit and it will also store the information regarding the styles available in the roadshow, the trends particular to it, and the collections available in a particular roadshow.

Finally, I made the entire roadshow app that could work connected to the internet and could save and fetch data from DB, for which I used Spring Hibernate MVC framework and deployed the services on docker container in one of the AWS machines in the company.

Tools used (Development tools - H/w, S/w):React Native, Spring Hibernate MVC Framework, Docker, HA Proxy

Objectives of the project: To be able to deliver a fully functional application for streamlining the grading process of the inventory, the company need to buy for the next season.

Outcomes of the project: Delivered the app with additional features than provided on the Product Requirement Document.

Major Learning Outcomes: Learnt a lot of business stuff, particularly designing a product from the scratch, learnt new JavaScript frameworks and libraries like React Native, and backend development using Spring Hibernate MVC framework, and modular programming strategy.

Brief Description of working environment, expectations from the company: Working environment is pretty good, as the company allows full freedom and opportunity of going on and exploring stuff, and learning and working on new technologies, adapting new programming strategies while also providing a well-established timeline to complete the work assigned.

Although the company doesn't expect much of knowledge from the interns, it will be a lot better if the assigned interns have a good understanding of OOP concepts and JavaScript and modular programming.

Name: Neha Talesrs

ID No: 2012B3A3547P

Student Write-up

Short Summary of work done during PS-II: Made the entire First Mile Logistics which included one app, web ui and web services.

Tools used (Development tools - H/w, S/w):Android Studio, Spring, Hibernate, Ext-js

Objectives of the project: To implement an online process for the entire First Mile so that a unified approach can be followed throughout the country.

Outcomes of the project: First Mile online flow implemented successfully pan India

Major Learning Outcomes: Android, Java, Spring, Hibernate, Cross-team collaboration

Brief Description of working environment, expectations from the company: It was a great experience. I got to learn a lot. It did not only help me grow in my knowledge of Computer Science but also as person. It is rare that an intern gets a project that has long term impact but Myntra provided me an opportunity to do so.

Name: Vivek Rathore

ID No: 2013A3PS207P

Student Write-up

Short Summary of work done during PS-II: Worked on the in-house Comex System which is a notification engine to send triggered emails, push and in app notifications to the customers. During the internship, I helped upgrading this existing platform by adding different kinds of functionalities that were non-existent before I came here.

Apart from these, I also independently managed and executed numerous campaigns using this system for customer acquisition.

Tools used (Development tools - H/w, S/w): 1. Python

2. Django

3. Django Rest Framework

4. Celery

5. Jinja2

6. Pytest, Mock and Monkeypatch

Objectives of the project: 1. To develop a functionality that displays web content in notifications/emails as preferred by the customers and adapts itself according to changing customer preferences at any later point of time(AB Testing).

2. To provide different coupons to the customers by analyzing their behavior as different customers have different preferences and hence improve upon the gross margin.

Outcomes of the project: 1. The AB Testing functionality has been implemented and other teams are testing its impact.

2. The Personalized coupons campaign is launched where we provide customers with coupons of different configuration rather than coupons with flat discount.

3. Various other campaigns to attract customers to make their next purchase who have been inactive for a long time.

Major Learning Outcomes:

1. Working with different teams on the same project
2. Code testing by mocking different kinds of classes and methods
3. Task Scheduling using Celery
4. Web application creation using Django
5. API creation using Django Rest Framework

Brief Description of working environment, expectations from the company: It was awesome working at Myntra Designs. Got an opportunity to improve communication skills to a great extent. This might be the most professional working place where I always work with passion and have fun at the same time. Overall it was a good workplace experience.

Name: *Shamik Mukhopadhyay*

ID No: 2013A3PS237G

Student Write-up

Short Summary of work done during PS-II: Created a desktop app for testing services by creating a production like environment on the local laptop using docker.

Tools used (Development tools - H/w, S/w): Go, docker, JavaScript, HTML, JSX, ReactJS, CSS, Shell

Objectives of the project: To speed up the testing process and provide a uniform testing environment for the developers.

Outcomes of the project: This project reduced hardware AWS support and increased the testing process by 4 times.

Major Learning Outcomes: Golang, Web development, optimization of space and time

Brief Description of working environment, expectations from the company: Myntra has a working environment which encourages us to work hard and have fun in the same time. Fun at Work is Myntra's motto. Everyone is very encouraging and helpful too.

PS-II Station:NextGen PMS Pvt. Ltd, Bangalore

Student

Name: Shatrujit Aditya Kumar

ID No: 2013A7PS044G

Student Write-up

Short Summary of work done during PS-II: Building digital dashboards, writing scripts to make API calls

Tools used (Development tools - H/w, S/w):HTML, CSS, JavaScript, JQuery, Bootstrap, Python, Leaflet.js, C3.js, Moment.js, DataTables

Objectives of the project: We were not given specific projects, focused purely on the day-to-day work for the company.

Major Learning Outcomes: Proficiency with HTML, JavaScript, JQuery library, Bootstrap framework, other JavaScript and JQuery libraries. Familiarity with the working of APIs, and making API calls.

Brief Description of working environment, expectations from the company: Workplace is quite relaxed; the existing employees were very welcoming and helpful. The in time at the office is quite lax, provided you are willing to stay late to make up for any work you have on the day. The office is quite bare in terms of resources, with only a small refrigerator, coffee machine, and water dispenser. The work that we were assigned is not the most glorious or engaging task, but you can see the impact it has for the company and its clients.

Name: Aditya Singh

ID No:2013A1PS552P

Student Write-up

Short Summary of work done during PS-II: Simple web development. The task of interns is to make dashboards for the company and the timeline given to make them is very small and hence the work is very hectic. The work gets repetitive after a month and nothing much is there to learn.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript

Objectives of the project: To make dashboards

Outcomes of the project: Dashboards

Brief Description of working environment, expectations from the company: If you are from non-CS background, then expect a very low PPO package and the profile offered will have testing and dashboarding work mostly.

Name: Akhil Diddiga

ID No: 2013A7PS069P

Student Write-up

Short Summary of work done during PS-II: Making Dashboards

Tools used (Development tools - H/w, S/w):HTML, CSS, JavaScript

Objectives of the project: Making Dashboards

Outcomes of the project: Learning basic web technologies

Major Learning Outcomes: Building web pages

Brief Description of working environment, expectations from the company: The project description in the PS website was no way related to the work which was assigned to us, and the work was repetitive.

Name: Garima Gupta

ID No: 2012B1A4768P

Student Write-up

Short Summary of work done during PS-II: I wanted to leverage the PS 2 opportunity to gather experience in the field of consulting and NextGen, a pioneering startup in the CSR & Sustainability space. The projects I undertook gave me a lot of exposure in end-to-end program management and product standardization. During this internship tenure, I worked on a total of four projects out of which two were end-to-end CSR management. In these two projects, I was involved right from project

conceptualization to NGO selection and product configuration. It helped me get a brief exposure to client-facing roles. Next, I worked on a social audit which required field visits in Bangalore and Chennai. This helped me quickly pick up skills of multi-level stakeholder management, data collection and analysis, and reporting of findings. All this while, I was working in a small team with strict deadlines and interacting with the top leadership of the client team.

Next, I worked on product standardization and configuration. It helped me learn product design thinking and apply it to the problem at hand. It also involved a lot of testing and troubleshooting work. This PS2 experience has been an important milestone in shaping my skills as well as approach to the work culture at a startup.

Tools used (Development tools - H/w, S/w): Soft Skills

Objectives of the project: End-to-end CSR Management, Social Audit, Dashboard Standardization & Product Configuration

Outcomes of the project: Dashboard standardization helped in developing executive dashboards with standard style, approach, features and color scheme. The product configuration was done in a way which included all project life-cycle stages before monitoring and evaluation. The social audit highlighted under-utilization of funds by NGOs and helped improve partner evaluation and selection process along with constant monitoring of the ongoing projects.

Major Learning Outcomes: Multi-level stakeholder management, data collation, analysis and reporting. Product design, testing and troubleshooting.

Brief Description of working environment, expectations from the company: The Company is transitioning from a start-up to corporate and hence a mixed style of working is witnessed. A lot of work is expected from your end without much guidance which leads to reiterations and changes in the work already done. There is no work culture to look forward to. In case, one should not join the station in hope to learn about development sector, since that kind of exposure is minimal.

Name: Siddhant Gupta

ID No: 2013A8PS747G

Student Write-up

Short Summary of work done during PS-II: We created dashboards using different web technologies.

Tools used (Development tools - H/w, S/w): Javascript,html,css

Objectives of the project: To create dashboards according to different client requirements

Outcomes of the project: Proper monitoring and evaluation of different csr projects.

Major Learning Outcomes: Web technologies

Brief Description of working environment, expectations from the company: Amazing people and good work environment.

Name: Akhil Diddiga

ID No: 2013A7PS069P

Student Write-up

Short Summary of work done during PS-II: Making Dashboards

Tools used (Development tools - H/w, S/w):Html, CSS, JAVA Script

Objectives of the project: Making Dashboards

Outcomes of the project: Learning basic web technologies

Major Learning Outcomes: Building web pages

Brief Description of working environment, expectations from the company: The project description in the PS website was no way related the work which was assigned to us, and the work was repetitive.

Name: Garima Gupta

ID No: 2012B1A4768P

Student Write-up

Short Summary of work done during PS-II: I wanted to leverage the PS 2 opportunity to gather experience in the field of consulting and NextGen, a pioneering startup in the CSR & Sustainability space.

The projects I undertook gave me a lot of exposure in end-to-end program management and product standardization. During this internship tenure, I worked on a total of four projects out of which two were end-to-end CSR management. In these two projects, I was involved right from project conceptualization to NGO selection and product configuration. It helped me get a brief exposure to client-facing roles. Next, I worked on a social audit which required field visits in Bangalore and Chennai. This helped me quickly pick up skills of multi-level stakeholder management, data collection and analysis, and reporting of findings. All this while, I was working in a small team with strict deadlines and interacting with the top leadership of the client team.

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Name: Siddhant Gupta

ID No: 2013A8PS747G

Student Write-up

Short Summary of work done during PS-II: We created dashboards using different web technologies.

Tools used (Development tools - H/w, S/w): JAVAscript,html,css

Objectives of the project: To create dashboards according to different client requirements

Outcomes of the project: Proper monitoring and evaluation of different csr projects.

Major Learning Outcomes: Web technologies

Brief Description of working environment, expectations from the company: Amazing people and good work environment.

Name: R Prasanna Malavika

ID No: 2012B2A4677H

Student Write-up

Short Summary of work done during PS-II: The project focuses on key aspects in Corporate Social Responsibility and Sustainability. There are 3 projects that I have worked on, 2 in CSR and 1 in Sustainability. Sustainability project for a major Apparel Manufacturer in Sri Lanka required various indicators as per the Global Reporting Initiative (GRI)'s guidelines to have been followed while mapping the necessary indicators for tracking Environmental, Social and Economic impact. Under the CSR banner, Social Audit and Needs Assessment for MNCs in the financial sector have been completed. Upon performing the necessary Impact Assessment & Needs Assessment for the Stakeholders, and on analyzing various financial documents provided, extensive reports have been furnished. Deployment of projects on NextGen's p3 platform for creating dashboards necessary for client's usage is a major part of all projects taken up by the firm.

Tools used (Development tools - H/w, S/w):MS Excel

Objectives of the project: To gain knowledge and insight about end-to-end CSR Management

Outcomes of the project: The project has made CSR project management for major clients highly efficient and thorough. These clients contribute towards major revenue for the firm.

Major Learning Outcomes: Various parameters and indicators involved in Sustainability reporting, In-depth knowledge of various stages in End-to-End CSR Project Management, Efficient Data collection, collation and analysis using Excel tools, Concepts of product design and data visualization, Nuances of formal reporting techniques.

Brief Description of working environment, expectations from the company: Most of the co-workers are aged 30 years or lesser. The work culture is that of a start up. Work timings are usually from 9:30 AM - 7 PM, however a lot of days require people to stay overtime. Some people stay overnight to work too. The consulting team is slightly short staffed, so there is generally a lot of work load on each individual. However, the work is interesting and the learning curve is steep.

Name: Naimil Shah

ID No: 2013A7PS129G

Student Write-up

Short Summary of work done during PS-II: I joined the consulting team of Nextgen as a Business analyst intern as a part of my PS-II. My work involved supporting the senior analysts and consultants to fulfill client requirements. Most of the work was related to configuring the technology platform of Nextgen, called p3 for the clients. There was a considerable amount of data collection, cleaning and determination of KPIs that I did. I got to work with multiple teams and face clients as well. over all it was a mixed bag experience with the positive highlight being the great exposure and the negative highlight being long work hours and sometimes mechanical monotonous work.

Tools used (Development tools - H/w, S/w):Excel and In-House technical platform "p3"

Objectives of the project: According to Section 135, companies having a net worth of Rs 500 Cr and more need to spend 2% of their average three year's profits on CSR projects which are validated by the Government. With the advent of this CSR mandate, the corporates have project requirements like identification of an implementation partner, monitoring and evaluation, and impact assessment of CSR initiatives in sectors ranging from livelihood and education to sanitation. My project involved working with such clients to develop a strategy of their programs and get in place analytics tools to gain insights

of their CSR interventions. It also involved configuring the p3 platform developed by Nextgen for the clients and adding data to it.

Outcomes of the project: Successfully contributed to multiple projects. Assisted various teams on p3 configuration. Helped in internal development and standardizing processes.

Major Learning Outcomes: I have worked and interacted with multiple teams and clients. Owing to this experience, my thoughts about the development sector have evolved and this firmness to the thought process reflects in discussions that I engage in. I am now able to better relate to the issues that are always talked about like poverty and illiteracy. At the end of the internship, I can say I clearly know the CSR scenario in India and have a thorough understanding of the product p3 being developed and used here.

Brief Description of working environment, expectations from the company: It's a fast paced, high growth startup with a very young team. Working environment is not very formal and there is no strict dress code (apart from client meetings). There is very little structure in the company currently and you get a chance to interact with a lot of people. I was expecting more of a consulting based role here (research, framework development, designing implementation plan etc.), but the work here is closer to project management. They will give you work and you will be given a responsibility to complete it within a given span of time. You will usually work for 8-9 hours a day and might have to stay back on a few days' after 7 pm as well (long work hours). The exposure I got was great. I met clients and traveled for few small assignments. Overall it was a mixed bag experience.

PS-II Station: Nucleus Software Export Ltd , Noida

Mentor

Name:Gaurav Marwaha

Designation: Associate Vice President, GPM ,NSEL

The company develops products for banking and financial domain using Java and related technologies. The students undergo rigorous training for around a month and are prepared for the same. The students are put in live product modules. Most of the features developed by BITS students have already become a part of the final product. BITS interns are intelligent and hardworking. Nucleus prefers to continue with BITS on this program.

Name:Shashank Bhaskar

Designation: Manager -Product Engineering

Faculty

Name: Ritu Arora

Nucleus Software is into developing banking and financial software. It is essentially a product and service based company. With already an established base of products like FinnAxia and FinnOne, it is moving ahead in other domains as well. BITS students essentially from EEE and other related disciplines have a good opportunity to do their internship here. The students undergo rigorous training for more than a month on JAVA and related technologies that would be required for the projects ahead. The students get opportunity to work on modules that become a part of the final product and most of which are shipped to the customer even before the students complete their internship. Nucleus Software is a good place to work with an extremely good work-life balance.

Student

Name: *Gona Prudhvi*

ID No: 2013A8PS462H

Student Write-up

Short Summary of work done during PS-II: Development of Enterprise Content Management

Tools used (Development tools - H/w, S/w): languages used-JAVA, JAVAscript frameworks-spring,hibernate

Objectives of the project: - main objective of the project is to develop a common entity for all the products which can manage their documents

Outcomes of the project: version 1 of the product was almost ready for deployment

Major Learning Outcomes: bootstrap, JAVA, SQL,mvc

Brief Description of working environment, expectations from the company:Nucleus provides lot of opportunities for learning and has a encouraging work environment

Name: *Harshit Srivastava*

ID No: 2013AAPS285H

Student Write-up

Short Summary of work done during PS-II: Developed a platform for Dynamic Dashboard.

- Concept referenced from JIRA.
- Client can create his/her own widgets using Transactional Metadata.
- Data could be displayed in the form of Pie, Column or 2D Charts.
- Features like Advanced Search Query, download to Excel, Auto refresh and Option of selection and deletion of different attributes included.
- No maintenance required.

Tools used (Development tools - H/w, S/w): JAVA, Spring, Hibernate, JPA, Struts,Ajax, HTML,CSS,JQUERY,JAVAScript, Bootstrap,Oracle SQL.

Objectives of the project: Developing a platform for Dynamic Dashboard.

Outcomes of the project: Platform was created.

Major Learning Outcomes: Got the opportunity to learn new Technologies. Worked with R&D of the Organization.

Brief Description of working environment, expectations from the company: Well 250 words are too less for this. Firstly, the organization doesn't have a proper system in place for Hiring Process. The company initially said they will judge interns on the quality of their work, but as soon as the last month approached they changed their own policy saying we(interns) have to go through an online assessment test for which cutoff was 50%. A surety was given by them that if a person is unable to clear 50%, he/she will be judged on his coding skills (again change in policy). The top management of the organization weren't able to decide till this very point (14th Dec 2016) to whom PPO was given (I am sure they are still in a dilemma). In the end, when we approached Company's Product Head for the feedback, these were the words he said "We are running a business here. Why should we hire people from TIER 1 college and give them x salary when we can get it done by giving x/2 to some other college student"? I am not judging anyone here but they always taunted us by saying you belong to TIER 1 college and still in the end they couldn't come up with a proper valid reason why we were rejected. They kept saying that many parameters were involved but they didn't disclose any. I wouldn't recommend any junior to join the company if he/she is interested in getting a PPO.

Name: Naga Deepa Alavalapati

ID No: 2013A3PS242G

Student Write-up

Short Summary of work done during PS-II: PS-2 started off with initial training for 2 months to improve our technical skills mainly JAVA, Spring, Hibernate, JSP, Servlets and database queries. Then we started software development in FinnOne Neo Loan Management System. Areas where I worked include Excel file Uploader and Downloader using Spring Batch Excel and Apache Poi APIs, fix for Malware Injection through File content during file upload and Download.

Tools used (Development tools - H/w, S/w): JAVA, Spring, JSP, SQL

Objectives of the project: -Development of additional features in the existing product FinnOne Neo LMS

Outcomes of the project: Successful feature addition

Major Learning Outcomes: Learnt to face challenges in the vast product

Brief Description of working environment, expectations from the company: Team was very good and encouraging at every step. Employees have to work for long hours and it needs to be changed.

Name: Jayant

ID No: 2012B2AA708H

Student Write-up

Short Summary of work done during PS-II: Our project was to build a new product for the company-Enterprise Content Management which will later be integrated into their existing products. As it was a new product we had lots of interaction with senior managers and often had to refactor our code according to user stories. The company has their own framework built using Spring and Hibernate which was used as the backbone of the project. We learned quite a lot here from building client side pages using JSP and JQUERY, writing hibernate queries to writing controllers and services for the web-app. The work environment is fast paced and you are expected to learn a lot of new things required for the project, for which you are provided ample technical support by your peers. On joining we had one month of technical training so we didn't face much problems during our development stage.

Tools used (Development tools - H/w, S/w): Spring, Hibernate, maven, MySQL

Objectives of the project: To build a new product for the company-Enterprise Content Management

Outcomes of the project: Milestone version is ready to showcase to potential customers and take their feedback.

Major Learning Outcomes: Core JAVA, SQL, Spring, Hibernate, JSP Servlets, JQUERY

Brief Description of working environment, expectations from the company: Overall our experience with the company was quite good. The environment here is very supportive and they try to accommodate the needs of every intern. Being from BITS Pilani you are treated well and their expectations are also accordingly high. We were provided with one week of lodging and had to undergo one month of mandatory training on certain technologies like Spring. After evaluation and asking your interests you are allotted to different teams and the work given to you is mostly development and you are expected

to perform on par with other employees. From the perspective of learning and career opportunities, this company is very good.

Name: Prashant Mishra

ID No: 2013AAPS067H

Student Write-up

Short Summary of work done during PS-II: Training: one and half months of training of spring /hibernate framework, we have created a sample of web application based on it. We were graded according to that and sent to different departments.

First task I was asked to create a customized tag file with its own CSS JS and TLD. It has to be created over their customized framework and this project took around two months and was successfully committed to their product. Then some of the issues or blockers were found out by testing team which were further resolved by me for next 10-15 days. Then second task i was given was to recreate the menu bar of their application and solve the overloading problem and UI problems in that. Finally, after two weeks i have committed the recreated new responsive menu bar for their product.

Tools used (Development tools - H/w, S/w): Maven, Eclipse, SVN Tortoise

Objectives of the project: -To look out the problems in the previous tag file and recreate according to the product team requirements.

Outcomes of the project: The project is now a part of the product

Major Learning Outcomes: CSS, TLD, JS, AJAX, JAVA, SPRING, HIBERNATE, learnt much about web development

Brief Description of working environment, expectations from the company:Environment differs from department to department in this company. Work pressure is too much in some department. HR policies are not firm, they themselves don't stand on their sayings.

Don't expect PPO from this company as they will first take full advantage of you through work as you are capable enough to work / sort their product problems but finally they may say your work was not up to the mark as expected, after completion of project.

I guess they understood the BITS year to year system of PS and they are thoroughly utilizing our capabilities by paying us small as an intern because they won't get this cheap labor for 6 months for their expected work from anywhere else.

Name: Sanket Ashok Thanvi

ID No: 2013A3PS204P

Student Write-up

Short Summary of work done during PS-II: Development of Enterprise Content Management, using advanced JAVA

Tools used (Development tools - H/w, S/w): IDE: Eclipse. Language: Advanced JAVA, JavaScript(JQUERY) , Tortoise SVN

Objectives of the project: To create a product for document management system (Ex: Loans)

Outcomes of the project: Version 1 of Product was almost developed for banking system.

Major Learning Outcomes: Bootstrap,SQL,Advanced JAVA(Spring and Hibernate),MVC.JQUERY

Brief Description of working environment, expectations from the company:Working environment depends on team. My Working environment was fine I would say better than I expected. At first timings might seem an issue (Weekly 45hrs and 7hr/day minimum), but it won't bother afterwards. While working here, you would get a feel of how products for banks are designed and various complexities in it.

Name: Divya Rai

ID No: 2012B3A8536G

Student Write-up

Short Summary of work done during PS-II: Added Right-to-left support in BIB (Business Internet Banking) Application for the company's clients in Middle East

UI development was done using Bootstrap, JSP, JQUERY and HTML/CSS.

Functionalities and Features of the same are:

- Right to left text-input fields
- Chosen drop-downs, tables, tooltips etc. in RTL format
- Horizontally-Flipped layout including dropdown main menu and side menu

Tools used (Development tools - H/w, S/w): JAVA, Spring, Hibernate, Bootstrap, CSS, HTML, JAVAScript, JQUERY, AJAX, MySQL

Objectives of the project: -The key focus of the project is to develop a way such that it automatically mirrors your site's content for Right-to-left languages whenever user switches the locale

Outcomes of the project: After the necessary changes being made, the application is able to support left-to-right environment for entering, editing, and displaying text.

Major Learning Outcomes: These 5 months have been a good learning experience for me. I got the opportunity to acquire various technical skills and expand my soft skills while working at Nucleus. I learned how to handle criticism with grace, which also built my confidence in a professional setting. I have also grown professionally through building a strong network with fellow Nucleus employees and interns. Web development is a growing field with lot of modern technologies being developed. During my internship, I had the freedom of learning about the ins and outs of these technologies along with some frameworks like Spring, Hibernate.

Brief Description of working environment, expectations from the company:Nucleus software is an amazing company to work with. It offers both technical and professional enhancement as one can learn lot of things here.It has a great work culture and good working environment.Mentors and managers are very polite and supporting. I expect the company to have consistency in its policies towards the selection process of interns for pre-placement offers.

Name: *Ayush Agrawal*

ID No: 2012B5A8504G

Student Write-up

Short Summary of work done during PS-II: During PS-|| we had to work on various technologies which include JAVA8, Hibernate, Spring, MVC framework, etc. First, we were given short training and then

teams were allotted. My work was in their product FinnOne which is a lending software. The work was challenging and had great learning opportunity.

Objectives of the project: Upgrade Bootstrap and JQUERY

Outcomes of the project: Upgraded Bootstrap from 2.3 to 3.3.7 and JQUERY from 1.7 to 2.2.4.

Major Learning Outcomes: The work given to me was implemented in their main product. I got to learn how a large-scale application is built and maintained. Since my work was in frontend, I got to learn various technologies used in frontend development.

Brief Description of working environment, expectations from the company: Working environment is good. The managers are good and supportive. There is a lot of work load.

Name: Anurag Malik

ID No: 2012B2A8515G

Student Write-up

Short Summary of work done during PS-II: First we started off with basic JAVA concepts like polymorphism, inheritance and abstraction etc. Then we moved on to learn database i.e. MySQL along with Servlets and JSPs. We built a maker-checker web-app using all these concepts. After that, we moved on to Spring and hibernate and rebuilt the web-app using these new concepts. Then our respective teams were allotted and we started off with the work. I was involved in FinnOne Loan Management System and built a file uploader with the help of Spring API which was used in their rescheduling engine. I also worked on making validations for excel files. After that I upgraded the existing versions of Bootstrap and JQUERY in the Loan Management System with the help of regular expressions in JAVA. Side by side I was also given a Business training about their existing product, database management, receipt and payment engines of the system etc.

Tools used (Development tools - H/w, S/w): Core JAVA, SQL, JQUERY, Spring, Hibernate, JSP

Objectives of the project: To make the file uploader a public utility (for intra-Nucleus depts.) and understand all the sub-engines of the loan management system

Outcomes of the project: Uploader has been merged successfully with the rescheduling engine of FinnOne Loan Management System. The work for its extension to support .csv and .xlsx files is under process.

Major Learning Outcomes: Core JAVA concepts, Spring, SQL

Brief Description of working environment, expectations from the company: Working here with Nucleus was totally a different experience all together. We started off in a learning environment where we were given proper training about the Core JAVA concepts, Spring etc. This was really beneficial because few of us were new to all these concepts and those who weren't, they also got a chance to brush up their concepts again. Everyday there used to be lectures that we had to attend and where learning was actually fun and after those we were given tasks/assignments to complete each day that we had to finish. In the beginning, we used to work from 9-5 and then we had an option of going to their rejuvenation center which has TT and pool tables along with carom, gym and some music equipment's. After 2 months of training, we were allotted our teams and we began our work. Work and life balance has to be maintained and that again depends on the team you are in. Some managers themselves leave by 5 and some start off their main work in the evening by 5 and work till late in the night. So, working hours is not something that is fixed in this company. Rest, everything was good, people are friendly and really helping and the best part is that it already has a lot of BITSians so it is definitely one of the very good PS stations that one can consider working in.

Name: *Shashwat Sinha*

ID No: 2013A8PS386P

Student Write-up

Short Summary of work done during PS-II: We had to work on various technologies include JAVA8, Hibernate, Spring MVC framework, Web Development, etc. First, we were given short training and then teams were allotted. My work was in their product FinnOne which is a lending software. The work was challenging and had great learning opportunities.

Objectives of the project: -Upgrade Bootstrap and JQUERY

Outcomes of the project: Upgraded Bootstrap from 2.3 to 3.3.7, JQUERY from 1.7 to 2.2.4 and other JQUERY Plugins.

Major Learning Outcomes: The work given to me was implemented in their main product. I got to learn how a large-scale application is built and maintained. Since my work was in frontend, I got to learn various technologies used in frontend development.

Brief Description of working environment, expectations from the company: Working environment is good. The managers are good and supportive. There is a lot of work load. Work-life culture is not well maintained here.

Name: *Harsh Yadav*

ID No: 2013A3PS317G

Student Write-up

Short Summary of work done during PS-II: Created Simulators for various Banking Messages which are an integral part of any Banking Transaction Software.

Tools used (Development tools - H/w, S/w): Core JAVA, Spring, Hibernate, Weblogic Servers, Tomcat Servers

Objectives of the project: Simulation Of Banking Messages

Outcomes of the project: Simulator Created for Different Banking Messages.

Major Learning Outcomes: JAVA Development Tools

Brief Description of working environment, expectations from the company: Nucleus Software Exports Pvt Ltd has both Bank lending and transaction software for the Practice School Program. I am in the Bank Transaction Software Department. Here I have worked on creating simulators for various banking messages which are an integral part of any banking transaction in core JAVA with the help of spring and hibernate. For simulators, I learnt and used a WebLogic and tomcat servers. The learning here at Nucleus Software Exports Pvt. Ltd is at par to the industry standards and the work culture is quite amicable. Regular meetings with the mentor and the team helped me learn about the process of the development of the various products and their review.

I think this exposure to the industry will definitely help me in my future endeavors. I learnt how to actively inquire into the progress of your own work and got feedback from team members and mentors to tone my skills and adapt to the changing demands of the project. This was an opportunity to learn

from everyone around, actively discuss and establish a network with professionals. Overall the PS-II has been a great learning opportunity and a very efficient exposure to the industrial applications of the technologies learnt.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS), Bangalore

Mentor

Name: Renjith Ravindran

Designation: Project Lead - Engineering

Work Done by intern include UI changes to make it HTML5 compatible and modelling process flow integration with OFSAA. Prefers interns with hands-on JAVA, JSP , SQL

Name: Seema Monterio

Designation: Project Lead - Engineering

Work Done by intern include enabling multibrowser compatibility of oracle's Data Management Tool by UI re- design. Prefers interns with hands-on JAVA, JSP, Oracle database

Name: Niraj Bhiswal

Designation: Team Lead - Engineering

Work Done by intern include creating user interface for exporting meta data from client database through connector definition functions. Prefers interns with hands-on JAVA, JSP, Oracle database and expects the right attitude to try the experiments to the next level

Name: Atam Prakash Bajaj

Designation: Software Engineer - Engineering

Work Done by intern include creating a JAVA parser solution to identify and list the dependencies between project module. Prefers interns with hands-on JAVA, JSP, Oracle database

Name: Arjun Ray Chaudhuri

Designation: Project Manager - Engineering

Mentor A white paper was presented internally at the OFSS by the intern stating the research result. Work Done by intern include a research work on decision tree analytics on financial data and constructing comparative interface for time series financial data analysis. Prefers interns with ability to learn given technologies with ease and think creative solutions

Faculty

Name: Raja vadhana P

Industry welcomes students with good professional attitude in approach, analytical problem solving skill, ability to learn and adapt to given requirement/project.

With respect to OFSS, its happy to welcome hands on skills on following technologies:

> JAVA

> Web Technologies - Scripting Languages

> Data base

> BPEL

> Data structures

> Machine learning

Student

Name: *Sai Teja K*

ID No: 2013A7PS034P

Student Write-up

Short Summary of work done during PS-II: Developed applications for metadata report and Connector definitions

Tools used (Development tools - H/w, S/w): KO, d3, require, OJET, JQUERY, JAVAScript, JAVA servlets, HTML5, JQUERY UI, AJAX

Objectives of the project: -Develop and application for meta data report and connector definition

Outcomes of the project: First project was completed and second is almost complete

Major Learning Outcomes: Code Optimization, Code development in modules, New technologies learnt

Brief Description of working environment, expectations from the company: The work environment was good. The mentor was very helpful in developing my skills and helped me in finding a good approach to solve the problems and tackle with the bugs.

Name: *Arth Patel*

ID No: 2013AAPS263H

Student Write-up

Short Summary of work done during PS-II: Client and Server side scripting.

Tools used (Development tools - H/w, S/w): Eclipse, Winscp, SVN, Text editor

Objectives of the project: HTML5 Conversion

Outcomes of the project: Web pages have been made multi-browser compatible

Major Learning Outcomes: Web Development

Brief Description of working environment, expectations from the company: Very chilled out work environment, you will be given work only if you show interest. Good place to learn as you can work as much as a full-time employee if you want to. Easy PPO.

Name: Sai Krishna Movva

ID No: 2013A7PS043G

Student Write-up

Short Summary of work done during PS-II: Designed and developed learning models for various business needs.

Tools used (Development tools - H/w, S/w): R Studio, R, WinSCP, SQL Developer etc.

Objectives of the project: -Develop more efficient learning models

Outcomes of the project: Random Forest models for various business insights

Details of papers/patents:White Paper

Brief Description of working environment, expectations from the company:Work environment was good. My manager was very helpful in guiding and developing my skills and helped me in improving my time management skills and functional knowledge.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS), Mumbai

Faculty

Name: Swarna Chaudhary

Software Tools Used: Hadoop, Maven, GitHub, Eclipse, Putty, Locus, JSON, Postman

Soft Skills: Ability to work in team environment, attention to details, adherence to timelines, good communication skills, promptness and timeliness

Students can prepare better by building basic concepts in topics such as Data Mining, Android Programming, DBMS (SQL Query Designing), JAVA Programming

Industry expect PS2 interns to have a learning attitude, and willingness to work hard. While industry people understand that students will not know everything beforehand, but expect students to learn quickly. Industry also expects sincerity and discipline from students.

Student

Name: *Sachin Kumar*

ID No: 2013A3PS280P

Student Write-up

Short Summary of work done during PS-II: Web application development, Eclipse plug-in development and GUI development

Tools used (Development tools - H/w, S/w): JAVA, Eclipse SWT, Rest API, Oracle BI publisher

Objectives of the project: -To create a report generation framework using Rest web service, and to make an eclipse plug-in for file upload template generation

Outcomes of the project: Eclipse Plug-in created and is forwarded to officials for a test run. The report framework is ready to be apt of the latest release

Major Learning Outcomes: PL-SQL, Rest API, Oracle BI publisher

Brief Description of working environment, expectations from the company: The company has an air of professionalism surrounding the working environment and the all the employees are hard working, helpful and welcoming.

Name: *Manoj Madabhushi*

ID No: 2012B1A7734H

Student Write-up

Short Summary of work done during PS-II: Repository/Dashboard creation, BI components onto ADF and repository merging

Tools used (Development tools - H/w, S/w): OBIEE tools

Objectives of the project: To merge repositories of two modules

Outcomes of the project: Repositories were merged

Major Learning Outcomes: Error debugging and database handling

Brief Description of working environment, expectations from the company:Working environment in OFSS is employee-friendly. Flexible work hours are the norm. Goal-oriented company that is fit to serve the current banking systems.

Name: Arjun Singh Ahluwalia

ID No: 2013A3PS273G

Student Write-up

Short Summary of work done during PS-II: In the first part of my project, I made an extension which saves quite a lot of time. In general, if you make changes on the task flow, to see its visual appearance you need to first deploy the task flow onto the server. This process takes time. With the help of the extension you don't need to deploy the file on the server, changes made will directly make changes in either the xml or xsl files, result of which can be seen by running xml file on the browser.

In the second part, I worked on the OBP TV. I edited php scripts to optimize searches to bring out suitable list of pages relevant to the search.

In the final part, I worked on OBP UI Development. I developed ADF task flows. With the help of wconf, I was able to generate projects. Files like jsf, handler, pagedef, taskflowdef, helper, utils, etc. were suitably coded in jdeveloper and eclipse to get the required UI display and HOST calls from the database.

Tools used (Development tools - H/w, S/w): S/w: Jdeveloper, Eclipse

Objectives of the project: -Jdeveloper Plug-in for ADF task flow and UI Product Development for Credit Monitoring

Outcomes of the project: This extension saves quite a lot of time. In general if you make changes on the task flow, to see its visual appearance you need to first deploy the task flow onto the server . This process takes time . With the help of the extension you dont need to deploy the file on the server , changes made will directly make changes in either the xml or xsl files , result of which can be seen by running xml file on the browser Credit Monitoring Dashboard product will enable bank users to monitor status of their accounts using parameters such as Facilities , Collaterals , Conditions & Covenants and Insurance . It will also enable the user to modify the information (if required) and update the same.

Major Learning Outcomes:JDeveloper SDK extensions , ADF Taskflows

Brief Description of working environment, expectations from the company:Very satisfied with the corporate experience and the project that OFSS, Mumbai has provided.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS) , Pune

Student

Name: Harit Yadav

ID No: 2013A7PS040P

Student Write-up

Short Summary of work done during PS-II: Initially I was given constant POCs to get experience with the technologies used in the development of the product OB Collections. After that I was given several bugs to fix during final testing of the release and was asked to make a map of the services used from UI to Business Services. Finally, I was involved in development of enhancements that are to be incorporated in the coming release.

Tools used (Development tools - H/w, S/w): JAVA, Oracle ADF on IDEs Eclipse and JDeveloper

Objectives of the project: -Bug Fixing

To Make A map of the services used from UI to Business Services

Enhancements that are to be incorporated in the coming release

Outcomes of the project: The given objectives were achieved

Major Learning Outcomes: Learned about the MVC architecture, how to do UI development on Oracle ADF and acquainted with Web Services.

Brief Description of working environment, expectations from the company:The working environment was very healthy. The seniors constantly encouraged us to ask questions and learn new things, we were to remain updated with the newest arrivals in technologies. I also got a view at how the development of a large-scale enterprise product happens.

Name: Gaurav Dahima

ID No: 2013A7PS169P

Student Write-up

Short Summary of work done during PS-II: For the first half, I worked on the Module Dependency Parser. I had to do the bug fixing and had to design a new TaskFlow parser. Technological knowledge required is basically JAVA only. On the second half of the PS I worked on the JMS (JAVA Messaging Service). I had to automate the transfer of messages from Backup queue to normal message queue. For this I learned how to configure JMS. Overall It was a great experience and my learning curve grows exponentially.

Tools used (Development tools - H/w, S/w): Eclipse J2EE , Oracle JAVA Developer, Oracle WebLogic Server

Objectives of the project: Bug fixing in the Module Dependency Parser and Designing the new TaskFlow Parser. After that worked on the JAVA Messaging Service.

Outcomes of the project: Fixed the Module Dependency Parser and integrated the new TaskFlow Parser in the existing parser. Automated the process of message transfer from Backup queue to message queue.

Major Learning Outcomes: Learned to work on such a large-scale project.

Learned to parse XML/HTML files.

Learned the asynchronous type of messaging in JAVA Messaging Service.

Brief Description of working environment, expectations from the company: During the course of Practice school, I got to work in a project which requires a lot of coordination from other team members. My team members helped me a lot in these issues. I got to know how a real time working environment looks like in a multinational company. Work culture is awesome here. Work timings are flexible here and moreover your peers are always ready to help you if you are having any problem. Overall this PS was a great learning opportunity for me where I learnt the industry standards for working and otherwise.

PS-II Station: Oracle India Pvt Ltd. , Bangalore

Student

Name: Shrirang Mundada

ID No: 2012B2A3718H

Student Write-up

Short Summary of work done during PS-II: Developed an automation framework for Oracle cloud platform. It was a wrapper around Oracle's IaaS (Infrastructure as a service) offering. It's similar to Amazon cloud formation (part of AWS).

Tools used (Development tools - H/w, S/w): JAVA, Jersey, Hibernate, Eclipse

Outcomes of the project: Project achieved all the specified objectives

Objectives of the project: Develop a wrapper around cloud platform to simplify and automate provisioning and configuration of compute resources.

Major Learning Outcomes: Learned about web development and enterprise software development in JAVA.

Brief Description of working environment, expectations from the company: Work environment and project details are team specific. For me it provided a perfect mix of challenge and work-life balance. Highly recommended station!

Name: Raghul Reddy Katpally

ID No:2013A7PS125H

Student Write-up

Short Summary of work done during PS-II: Develop Mobile application that answers voice or text based natural language queries about the Asset Monitoring data.

The Natural Language query will be converted to SQL query and sent to the Oracle IoT cloud services and executed in it. The result of the query will be brought back to the mobile app and displayed to the user

Tools used (Development tools - H/w, S/w):Android Studio, JAVA, Stanford Nlp, Apache Spark, Oracle IoT cloud services

Objectives of the project: Develop Mobile application that answers voice or text based natural language queries about the Asset Monitoring data.

Outcomes of the project: Mobile app was created, and natural language to SQL conversion done to some extent

Major Learning Outcomes: Android Development, Apache Spark, Natural Language Processing

Brief Description of working environment, expectations from the company: working environment was pretty good, managers were knowledgeable, teammates were helping when needed. Oracle organised an outing and hackathon for us, it was pretty fun experience. The work given was also very interesting. I got to learn new things.

Name: Suraj Naidu sambangi

ID No: 2013A7PS020H

Student Write-up

Short Summary of work done during PS-II: Public execution of selenium tests in Oracle cloud

Tools used (Development tools - H/w, S/w):Docker, Oracle container cloud service

Objectives of the project: Implementing the selenium test execution on Oracle cloud

Outcomes of the project: Completion of proof of concept of a working model of selenium test execution using container cloud service

Major Learning Outcomes: Developing cloud applications

Brief Description of working environment, expectations from the company: Working environment was Good.

Name: Nikhil Srinivas

ID No: 2013A7PS122P

Student Write-up

Short Summary of work done during PS-II: Writing an Automation JAVA code for Template and Stack Operations. Next, I worked on product standardization and configuration. It helped me learn product design thinking and apply it to the problem at hand. It also involved a lot of testing and troubleshooting work. This PS2 experience has been an important milestone in shaping my skills as well as approach to the work culture at a startup.

Tools used (Development tools - H/w, S/w): Postman Rest Client, Eclipse, Rest Assured API, JAVA, Shell Scripting

Objectives of the project: Main Objective of my project is To write a JAVA code which helps to simply Import, export Templates and Stacks (Services) on to PSM (Platform on which all the PaaS services are being provided to Customers)

Outcomes of the project: JAVA code for Implementing above operations is completed and I even tested the working of template and stack Operations. It is Integrated into the Hudson with their already existing code and also pushed onto git.

Major Learning Outcomes: Learned a Lot about PaaS (Platform as a Service).

Learned how to design code such that its easily readable and flexible to implement functionalities

Brief Description of working environment, expectations from the company: Overall the working environment of Oracle is really good, especially the freedom which company provides employees. Working place is quite spacious to work on.

Name: Vibhor Joshi

ID No: 2013A8PS511G

Student Write-up

Short Summary of work done during PS-II: The internship projects involved working on different aspects of the client side stack of the Oracle Financial Services Analytical Applications. The major part of the project involved working on UI, client side JavaScript, API and RESTful web service design using JAVA. In addition, software development practices like AGILE, SCRUM and version control were a part of the daily work.

Tools used (Development tools - H/w, S/w): Languages: JAVA, JavaScript, HTML5, CSS3

Software: Eclipse, SVN

Objectives of the project: Enabling Multi Browser Support for OFSAA

Outcomes of the project: OFSAA is now supported in all leading browsers. In addition, browser, specific quirks are handled. The Suite UI has also been update to a much sleeker design.

Major Learning Outcomes: The project dealt with all aspects of handling the client side stack of OFSAA.

Brief Description of working environment, expectations from the company: The R&D division in divided into several teams which handle different aspects like Application and Platform development. I was part of the Enterprise Modeling Framework team which worked on providing the platform for data modeling and creation of analytical models. As part of the team I worked on the UI for the platform, client side JavaScript to handle the different components of the platform and designed RESTful web services using JAVA and the jersey implementation of JAX-RS. In addition, I was exposed to software development patterns and practices like version control and nightly builds. The team used the AGILE software development strategy and the progress was monitored using regular SCRUM call and the JIRA tracking platform. The internship was focused on learning hence I got to interact with a lot of senior developers in order to understand the best dev strategies for work. My mentor and team members were very helpful and patient with me and helped me through the entire process.

Name: Yogesh Godhwani

ID No: 2012B1A3644G

Student Write-up

Short Summary of work done during PS-II: Extend the files API with HDFS File System Provider.

Migrate the Data Lens Tools from vb.net to JAVA. Our main aim was to create a wrapper around the org.apache API, so that the user only needs to use the java.nio.Files API for accessing and managing files in the hadoop distributed File System instead of using the apache API which requires the user to write lengthy commands to accomplish simple tasks. We, therefore integrated the apache and the Files APIs in order to auto-detect the HDFS scheme from the user and use the installed HDFSFileSystemProvider on

the machine to interact with the Files API and perform the standard files operations such as reading the file data, copying, creating directories.

Tools used (Development tools - H/w, S/w): JAVA, Hadoop, JAVA FX, EDQP.

Objectives of the project: Extend the files API with HDFS File System Provider.

Migrate the Data Lens Tools from vb.net to JAVA.

Outcomes of the project: Implemented HDFS File System Provider and extended the Files API for Hadoop file system too. Migrated the data lens tools in excel to JAVA based desktop application.

Major Learning Outcomes: Understanding the existing technologies.

Learning the new method of implementation.

Implementing the project with the new technology.

Brief Description of working environment, expectations from the company: The HDFSFileSystemProvider project is based on understanding the working of the apache APIs and how to link them with the existing Files API and to identify the equivalent methods for the HDFS File System.

The ramp up process surely helped in gauging the enormity of the project requirements. After having worked on this project for a little over two months now, I have made significant progress and am confident of being able to complete the project in time. As with any development process, the project requirements change from time to time and I believe I have been able to adapt and conform to them.

The EDQP Data Lens tools project helped me to understand the nuances and challenges involved in migrating an application from one technology to another. It helped me to understand application development in JAVA FX and the various UI elements required to display different types of data on the application. I also got to understand how to send network requests to the REST APIs and how to parse the response data received from them to display them in the application.

Overall, the internship at Oracle was a great learning experience and my mentors and managers were extremely supportive and helpful throughout the internship which helped to learn a lot throughout the internship.

Name: *Syam Sree Manoj*

ID No: 2013A8PS702G

Student Write-up

Short Summary of work done during PS-II: Created mobile app

Tools used (Development tools - H/w, S/w): Cordova framework

Objectives of the project: Display live tracking on maps

Outcomes of the project: Created app for both IOS, android

Major Learning Outcomes: JAVAscript, Node.js

Brief Description of working environment, expectations from the company: Work environment is very good and people over here are supportive. Oracle expect to have good coding skills in JAVA.

Name: *Anurag Panda*

ID No: 2013A7PS129H

Student Write-up

Short Summary of work done during PS-II: Improving the granulation in the provisioning of a service such that it can run step wise instead of end to end. This saves the overhead created in case of an error midway through a run and improves the flexibility and efficiency of the process.

Tools used (Development tools - H/w, S/w): vi editor, host virtual machine, testing virtual machine.

Outcomes of the project: GRANULATION OF ORACLE DATABASE EXADATA CLOUD SERVICE PROVISIONING

Objectives of the project: Successfully implemented the said objective in platform layer and merged it with the product code-base. This resulted in improved efficiency of the service deployment process.

Major Learning Outcomes: Database deployment in cloud infrastructure, database management and coding in Python and JAVA; convincing team members for approval, group discussions, and team co-ordination

Brief Description of working environment, expectations from the company: The work environment is highly supportive for interns as they are treated similar to regular employees. Everybody in the team is highly cooperative and help out whenever needed. The timings are extremely flexible and working from home is permitted. The expectations are mapped out into weekly timelines to which you need to commit and present progress emails at the end of the weekly cycle.

Name: Nancy Nigam

ID No:2012B1A3646G

Student Write-up

Short Summary of work done during PS-II: I was assigned two projects during my internship at Oracle.

My first project was Enhancement of tests of JAVA.util package and JAVA.text package related to Internationalization which were using deprecated APIs and data structures and replacing them with the latest available option. Also, using Generics, Streams, Lambdas, Autoboxing /Unboxing, Varargs, Enums etc. in the code to make it more efficient.

My second project was Development of a stand-alone application demonstrating key I18N features using JAVAFX. The application could detect word, character, line and sentence boundaries in a text, detect directionality of a given text (LTR or RTL) and sort a list of strings, all according to the rules of selected language .

Tools used (Development tools - H/w, S/w): JAVAFX, Jtreg , Webrev, IntelliJ

Objectives of the project: Project1 : Code maintenance.

Project2 : Showcasing key I18N features graphically.

Outcomes of the project: Project1: Enhancements have been pushed and will be reflected in JDK-9

Project2: Application could be used to demonstrate the I18N features across different platforms

Major Learning Outcomes: Streams,Lambda's,Generics,Data structures,JAVAFx,CSS

Brief Description of working environment, expectations from the company: The working environment is fun and flexible. There are no fixed working hours. There are a lot of learning opportunities and not much work pressure so can learn and implement at our own pace. It's extremely important to know

JAVA as most of the work here is done in JAVA especially for the JDK team. Overall, it's a nice place to work.

Name: Sai Harish Balijepalli

ID No: 2013A3PS441H

Student Write-up

Short Summary of work done during PS-II: Work was mostly related to improvising and enhancing the existing company product performance and functionality wise

Objectives of the project: Optimize various functionalities of Oracle products

Outcomes of the project: Performance wise improvised versions of product and some added functionalities

Major Learning Outcomes: I got to know how complicated things can get when working on a standard product. I worked on current technologies for development of applications which gave me a huge boost in both the learning and experience perspectives.

Brief Description of working environment, expectations from the company: Working environment was pretty cool. Peers helped a lot and they are very informative. It was exactly as what I expected it to be. Overall it is a wonderful experience to work as an intern here.

Name: Krit Goyal

ID No: 2013A3PS283P

Student Write-up

Short Summary of work done during PS-II: Build POC for front end migration from ADF to JET for PBCS Application, build custom REST APIs, generate API documentation using Swagger, perform Compliance checks on APIs

Tools used (Development tools - H/w, S/w): JDeveloper, Swagger UI

Objectives of the project: Build POC for front end migration from ADF to JET for PBCS Application

Outcomes of the project: Standalone listing page component

Major Learning Outcomes: JS, CSS, Swagger usage, importance of other tasks than just writing code

Brief Description of working environment, expectations from the company: The working environment is relaxed. All the people here are very patient and willing to help out in any form. Everyone is afforded the same respect from an intern to the top management. The seniors don't interfere, but help out wherever needed and trust you to complete the task assigned within the given time.

Name: Sravan Kumar Menthula

ID No: 2013A7PS003H

Student Write-up

Short Summary of work done during PS-II: In my period of my internship, I have worked on 2 major projects, titles being:

- 1) Data Model Platform - performance enhancement through converting the JPA into JDBC.
- 2) Swagger Documentation.

Objectives of the project: 1) To enhance the performance of the Data model platform by transforming the JPA into Native queries i.e. JDBC.

2) Swagger Documentation: i.e. To incorporate the swagger annotations to the REST APIs and generate the swagger documents and deploy on the server and make them available to the client.

Outcomes of the project: The Performance of the platform has been increased by the factor of 2.5

Major Learning Outcomes: I have learnt quite a lot of new technologies. Grabbed the knowledge on, JPA -JAVA Persistence API, EJB - Enterprise JAVA Beans, Web servers, EAR, WAR, REST APIs

Brief Description of working environment, expectations from the company: Well, Oracle is great place to work especially for a fresher or an intern. In my case, I was very fortunate to have a great team, they have helped me in the initial stages where I couldn't understand anything. They gave me sufficient time to understand and learn the required concepts and technologies prior jumping into the actual project. Expectations from the company are also reasonable enough, depending upon the expectation they had, they gave the intern the appropriate resources and time to do so.

Name: Ashwini Patil

ID No: 2013A8PS508G

Student Write-up

Short Summary of work done during PS-II: We built a text classifier application that extracts features from plain text in order to categorize it. This categorization saves time for the company to handle the large number of Service Requests that it gets on a daily basis. We used NLP and ML to achieve this.

Tools used (Development tools - H/w, S/w): JDeveloper, SQLDeveloper, Weka, JAVA, PL/SQL

Objectives of the project: To build a text classifier application

Outcomes of the project: We built an application that categorizes plain text documents.

Major Learning Outcomes: Databases, how companies build software, different API implementations of similar applications

Brief Description of working environment, expectations from the company: Working at Oracle has been quite interesting. There were no time restrictions, we could come and go at any time as long as we got our work done. We stayed in the office late a couple of times because the work was so interesting we couldn't get ourselves to leave without solving the problem first. My manager was very supportive. He helped us whenever we got stuck on something and encouraged us to explore and learn as much as possible. My team members were also very helpful. I could count on them to patiently solve any problem I got stuck on. Our PS instructor was also very nice, and we had a good time overall. There were team lunches and interns outings during the course of our internship, and it was a fun experience. We started off the internship doing research on how to go about implementing algorithms to classify text. We also did research on how NLP works and how it could be used to extract the gist of any text provided to us. We implemented the algorithms in open source and Oracle software and compared results. This was all done in JAVA. We then implemented it within the Oracle database, and cut down on processing time. Simultaneously, we recorded stats for each API implementation. By the end, we handed over our work to the team who would continue the project after we left. I learned a lot in PS2 and it was definitely an enriching experience.

Name: Aditya Singh

ID No: 2013A7PS098G

Student Write-up

Short Summary of work done during PS-II: Developed performance analyzing and interpreting tool for easy visualizations of thousands of call stack traces generated in any software event which help in finding any bottlenecks in its performance

Tools used (Development tools - H/w, S/w):Jdeveloper

Objectives of the project: Building call stack profiler

Outcomes of the project: Successfully constructed required software

Major Learning Outcomes: JAVA

Brief Description of working environment, expectations from the company: Good opportunity to learn and grow. Ample amount of time to learn and implement the same

Name: *K DEEPAK*

ID No: 2013A3PS406H

Student Write-up

Short Summary of work done during PS-II: Designed a User Interface for Monitoring tool which gets data via RESTful Web Services

Tools used (Development tools - H/w, S/w):Oracle JET, NetBeans, Eclipse

Objectives of the project: To observe the trends of testing tool for a specific period of time via a User Interface

Outcomes of the project: User Interface to observe the trends of results of testing suite

Major Learning Outcomes: Oracle JET, RESTful Web Services

Brief Description of working environment, expectations from the company: They encourage to self-learn. They support you to work with your own pace.

Name: *Abhinav Mittal*

ID No: 2012B3A7479G

Student Write-up

Short Summary of work done during PS-II: My work was to certify Enterprise User Security and implement SCIM REST services for OUD

Objectives of the project: To make OUD SCIM compliant

Outcomes of the project: I completed various implementations of operations.

Major Learning Outcomes: You get to learn how to debug, understand the workflow and do some concrete coding to implement the operation required

Brief Description of working environment, expectations from the company: The timings are flexible. The work is good but not too hectic either.

They treat you like normal employees which is the best part

Name: Manoj Chandra

ID No: 2013A7PS030G

Student Write-up

Short Summary of work done during PS-II: I had to develop an application which monitors the Live Occupancy and Usage of Conference Rooms based on the data obtained from Motion sensors in the Conference rooms and also enabled the booking of Conference rooms in my application. Its really an amazing journey in building this application from scratch all by myself.

Tools used (Development tools - H/w, S/w): Motion Sensor, raspberry pi, Tomcat, Mongoddb...

Objectives of the project: Check availability and book room/facility straight from your Desk/Phone - manage space & resources smartly.

Outcomes of the project: Live availability and complete statistics of Usage

Major Learning Outcomes: Lot learned about new technologies like Rest api, Ajax, JavaScript and deep learning in JAVA

Brief Description of working environment, expectations from the company: The working environment was really great. Our team of manager and mentor in my project have helped me in all the milestones of my project. Guiding my thought process and helping me in solving issues whenever I got stuck. Its really a great experience working here.

Name: Murali Krishna

ID No:2013A7PS026H

Student Write-up

Short Summary of work done during PS-II: Most of the work was on data mining, machine learning and information retrieval , had to know at least basics on these lines. Text mining was the study that we were doing.

Objectives of the project: To create an application to mine text

Outcomes of the project: Research on how the algorithms work and improvisations to improve mining model

Major Learning Outcomes: Using new API's out of blue

Creating and using pl/SQL packages, How customizations and tweaks have to be made to improve an application's performance

Brief Description of working environment, expectations from the company: The working environment is excellent, no time constraints (but deadlines have to be met no matter how much time u spend). Its excellent to join in this company as a fresher. Got a lot better after this internship as per the coding terms. PPO depends only on team vacancy and head count.

Name: Harshit Sandhir

ID No: 2013A7PS115P

Student Write-up

Short Summary of work done during PS-II: A robust software which can be used to set up any cloud service easily by just providing a Json file called blueprint. The blueprint is a shareable template which

contains the specifications as per which the cloud service should be set up on the virtual machine. It controls the lifecycle operations of the machines such as creation, deletion, re-submit and patching. It has additional tools which help set it up and the virtual machine with the required specifications. It is currently in patching phase and is going through many improvements to make it more dynamic and robust. The different key assignments undertaken have helped the project in many ways such as reduce total time taken, improve efficiency and productivity and setup different cloud services easily without much effort from end user.

Tools used (Development tools - H/w, S/w):Eclipse and Oracle Linux

Objectives of the project: The objective is to create a software which bootstraps on the underlying Cloud infrastructure and sets up the required virtual machines with the required configurations as per the cloud service requirements.

Outcomes of the project: The software achieves full automation of creation, deletion and maintaining the lifecycle of the virtual machines.

Major Learning Outcomes: Hands on experience with cloud based applications with their usage as well as coding experience.

Brief Description of working environment, expectations from the company: An excellent conducive working environment with stress on gaining knowledge and implementing it rather than doing things mechanically. A very friendly atmosphere without much formalities, however deadlines are expected to be met on time. Work hours are neither long nor short, however it might be expected to stay longer on few crunch days.

Name: Viplove Paliwal

ID No: 2013A3PS314P

Student Write-up

Short Summary of work done during PS-II: My first task was enhancement of WebView test application. I added two test applications to analyze memory consumption of WebView and to analyze performance of JavaScript engine of Web Kit.

Tools used (Development tools - H/w, S/w): JAVA, JAVA FX, Python, Gradle

Objectives of the project: 1) Improve WebView test application to have more WebView functionalities.

2) Add a reliability test to test top websites which outputs result summary in graphical format.

3) Add a JavaScript Core performance test which outputs result summary in graphical format.

Outcomes of the project: 1) Enhanced Hello WebView: WebView test application in the OpenJFX repository.

2) Added a reliability test to analyze memory consumption of WebView API of JAVAFX.

3) Added test to analyze performance of JavaScript engine of WebKit.

Major Learning Outcomes: UI development, Performance analysis, reliability testing.

Brief Description of working environment, expectations from the company: The working environment was very good and the team mates and manager were very helpful.

Name: Anubhav Dua

ID No: 2012C6PS705H

Student Write-up

Short Summary of work done during PS-II: I worked on a product named "Planning and Budgeting Cloud Service". The purpose of my project was to analyze the feasibility of a possible migrations from the current ADF technology to a newer JET technology for its Dashboards. I created and demonstrated several PoCs (Proofs of Concepts) to show that such a migration is possible and would leave the company with production ready code.

Objectives of the project: To analyze the feasibility of migration to a new technology

Outcomes of the project: Successful in proving a possible migration of PBCS Dashboards to JET

Major Learning Outcomes: Web Technologies, Full Stack Development

Brief Description of working environment, expectations from the company: Oracle has a comfortable working environment with independence of thought. They have all the facilities one can ask for. Given the company is going through a pivot right now, one can expect most teams to be working on cutting edge technology.

Name: *Rajula Harish Kumar Reddy*

ID No: 2013A7PS106H

Student Write-up

Short Summary of work done during PS-II: The advent of new information sharing technologies has led society to a scenario where thousands of textual documents are publicly published every day. The existence of confidential information in many of these documents motivates the use of measures to hide sensitive data before being published, which is precisely the goal of document redaction or sanitization. Automating Named Entity Recognition is a step to redaction. Done a lot of research on using Machine Learning to recognize terms. Implemented them in tools like Python NLTK, Mallet, Stanford NER, Factorie and trained them with own data to create own model. tested them and compared the results. Added a new entity other than what was already there in the Mallet and Stanford NER.

Tools used (Development tools - H/w, S/w):Mallet, Stanford NER, Python NLTK, Factorie

Objectives of the project: To recognize named entities in unstructured data and further apply document classification and then redaction

Outcomes of the project: Learnt more about Machine learning algorithms and also the effort that goes into a new product designing and building

Major Learning Outcomes: Team building, Soft skills, Ways to approach a new problem

Brief Description of working environment, expectations from the company: Company expects the employee to be more expressive. Even though the idea or the thing he/she is speaking about is not much of relevance or well formed, they want him/her to first speak up about it.

Name: *Chava Bhavitha*

ID No: 2013A7PS058H

Student Write-up

Short Summary of work done during PS-II: Enhanced the configuration tool by adding a resource type container support to the product which acts as a proxy server that converts LDAP requests to SCIM requests and vice versa. Worked on automated verification of the server's functionalities with the help of unit tests and integration tests. Also, worked on improving the code coverage of the core code using jacoco tool.

Tools used (Development tools - H/w, S/w): JAVA, groovy, Spock, jacoco, ant, XML, JSON, postman plugin for making the REST calls.

Objectives of the project: Enhancement of configuration tool of a proxy server by introducing one level hierarchy to the flat hierarchical structure of SCIM. This improved the efficiency of the product. Automation of the verification of the server functionalities to prevent regression. Improvement of code coverage using JAVA code coverage tool to ensure that all the lines of the code is getting validated.

Outcomes of the project: Great learning in addition to that we have learned in our academic courses. Practical application of what we have learnt. This PS has provided a very good software industrial exposure. Improvement in my programming skills as well as soft skills is quite noticeable.

Major Learning Outcomes: I've almost learned everything from scratch starting from LDAP and continuing with SCIM, JNDI, end-to-end testing, groovy unit tests, mocking, writing Integration tests, JAVA code coverage, to understanding the very core functionalities.

Brief Description of working environment, expectations from the company: The work timings were really flexible. I found the work being quiet interesting day after day. Everything contributed to a new learning. I've got an immense support and guidance from my team which helped me to improve myself both knowledge wise and personality wise in the past few months. The work we do in this internship contributes to our PPO chances if we have a good feedback from the manager in addition to the availability of team openings.

PS-II Station: Oracle India Pvt Ltd. , Hyderabad

Faculty

Name:Gopala Krishna Koneru

Student

Name: *Mehran Ali Banka*

ID No: 2013A3PS001P

Student Write-up

Short Summary of work done during PS-II: Worked on Oracle Transport Management Cloud(OTM). Developed a Diagnostic Viewer application to allow end users to review their as well as OTM Engine's decisions about bulk orders Using Oracle ADF. The basis for the application was converting a raw unreadable log file into a proper tree Data Structure where each level indicates a step-in order planning. Some more functionalities such as filtering, auto suggest search and statistical analyzer were also added to improve user experience. All the business logic was implemented using JAVA and managed beans and rendered using ADF UI Components.

Tools used (Development tools - H/w, S/w): Eclipse IDE, Eclipse MAT, Jdeveloper, Jrockit.

Objectives of the project: To Enhance Oracle OTM Diagnostic Framework Using ADF

Outcomes of the project: Completed the application by the end of the internship.

Major Learning Outcomes: Leaned about Software development, design, Time Optimization, Memory optimization.

Brief Description of working environment, expectations from the company: The work environment was great and my mentors and manager were very accessible and helpful. My work was constantly checked upon and I was treated like an employee. Overall, It was a very good learning curve.

Name: *Peddi Kavya Sree*

ID No: 2012B1A8729H

Student Write-up

Short Summary of work done during PS-II: My PS 2 was good learning experience. First two weeks were spent in getting to know the team and understanding the kind of work. We had brief sessions on the product and its working details by our colleagues. Then all the interns had 2 weeks training on JAVA and ADF which are the common technologies expected to be used for our projects. Then we had a learning phase where they gave us reading material to go through and gave small tasks each day to progress with

understanding. Then I have been assigned a project on Unit testing their product. Next few weeks for understanding the requirement. HCM Data Loader helps in integrating the data from other sources into Oracle Fusion. The working of the data loader and main processes involved are transfer, import and load. The business objects involved and structure of files for loading the data is different for different objects. JUnit is a unit testing environment which tests the output of the code before implementation. The need for JUnit creation and how it helps in easy debugging is understood. Out of the three-main process that occur during loading data through HDL, transfer is the first one. Unit tests for this transfer process are created. These tests are independent of object being used. Also, a generic way of validating new cases with minimal input parameters has also been implemented using the concept of inheritance and further scope of the project is to continue this for other processes.

Tools used (Development tools - H/w, S/w): Environment used - JDeveloper

Software tools - JAVA, JUnit

Objectives of the project: HCM data loader is the utility which helps in loading bulk data into Oracle Fusion. Exhaustive unit testing for the processes involving in the data loader and testing all the validations performed in order to help in easy debugging and developing the product further.

Outcomes of the project: This Unit testing helps in maintaining the product efficiently and easy debugging of the product.

Major Learning Outcomes: Technical skills, Integrity, Team work, Professional Behavior.

Brief Description of working environment, expectations from the company: Friendly working environment. Team mates are more than willing to help us.

Name: *Satya Pavan Lingam*

ID No: 2013A7PS150P

Student Write-up

Short Summary of work done during PS-II: Development of data (.dat) file generation utility which is used for functional verification of stage/Test Instance of HCM Data Loader after applying the patch bundle to it.

Tools used (Development tools - H/w, S/w): Application Development Framework(ADF)

Objectives of the project: After a patch bundle was applied to test instance, the customer has to check for functionality manually. In case of HCM data Loader, all the different types of dat files used by customer have to be generated and verified in the test instance. The whole process is time consuming and tiresome and requires a lot of resources.

To avoid resource wastage, the whole processes have to be automated. This can be achieved by developing a utility such that it generates the data files (.dat) automatically and loads them into HCM data loader, verifies the functionality and generates the report.

Outcomes of the project: Reduction of time wastage for testing the instances of HCM Data Loader.

Major Learning Outcomes: Deep understanding of SQL && database systems, JAVA acquaintance with ADF.

Brief Description of working environment, expectations from the company: Working environment is good . mentor and manager have been very supportive and helpful.

Name: *N.D.SHARATH*

ID No: 2013A7PS150H

Student Write-up

Short Summary of work done during PS-II: The objective of the project was to build a mobile application for dynamic data visualization. That is enabling user to choose the data that has to be visualized, in the format, he wants to visualize it in and also displaying it in the position/order he chooses, thereby giving more control to the user.

When the user selects the data, and submits it, the remote database is queried and the result is then used to populate and display the graph in the format and position specified by the user.

The tools used to achieve this are - Jdeveloper 12c IDE - ADF, MAF, Oracle Database. The business logic was implemented using JAVA and Oracle SQL.

Tools used (Development tools - H/w, S/w): Oracle Jdeveloper 12c -Mobile Application Framework , Application development framework, Oracle Database

Objectives of the project: The objective of the project was to build a mobile application for dynamic data visualization.

Outcomes of the project: Created a Mobile Application that enables user to-select the tables from which data has to retrieved, choose the format (Pie/bar/line chart) to visualize data, select position in dashboard to display the chart.

Major Learning Outcomes: Learnt about the working of the company.

Technical Knowledge-

Worked with JAVA and SQL language and learnt how to write clean, efficient code.

Worked on Jdeveloper to Use MAF,ADF,Oracle Database and also learnt about RESTful Web Services.

Was able to polish my social skills

Brief Description of working environment, expectations from the company:

Working in Oracle India Private Limited (Hyderabad) was a very good experience. The working environment was positive and I was able to learn a lot of things. We had training sessions on JAVA and ADF before the projects were assigned to us. The Managers, Mentor and employees were very supportive and helpful. The project given to me was to build a mobile application for dynamic data visualization. Besides what was taught in the training I had to learn Oracle MAF and RESTful Web Services as prerequisites to start working on the project and I was given necessary support and resources for doing the same. I met frequently with my mentor and manager to review the progress in the project and also to clear doubts regarding it. The project was interesting and challenging, and improved my technical skills. Besides technical knowledge, I also got an idea of the working of the company. I was also able to improve my social skills. Overall, the PS-2 program at Oracle was very productive.

Name: Parsaviswa Sai Nikhil

ID No: 2013A7PS113H

Student Write-up

Short Summary of work done during PS-II: Oracle FUSION is a cloud based enterprise resource planning application of which Human Capital Management (HCM) is one of the sub-products. As this is a cloud application, there is a need for integration with on-premises applications for which HCM Data Loader tool is widely used. Data is to be loaded as a DAT file with a specific format onto the cloud. But if data is

provided by some third parties to the customer, there is a need to change this format to that of the specified format. In order to automate this, an utility tool is built which uses a configuration file to convert any input file into the required format specific DAT file. Advanced features include validations and defaulting values for which same configuration file can be used. Later these DAT files can be uploaded onto HCM cloud using HCM Data Loader tool.

Tools used (Development tools - H/w, S/w): JDeveloper

Objectives of the project: Build a utility tool which can convert any input file into a respective output file with a specified format given by a configuration file

Outcomes of the project: A tool is built where input files like a CSV or XML file with data can be converted into an output file (DAT file) specific to the given format provided by the configuration file. Data can also be defaulted and validated before writing it to the output file where the valid and default values are given in the configuration file

Major Learning Outcomes: Understanding of Databases, SQL, JAVA, Oracle Applications Development Framework (ADF), XML, XSL (Stylesheet Language for XML)

Brief Description of working environment, expectations from the company: It is a great environment to work where one is expected to do the work given to that person on time. Mentors and other colleagues are very approachable.

Name: *Aditya Jindal*

ID No: 2012B4A3818H

Student Write-up

Short Summary of work done during PS-II: Oracle Business Activity Monitoring analyzes information and data before, during and, after business events. It provides real time matching, trend analysis, rolling-window computation, and both static and dynamic thresholds.

It has a build-in continuous query language engine evaluates incoming event streams against business requirements and data patterns of interests.

We can define these patterns using with easy to use business query and key performance indicator templates. Based on these patterns we can implement variety of alerts and actions. Oracle BAM

provides a variety of visually effective and easy to read dashboards for all major components of Oracle Business Process Management (BPM) and Oracle Service Oriented Architecture (SOA).

With the adoption of Oracle Application Development Framework, Data Visualization Tool (DVT) components, Oracle BAM provides us with various visualization components to add to our dashboards.

Tools used (Development tools - H/w, S/w): S/w - JAVA, SOA, Oracle ADF, Oracle BAM

Objectives of the project: Updating the Oracle Fusion Middle Ware Order Orchestration User Interface to work in real time using Oracle Business Activity Monitoring.

Outcomes of the project: The current graphs of Fusion Order Management which shows order status and errors are changing in real time preventing the employees from refreshing them again and again.

Major Learning Outcomes: Learnt about how Business Intelligence support growing management issues that organizations face. Learnt about Oracle Business Activity Monitoring, how to make interactive dashboards, proactive alerts. Also, learnt about service oriented architecture and Oracle application development framework.

Brief Description of working environment, expectations from the company: Work environment of oracle it very friendly and open. Even the managers insisted us not to call them sir/ma'am. Employees are very helpful, they almost never turn you down when you need something.

Name: *Daripineni Phani Teja*

ID No: 2012B3A7596H

Student Write-up

Short Summary of work done during PS-II: Developed a design page with certain functionalities which will be implemented in the new Spreadsheet data loader functionality.

Tools used (Development tools - H/w, S/w): Oracle ADF (Application Development Framework)

Objectives of the project: Objective was to develop the user interface with certain functionalities for the new functionality about to be implemented in the product.

Outcomes of the project: The design page created by us will be used in the future when the multi-tab model of the spreadsheet data loader is ready.

Major Learning Outcomes: Learning the framework and understanding the functioning of an organization

Brief Description of working environment, expectations from the company: Working environment is great. People around will always help.

Name: Rahul Vemula

ID No: 2013AAPS244H

Student Write-up

Short Summary of work done during PS-II: Initially, I was given a work to develop a new feature for Oracle Cloud Commerce which converts JSON hyper schema to Swagger metadata schema for documentation of the endpoints API. I have studied how the REST API, swagger works and its part of OCCS. Then I have developed a JAVA class which converts the endpoint docs. Then I have tested the developed feature with various scenarios and found various bugs and fixed them. After the new feature, had been integrated to the main software, I was asked to study how the main software works and fix the bugs assigned to me in the main software by learning the about the various technologies used in it.

Tools used (Development tools - H/w, S/w): Eclipse, JAVA, Jira, KnockOut JS, REST API, Swagger 2.0

Objectives of the project: The main objective of my project is to learn how Oracle cloud commerce services work and understand the technologies used in the development of the software and fix the bugs. The secondary objective is to develop a new feature which converts JSON hyperschema to Swagger metadata schema for documentation of the endpoints API.

Outcomes of the project: A converter which converts the JSON hyperschema to Swagger metadata schema and a various bug fixes for the software.

Major Learning Outcomes: I have learned how a software is developed with methodologies like Agile, waterfall. I have earned a good knowledge in JAVA, REST Api, Swagger. I have understood how Oracle Cloud Commerce works as a software.

Brief Description of working environment, expectations from the company: My overall experience at Oracle is excellent. When I first joined this company about five months ago, I am new to the software

company but the peers here have been very helpful. Initially, I was given a work to develop a new feature for Oracle Cloud Commerce which converts JSON hyperschema to Swagger metadata schema for documentation of the endpoints API. For the first two weeks, I have spent most of time in studying how the software works and what is the use of REST API in a software and understood them. Then I have started developing for the feature they have asked me for. I have got a great support from my mentor and peers who have helped me in studying and understanding the project. On a whole, it was a great experience where I just didn't learn how to code or test but learned about expert guidance, apprehending new technologies and their developments and building a character. The most of the project, I was not given the clear-cut vision about some of the technologies and the development and I had to research about them to understand which was of a great use which not just only used for that project but also used for a common learning about the technologies and the trends. We also had some leader speaker series in which we had a tele presence conference with the other interns and a professional from Oracle, who discussed on various trend in software and technologies. Later when the swagger project was completed, I was given the work of fixing various bugs in the software. Fixing bugs involves studying and understanding the code already written and find the code which is causing the bug and fix it. It has added a lot to my knowledge. I was able to learn a lot of new concepts and standards, overall it was an enriching experience interning at Oracle.

Name: Kona Dhirane Satvik

ID No: 2012B4A7691H

Student Write-up

Short Summary of work done during PS-II: TEST AUTOMATION USING OATS AND NOTIFYING ADF APPLICATIONS FAST AND LEAN USING DATABASE QUERY RESULT CHANGE NOTIFICATION. DEVELOPING FUNCTIONALITY OF UNIFIED DASHBOARD INFOLETS IN ORACLE FUSION WEB APPLICATION.

Tools used (Development tools - H/w, S/w):OATS,QC,JDEVELOPER,LINUX

Objectives of the project: NOTIFYING INFOLETS IN FUSION WEB APPLICATION OF DB CHANGES WITHOUT USER EXPLICIT QUERY

Outcomes of the project: MADE USER KNOW THAT DB CHANGES ARE PENDING IN FUSION WEB APPLICATION AND TRACKED THE ENTIRE EVENTS OVER THE WHOLE ARCHITECTURE.

Major Learning Outcomes: GETTING A DETAILED UNDERSTANDING OF THE WHOLE EVENTS AND THEIR PROGRESSION THROUGH THE TIERS OF ADF AND IMPLEMENTED THE SAME ON FUSION WEB APPLICATION

Brief Description of working environment, expectations from the company: WORK ENVIRONMENT EXCEEDED EXPECTATIONS OF ME SINCE I WAS A PART OF TEAM FROM THE FIRST WEEK.PROJECT STRUCTURE IS VERY WELL DEFINED AND PROGRESS IS WELL MONITORED.CREATED A PLATFORM FOR STUDENTS TO MAKE USE OF THE TOOLS AVAILABLE AND DEVELOP BOTH TECHNICAL AND COMMUNICATION SKILLS.DAILY SCRUM MEETINGS RESOLVE MOST OF THE ISSUES THAT ARE PENDING.OVERALL A VERY GOOD LEARNING EXPERIENCE.

Name: Mohit Singh

ID No: 2013A8PS397P

Student Write-up

Short Summary of work done during PS-II: Automation of Document-Set generation is important to reduce the time and labor invested in the current process in work. The user interface is to be designed by encompassing the features of advanced Application Development Framework and those of Oracle Business Rules. The main objective is to create a custom Document-Set which fully incorporates all the consumer requirements using just the information about the sales order and inventory database of the company.

Tools used (Development tools - H/w, S/w): Application Development Framework, JAVA, Oracle Business Rules, Visual Information Builder

Objectives of the project: In the process of shipping an order, several documents are required to be shipped alongside the product. The number and type of these documents solely depends on the requirements of the consumer.

The objective of the project was to find and implement means to automate this process and submit the Document-Sets (set of documents required for an order) at the time of ship-confirmation.

Outcomes of the project: A prototype rule based User Interface was successfully developed using Oracle Business Rules and Visual Information Builder. The idea was to prove that an existing technology can be

used to develop this User Interface and achieve the above-mentioned objective. This was proven with the prototype application.

Major Learning Outcomes: Oracle Technologies: Opportunity to learn technologies used in oracle (Application Development Framework, Oracle Business Rules , Visual Information Builder).

Professional Collaboration: Opportunity to work in collaboration with professionals. The project demanded a working understanding of new technologies not commonly used in the Logistics department. I got to interact with many employees and gathered their experience to move forward.

Working of the Company: Opportunity to learn the working of the Logistics department, moreover the working of the Shipping section of Logistics.

Brief Description of working environment, expectations from the company: The working environment of the company was excellent, everyone was helpful and supportive. At every point of time, my mentor was there for any assistance I required. The overall experience was very nice, it was easily better than any expectations I had from an IT company.

Name: Khaja Ausafullah

ID No: 2013A7PS001H

Student Write-up

Short Summary of work done during PS-II: PS - II provided me an opportunity to put my theoretical knowledge into practice. It gave an industrial exposure and an experience of the real world scenario suitable for my technical background. After having spent duration of five and a half months at my PS - II station, Oracle India Pvt. Ltd., I can positively say that I have gained a lot of confidence and expertise to face the challenges in the industrial world.

The first few weeks were filled with anxiety as everyone was new. Since my team is filled with experienced people and only one fresher, every conversation was a learning in itself. There is a lot of emphasis laid out on grooming newcomers. Even the higher line managers spend a decent amount of time talking to interns and learning about our experiences with the view of making it better for us and the company. The career advice that I have received from my mentors and manager have given me valuable insights into what my strengths are and what I should be focusing on. There are some things

that can be incorporated in our academic courses - especially the disciplinary electives - as projects which require students to use the toolkits that are employed in the industry. It will be interesting to have an academic project that goes through the cycles followed in the industry - design, development, testing, documentation, deployment.

My PS II project was "Releasejango" a tool to do label level validations, which gave me an exposure to both front-end and back-end development. My learning began with brushing up of complete basics of Web Development that is, HTML, CSS and JavaScript which involved some UI enhancements in existing tools. Back-end development was in python and Django web framework (which was completely new to me) assistance from my mentor helped me understand it a bit faster. Initially coding for even a small task took quite some time until I got used to it. As my understanding increased I learnt a lot thing like code optimization, and looking for loopholes in the current code. I was able to point put my own mistakes while coding and correct them immediately. This gave me a lot of confidence. I also learnt to work in a team and be able to estimate my own progress as we had to constantly provide ourselves with practical deadlines. The valuable experience I gained by working has definitely enhanced my knowledge base to great extent and has improved my future career prospects by gaining valuable industrial experience.

Tools used (Development tools - H/w, S/w): Python, Django, Oracle SQL, HTML, CSS, JavaScript

Objectives of the project: Examining the quality of code by consolidating various scans \ checklist results in a single report

Outcomes of the project: Quality assessment of code before pushing to production

Major Learning Outcomes: Effective Team-Working, Real-world application of theoretical knowledge, Time management

Brief Description of working environment, expectations from the company: The working environment is awesome. There is a lot of emphasis laid out on grooming newcomers. Even the higher line managers spend a decent amount of time talking to interns and learning about our experiences with the view of making it better for us and the company. There isn't any lock in time per day i.e. compulsory stay of specified time in office, as long as we complete the work assigned to us we don't face any issues. If we are stuck somewhere with our work everyone is willing to help us out.

Name: Nikita Tanwani

ID No: 2012B4A8626P

Student Write-up

Short Summary of work done during PS-II: I completed two major projects during my six-month internship at Oracle. I started with developing a hybrid mobile application. I got to learn so much about different kinds of mobile apps and the development process, multi-platform issues to be kept in mind and I was familiarized with the practical aspect of the things that I learnt in my 4 years at BITS - namely factors such as budget, current developer skills, and time and client requirements. The outcome of the first 3 months was two mobile applications - an employee database manager app and a Higher education WLP application for universities.

After that I started working on developing an automation reporting tool based on OJET nad used NodeJS to automate the backend process. It was an extremely enriching experience to learn from and interact with people from across the world and be able to develop a live tool with them.

Tools used (Development tools - H/w, S/w): OJET, Android Studio, NodeJS

Objectives of the project: Hybrid Application Development; Automation Tool Dev

Outcomes of the project: Automation reporting Tool was launched and is being used by the SOA team currently to manage and analyze all SOA test result logs. The hybrid application development helped the team to visualize their application on the Android platform and enhanced the responsiveness and several other features for the application to be capable of multi-platform efficiency and functionality.

Major Learning Outcomes: Automation scripting languages; JavaScript, GitHub, etc.

Brief Description of working environment, expectations from the company: The first few weeks were filled with anxiety as I did not have a CS background unlike most other interns. But Oracle trained all interns in JAVA and ADF, that would be required for our projects which was really helpful. There are some things that can be incorporated in our academic courses - especially the disciplinary electives - as projects which require students to use the tool-kits that are employed in the industry. It will be interesting to have an academic project that goes through the cycles followed in the industry - design, development, testing, documentation, deployment.

Name: *Vivek Haldiya*

ID No: 2013A7PS043P

Student Write-up

Short Summary of work done during PS-II: Automation, Developing new Products

Tools used (Development tools - H/w, S/w): Core JAVA, JAVAEE, Python, Android, Apache Cordova, Oracle Frameworks

Objectives of the project: New product development

Outcomes of the project: Prototyping/ Demoing new Products

Major Learning Outcomes: New Technologies

Brief Description of working environment, expectations from the company: Good working environment, nice team, nice work.

Name: *Bhavani Bhamidipaty*

ID No: 2013A7PS186H

Student Write-up

Short Summary of work done during PS-II: 1. Oracle ADF design patterns

2.How tables are joined in read-only view objects

3.How dependent view links are created

4.Use of ADF faces components to create a page

5.In-depth learning about HCM data loader and HCM Spreadsheet data loader

6.Familiarity with kinds of keys used and their applications

7.Use of .dat and .xls files to load data into HCM Fusion

8.Acquired know-how of the flexible framework of Fusion HCM Employment model to meet a wide range of business requirements

9. Development skills in JAVA and HTML

10. End-to-end development of web page and associated data collections

Tools used (Development tools - H/w, S/w): JAVA, Oracle ADF, JDeveloper, SQL, PHP, WebLogic Server

Objectives of the project: Developing a Feature for easy automation and searching through datasets

Outcomes of the project: Creating a webpage based on the existing framework

Major Learning Outcomes: Learnt about end-to-end development using JAVA, JavaScript, php and other technologies

Brief Description of working environment, expectations from the company: Learning how each aspect of a product is developed was a truly enriching experience. We were involved in making a quick access page for ease of use. But even this took a considerable amount of learning and knowledge transfer. However, it is truly gratifying to realize how what we developed fits into the big picture which the product release as a whole. Just understanding how the framework works and aids the developer was illuminating.

My first steps into the corporate world have been this internship. The amount of new experiences and learning I have derived at Oracle, I could not have done anywhere else and I am grateful for this opportunity. The goals I had at the beginning of this internship have been fulfilled and have been exceeded by a boost in my self-confidence and my skillset. The community at Oracle is friendly and the environment is constructive for innovation and teamwork. The facilities are ample and refreshing along with being state-of-the-art. Most importantly, the work is engaging and stimulating.

Name: *Chaitra SN* _____

ID No: 2013A3PS333H

Student Write-up

Short Summary of work done during PS-II: Created a Chatbot to access Services like JIRA and Bug DB from an XMPP Chat client like Pidgin.

Tools used (Development tools - H/w, S/w): OpenNLP, REST API, Smack API, Bug API

Objectives of the project: To create a smart Chatbot with autocorrect features and user impersonation to access various services.

Outcomes of the project: Objectives achieved.

Major Learning Outcomes: NLP, SQL, Application Development

Brief Description of working environment, expectations from the company: Friendly, congenial atmosphere. Helpful colleagues.

PS-II Station: Pilani Experts Technology Labs Pvt Ltd, Bangalore

Student

Name: Sumantra

ID No: 2012B5A8567P

Student Write-up

Short Summary of work done during PS-II: Worked as a marketing and operations intern at the early stage startup. My work involved digital marketing, operations and sales. Designed marketing creatives and product features.

Tools used (Development tools - H/w, S/w): Slack, MS excel, Hootsuite, heap analytics, mix panel, grapelli

Objectives of the project: To scale key metrics of the organization

Outcomes of the project: Scaled user growth and transaction metrics 5x in 6 months

Major Learning Outcomes: Primarily learnt the working of an early stage startup

Brief Description of working environment, expectations from the company: Work environment is extremely fast paced. Learning curve is steep and enjoyable

Name: Sarthak Mangla

ID No: 2012B2AB733P

Student Write-up

Short Summary of work done during PS-II: Social Media Marketing strategy is a quintessential element in the growth strategy of any early stage startup. In today's market where social media channels are one of the busiest mediums a proper social media marketing strategy is something any startup cannot do without.

Tools used (Development tools - H/w, S/w): Hootsuite, Medium

Objectives of the project: The objective of this project is to develop a social media and content marketing strategy for Tap Chief to ensure social media presence, branding and customer outreach.

- College Approach
- Social Media Approach
- Sales and Marketing

Outcomes of the project: The social media strategy has been helping us build a great brand on social media and the following has increasing constantly, due to the new content campaign. The college approach has been getting great results as we are able to track the number of time each mail has been opened because of the tracker we incorporate in the mail.

Major Learning Outcomes: Exposure to a fast-paced Startup environment.

High degree of professionalism.

Friendly work culture

Team work

Latest trends and tools being used in the startup environment

Brief Description of working environment, expectations from the company: The progress in growth strategy has been good. The implementation has started along with the management and execution is also on. We are planning to try and improvise some of the growth strategy to experiment and see if it effects the results by visiting some colleges to conduct seminars.

PS-II Station: Pilani Experts Technology Labs Pvt Ltd , Bangalore

Student

Name: *Krishna Kumar Joshi*

ID No: 2013A7PS102P

Student Write-up

Short Summary of work done during PS-II: Built the Weekly Status Report Module (WSR) for Upshot.ai, which shall let the clients view 4 of their key parameter's progress that week, along with some other predefined parameters. Also, customize those key parameters, Select the notification recipients for a new Report and download any report in PDF format to local computers.

Tools used (Development tools - H/w, S/w): PHP, YII framework v1.1, JQUERY, HTML-CSS, PhantomJS, AJAX, Python, MongoDB

Objectives of the project: To Create a Module that let's user define/select key parameters and sub parameters to visually represent progress on them per week, and customize the receivers of alerts when a new report is created.

Outcomes of the project: The project was successfully designed, coded and integrated with Upshot.ai.

Major Learning Outcomes: Learnt how to work with various individuals from different teams like design, Backend, etc. and chalk out the course of action for the completion of the project. Learnt all the languages/tools required for the completion of the project.

Brief Description of working environment, expectations from the company: The work was challenging as I was supposed to learn and implement the project pretty much on my own, with help from others. My Mentor and Project Manager were extremely understanding and helpful. The people I worked with were helpful too. Although the work is hectic for beginners and they are expected to learn and implement the task within a very challenging timeframe.

Name: *AZENDLA RAM PRATHEEK*

ID No: 2013A7PS090H

Student Write-up

Short Summary of work done during PS-II: This project contains insight into natural language processing, Microsoft bot framework. It outlines the ways to use and integrate the NLP framework api calls into a bot. It gives report on the techniques to create a bot that uses NLP calls, Solr search, Chatterbot. It also stresses on the authentication of Google and Outlook web api's.(OAuth2)

Tools used (Development tools - H/w, S/w): Python, Pyspark, Microsoft BotFramework, Wit.ai, Api.ai, Google developer Api

Objectives of the project: The main objective of my project is to build a chat bot that interacts with users and implements services like creating events and booking cabs.

Outcomes of the project: My main output from this project is my new proficiency with python and pyspark. I also got a greater insight into natural language processing and different implementations of api's using REST api

Major Learning Outcomes: During the five and half months of internship at PurpleTalk, I have developed a core understanding of the need for Bots. Through this project, I got a in depth insight into building a huge project as well as working with available bot frameworks. I also got a greater insight in calling different api's and using frameworks like Django, flask in python. I also got well versed with various machine learning algorithms and data manipulation in Apache Spark I also look forward to integrate more Natural Language Processing and Machine Learning into the Bot.

Brief Description of working environment, expectations from the company: The working environment is extremely friendly and responsive to our queries. The expectations are nothing beyond normal and are very receptive to our queries regarding our capabilities.

PS-II Station: Qubole , Bangalore

Student

Name: *Kshitij Agarwal*

ID No: 2013A7PS117P

Student Write-up

Short Summary of work done during PS-II: Implemented CI Pipeline of Qubole using Jenkins 2.0.

Tools used (Development tools - H/w, S/w): Jenkins, Groovy, JAVA, Selenium Cucumber UI Testing

Objectives of the project: Reduce release cycle time of Qubole

Outcomes of the project: Reduced release cycle of Qubole from 28 days to about a week.

Major Learning Outcomes: Git tools, Agile Development (Atlassian JIRA)

Brief Description of working environment, expectations from the company: Environment is pretty cool to work if you feel passionate about the work you are doing. Though, I would like that they disclose the projects each individual assigned to it is going to work on as I was assigned the QA team but my real interest lies in core development which was a letdown. Otherwise, company is pretty cool to work with.

Name: *SHAMBHAVI MEHROTRA*

ID No: 2012B2A7549P

Student Write-up

Short Summary of work done during PS-II: Worked as a part of the Middleware Team at Qubole which maintains and updates the application framework that the Qubole software runs on. I was allotted two projects during the course of my internship, both of which involved major changes to the code in production and served as an integral addition to the work done by the company. I was writing code in mostly Ruby on rails with substantial use of MySQL queries. Other technologies that I got to learn about as a part of my internship were Hive, Spark and Hadoop.

Tools used (Development tools - H/w, S/w): Ruby on rails, MySQL, Hive, Spark, Hadoop

Objectives of the project: New Credentials Validation Framework; Fetching logs from the cluster machine

Outcomes of the project: Designed an updated version of the Credentials Validation Framework and created an API for the same; Wrote a script to fetch logs from cluster machine which are needed by the Support Team to resolve customer issues.

Major Learning Outcomes: Learned about designing new frameworks which make the existing frameworks perform better. Designed tools from scratch for the Support Team which reduced the time taken by them for issue resolution by almost 100%. Great opportunity to get hands-on experience in development and learning about new and upcoming Big Data technologies like Hive, Spark and Hadoop.

Brief Description of working environment, expectations from the company: Qubole has a typical Start-up culture where every member of the company is assigned integral roles, be it an employee or an intern. Most of the work is done using latest technologies. The company expects its employees to have good inter-team communication as there is a big interdependence between the work that several teams do. There are weekly meets for every Team where work done by each member is discussed and schedule for the next week is decided. These meets are to discuss the deadlines and release dates of majority of the products and one is expected to meet with these requirements.

Name: Dhruv Goel

ID No: 2013A7PS116P

Student Write-up

Short Summary of work done during PS-II: My work included working with cloud technologies and infrastructure configuration tools like Chef, Terraform, and Docker. I got to learn about different Amazon Web Services such as their compute cloud service, S3 storage service, RDS and Elastic Cache database services, and many others. I worked with AWS Ruby SDK where I wrote code to bring up new EC2 instances and configure them according to the user's preferences automatically and quickly using Chef recipes and terraform templates. Everything was automated and all this happened just by one command entered by the user.

Tools used (Development tools - H/w, S/w): Ruby AWS SDK, Chef, Terraform, Amazon Web Services (EC2, IAM, RDS, Route53)

Objectives of the project: To give every employee at Qubole a development version of the Qubole Environment for themselves. Currently, the employees outnumbered the environments by a factor of 7:1.

Outcomes of the project: Now, every user has an env to develop and test code. Now they don't have to contest for the environments and they can just bring up their own in less than 15 minutes. These are throwaway environments so that the company doesn't get billed for idle envs.

Major Learning Outcomes: Understanding of Infrastructure behind Applications, Ruby application stack understanding. Amazon Web Services knowledge.

Brief Description of working environment, expectations from the company: The work environment was friendly and cooperative. There is a huge scope for learning because of the age relevant technology stack at Qubole. The employees are forever ready to entertain doubts and are very competent at explaining difficult concepts in a simple manner.

Name: Sakshi Agrawal

ID No: 2013A7PS153P

Student Write-up

Short Summary of work done during PS-II: Developed a caching framework named RubiX. RubiX is a light-weight data caching framework that can be used by Big-Data engines. RubiX can be extended to support any engine that accesses data in cloud stores using Hadoop FileSystem or Amazon S3 interface via plugins. Most of the work I've done is JAVA development. Apart from that I've also used Python and written bash shell scripts. For JAVA development I am using IntelliJ IDEA as my IDE. I am also constantly using Git which is a distributed revision control and source code management system. Through my work, I am learning about Big Data technologies like Hadoop, Hive and Presto.

Tools used (Development tools - H/w, S/w): Git, JAVA, S3

Objectives of the project: Develop a caching framework that can be used by Big-Data engines

Outcomes of the project: Increase in speed of Big Data queries for Hadoop2, Hive and Tez and additional features in the framework.

Major Learning Outcomes: OOP, Big Data Systems, Cloud storage, MR

Brief Description of working environment, expectations from the company: The work environment was friendly and cooperative. The employees are forever ready to entertain doubts and are very competent at explaining difficult concepts in a simple manner. It was a great learning experience. The startup atmosphere was enriching.

PS-II Station: Sabre Holdings(Formerly Sabre Travels) , Bangalore

Mentor

Name: Rudrappa Athawani

Designation: Senior Technical Lead

BITS Pilani students contribute in several projects of Sabre in constructive way. They are good in understanding the technology and quickly come up to the speed.

Faculty

Name: Vineet Garg

Sabre is one of the world's largest software companies providing software solutions for travel reservations and hospitality industry. Students interested to their internship should be familiar with database systems, Web development, JAVA, scripting, OO and testing methodologies.

Student

Name: Afroze Shaik

ID No: 2013A7PS054G

Student Write-up

Short Summary of work done during PS-II: Automation of Test scripts

Tools used (Development tools - H/w, S/w): QTP, ALM

Objectives of the project: -To automate the test cases received from the manual Q/A's

Outcomes of the project: Submitted the test suites and are accepted by the CAT team

Major Learning Outcomes: VB scripting, knowledge about QTP tool

Brief Description of working environment, expectations from the company: Friendly and accepting environment. Not much work pressure. Helping Employees.

Name: Vishnuvardhan Reddy Alla

ID No: 2013A7PS099H

Student Write-up

Short Summary of work done during PS-II: Functional testing and Automation of the testing procedure for Air Vision Fares Manager Application by SABRE. Majority of the work was focused on writing scripts to automate various test cases designed for the application screens. Execution as well as Debugging of the already existing and new scripts to generate standardized reproducible results in the form of Log Files.

Tools used (Development tools - H/w, S/w): HP-UFT(Unified Functional Testing), HP-ALM(Application Lifecycle Management), SQL Developer and Wrapper classes with VB-Scripting, SVN-Tortoise.

Objectives of the project: Automating the testing process for faster results, reduction in cycle time and improvement in the quality of testing. Creating new scripts and simultaneous execution. Merging Repositories of all the scripts to one final root repository and checking in the changes through Tortoise-SVN. Updating the ALM and recording the results in the form of Log Files. Execution of Wrapper class for hassle free launch and run of the scripts.

Outcomes of the project: Created over 80 scripts for the Fares Manager Application and executed them successfully. Major outcome would be the increase in the percentage of Automation concerning to the Fares manager application. Creation of a single root repository for all the scripts by merging the local repositories of each script.

Launching the testing process in a single step using the wrapper class.

Major Learning Outcomes: VB-Scripting, using Wrapper classes, testing methods using UFT, starting and terminating the servers on various databases.

Brief Description of working environment, expectations from the company:SABRE is a wonderful place to work as a Full-Time Employee. It recently received the award for being one of the GREAT PLACES TO WORK in INDIA. However, I feel the company lacks a concrete policy for Interns (Not everyone knows how to use a intern). An Intern's work depends on his field(Dev/Testing) and the team he's allotted. Working on the product directly gives a good firsthand experience about the present Tech scene. SABRE has a very bad hiring policy: extension of Internships over a long period of time is a stalling and bad way to treat interns without converting them. This is the first time they had CS students as interns and yet didn't convert a single student upon many requests from the teams as well. Work culture is amazing and you have the flexibility to approach anyone for any help. In short: Great place to work, Amazing culture, team spirit is immense, extremely friendly and supportive co-workers, bad intern policy, not so good for learning new technologies. Company has flexible work hours and expects you to set your own deadlines and stick to them. They extend great facilities and extremely useful incentives for Employees and Interns(Limited).

Name: Shantanu Challa

ID No: 2013A7PS108H

Student Write-up

Short Summary of work done during PS-II: My first assignments were to identify defects in code and fix them. This helped me understand how good coding practices contribute towards maintainability. Also, I was exposed to a number of new languages, coding methods, testing frameworks and software utilities.

My Assignments varied from developing tools, fixing bugs, developing a testing framework and also an analytical tool.

I was assigned to develop an interactive user guide, fix a utility code in C++, develop a testing framework using selenium and testing, and developing an analytical tool on the elastic stack.

Tools used (Development tools - H/w, S/w): Smart GWT, Tiddlywiki, Selenium WebDriver, TestNG, Elastic Stack, Apache POI

Objectives of the project: -Fix defects in a code

Develop an Interactive User Guide

Develop a testing framework for Data Validation

Develop an Analytical tool on the Elastic stack

Outcomes of the project: Interactive User Guide

Framework for Data Validation

Performance Tracking on Elastic Stack

Major Learning Outcomes: Good Coding Practices

Exposure to various frameworks on JAVA

Working with the Elastic Stack

Brief Description of working environment, expectations from the company: Sabre has a very warm and welcoming working environment that is easy to adjust. The mentors and managers are very supportive and help you through the transition from a college going kid to a person in the professional world. The flexible working conditions only add to an advantage. The work culture here is amazing enabling a smooth transition and in learning and understanding the high standards of a professional environment. All interns are involved like any other employee and work is assigned as a team, which enriches team spirit. Well, an intern at Sabre is expected to learn rather than perform and people here are always there for you when you want to push your boundaries and take an extra step. At Sabre, I have discovered a lot about myself and improved a lot of areas in which i considered myself weak. Similarly, i got strengthen myself in the areas i was good at and showcase my skills. In short, it was an amazing experience that made me realize the potential I had.

Name: Sajidur Rahman

ID No: 2011B5A7496G

Student Write-up

Short Summary of work done during PS-II: Quality Assurance of Airline Solutions products

Tools used (Development tools - H/w, S/w): HP-ALM, UFT

Objectives of the project: -Automating of Test Scripts

Outcomes of the project: Automation Scripts were sent to Central Automation Team for regression tests

Major Learning Outcomes: Quality Assurance of Software Products

Brief Description of working environment, expectations from the company: Good work environment, approachable employees

Name: Sandeep Nekkanti

ID No: 2013A7PS071P

Student Write-up

Short Summary of work done during PS-II: I have continued the development of Automation tool which they use, I fixed issues and added few enhancements, In the end worked on regression testing due to loss of resources in the team.

Tools used (Development tools - H/w, S/w): Python, Django

Objectives of the project: To make the automation tool free from issues

Outcomes of the project: Automation tool is more reliable and working more effectively with free from issues

Major Learning Outcomes: Development and Design of Software/Web Server

Brief Description of working environment, expectations from the company: Sabre is a company with lot of flexible benefits. Every intern is treated equal to employee and we even got the work employees are working on. My manager Vivek Gupta gave me lot of nice challenges to work on. He is always supportive and helped me if face any issue all the way. My team people are very encouraging and they would

explain me with such patience if i have any doubts. My PS-2 faculty Vineet Garg, is also extremely helpful whenever we faced any issue.

Name: Mavilla Sai Manoj Reddy

ID No: 2013A7PS113P

Student Write-up

Short Summary of work done during PS-II: I have created an offline tool to obtain specific data from new ICE web service, parse and store the data. And enhanced VCMP distribution functionality to distribute images with room type codes and HD360 Images to all downstream systems

Tools used (Development tools - H/w, S/w): JAVA, Spring Framework

Objectives of the project: -The objective of the project is enhancing the Visual Content Management Platform for the new and more powerful web services provided by ICE and providing the original functionality with new ones such as room type codes, HD360 Images, Videos etc.

Outcomes of the project: After this VCMP enhancement, it provides more information to the downstream systems which in turn helps the end customer in their purchase.

Major Learning Outcomes: I learnt Web Technologies such as JavaScript, JQUERY, Servlets and got efficient working on Spring framework.

Brief Description of working environment, expectations from the company: The working environment and expectations completely depend on the team we work in. The timing in our team were a bit flexible and colleagues always ready to help. I worked on the ongoing live projects at the company, so was expected to work quite a lot.

Name: Rajasekhar Reddy. Ch

ID No: 2013A7PS013G

Student Write-up

Short Summary of work done during PS-II: I worked for a team which develops front end for PMS V4, a web application for hotels to manage inventory and reservations, guest profiles, staffing, back office and payment system integration.

Tools used (Development tools - H/w, S/w): React JS, a JavaScript library, and HTML, CSS, Spring Tool Suite(STS), Tomcat Server.

Objectives of the project: -Developing UI for a huge web application.

Outcomes of the project: Product ready UI

Major Learning Outcomes: I Learned React JS with my previous knowledge of HTML, CSS.

Brief Description of working environment, expectations from the company:The work environment is encouraging to Interns. The HR changed my team when i complained regarding the non-technicality of my project, that explains the work flexibility and giving preference to employee's satisfaction.

Name: *SHIVANK GARG*

ID No: 2013A7PS133P

Student Write-up

Short Summary of work done during PS-II: Project was on automation of deployment of a product using Continuous Integration tool Team city. The automation was done using Maven (XML Scripts). The preprocessing included setting up ssh Daemon in windows and Cygwin for remote execution of commands in windows virtual machine with Teamcity agent being the host of execution.

Tools used (Development tools - H/w, S/w): Maven, IntelliJ Idea, Teamcity, Cygwin, mRemoteNG

Objectives of the project: Continuous Integration till the deployment of application.

Outcomes of the project: Can have automated deployment of application using a trigger every day.

Major Learning Outcomes: Networking, XML, Maven, SSh'ng.

Brief Description of working environment, expectations from the company:Working environment was good , mostly helpful but they don't have a well-defined system as to what type of work to be given to interns. A lot is dependent on which team you get into. Many at times it will be you who will be asking for work.

Name: Guddu Kumar Singh

ID No: 2013A7PS004P

Student Write-up

Short Summary of work done during PS-II: Had to migrate script from QTP to Selenium testing framework. Here we had to write automation script in Gherkin Language with JAVA gluecode(back end JAVA code) which can run on " selenium testing framework". Also, had to do testing of the product both manually and through automation.

Also Contributed to Get There product Release.

Participated in Global Hackathon (an annual Hackathon at Sabre which gives a platform to the employees to put forth path breaking innovating ideas, which can be translated into some product roadmap). Also, participated in Big Pitch (generally for disruptive business ideas focused towards the travel industry).

Tools used (Development tools - H/w, S/w): Selenium, Cucumber, Eclipse, JAVA, maven, Apache, etc.

Objectives of the project: -Quality Assurance of GetThere Product (migrating script from QTP to selenium testing framework)

Outcomes of the project: Migrated script from QTP to selenium, participated in Release Support, did testing, etc.

Major Learning Outcomes: Learned Gherkin, write script for selenium testing framework, participated in release support, participated in sabre Global Hackathon

Brief Description of working environment, expectations from the company: The automation script which I wrote will reduce tests time execution and human resources required. It will also enable complete control over the tests results (actual results vs expected results). And can quickly change test preconditions and input data, and re-run the tests dynamically with multiple sets of data. I did testing of these scripts also.

Contributed in GetThere Product Release Support.

Participated in Global Hackathon and Big Pitch Event and gave partially implemented product which can be converted into Sabre Product.

Name: Sairam Kalavala

ID No: 2013A7PS068H

Student Write-up

Short Summary of work done during PS-II: While working in Sabre for different teams in both Development and Testing, I have understood how every process in designing, testing and deploying a software is important to assure quality and usability of an application. The main objective of my project is to write Fitness Fixtures and Test Cases. Fitness is mainly for Acceptance Testing. There is a new version of the product to be developed in the coming days so Fitness Test cases will play some important role in checking the functionality of the product and finding errors during the development stage.

Tools used (Development tools - H/w, S/w): Selenium, Fitness, IntelliJ, ApachePOI, JAVA

Objectives of the project: -The main objective of my project is to write Fitness Fixtures and Test Cases which will help in Testing the product in the initial stages of development itself.

Outcomes of the project: The work I have done during the PSII is useful for Acceptance Testing while Developing New Product. I have written Fitness Fixtures for the application in JAVA. I have also written many Fitness Test Cases related both to the Fixtures that I have written and the for Fixtures that are already present.

Major Learning Outcomes: One assignment has given me exposure to Selenium Web driver, which is popularly used in testing web based applications. Also, I learnt using Apache POI which is a powerful tool, which can read from and write into files. Apache POI is a powerful utility that can be used along with many programs giving them a way to take in Input and record Output. The other assignment which is my project has given me exposure to Fitness which is used for Acceptance Testing. I have learnt writing Fitness Fixtures for an application. I have also learnt writing Fitness Test Cases which helps to build the right code.

Brief Description of working environment, expectations from the company: The happiness while working in Sabre comes from its work culture. The relationship between mentor and intern is very friendly that interns call their mentor as "Buddy". This relationship has never let me hesitate to approach my mentor whenever I was in doubt. This helped me finish my tasks smoothly. There is a process called StandUp every day at a specific time as per the convenience of the team during which

every member of the team has to update what he/she has done the previous day and what are they going to do on that day. This helped me not to get stuck at the same work for a long time. It gives a chance to raise the issue which kills your time and the team gives any suggestions/inputs which would help to resolve the issue.

Name: Sankalp Parakala

ID No: 2013A7PS110H

Student Write-up

Short Summary of work done during PS-II: Worked on reports mostly and quite a few times on IntelliJ

Tools used (Development tools - H/w, S/w): SQL, JAVA

Objectives of the project: Developing a software Crew Manager

Brief Description of working environment, expectations from the company: One of the best PS for Bitsians.

Name: Sai Vaibhav

ID No: 2013A7PS009G

Student Write-up

Short Summary of work done during PS-II: Quality Assurance Automation using C# and Selenium

Tools used (Development tools - H/w, S/w): C#, Selenium, MbUnit

Objectives of the project: -Automation of Test Cases for Guest Connect Quality Assurance

Outcomes of the project: New Test Cases were Automated and Pass rate during Regression Testing was kept above 90% pre-release

Major Learning Outcomes: Experience gained in working with a team, in Selenium, in Testing

Brief Description of working environment, expectations from the company: Quiet working environment, with interns being treated as equals to employees and responsibility given to interns to govern and monitor themselves.

Name: Rohit Jammalamadaka

ID No: 2013A7PS096H

Student Write-up

Short Summary of work done during PS-II: Recognizing and distributing revenue shared between Aircraft carriers in less than few hours.

Tools used (Development tools - H/w, S/w): S/w : JAVA, Spring Framework, Hibernate, Quartz, Camel Frameworks etc.

Objectives of the project: -Recognizing and distributing revenue shared between Aircraft carriers in less than few hours.

Outcomes of the project: Decreasing the current revenue management by 48 hours.

Major Learning Outcomes: Technologies used in IT industry.

Brief Description of working environment, expectations from the company: Working environment is very friendly with very liberal deadlines, completing the above said project are the expectations.

Name: Sarath Babu Gatram

ID No: 2013A7PS182H

Student Write-up

Short Summary of work done during PS-II: I have worked with Sabre in Shared Systems Development, primarily with the GDS Ticketing team and Airline Ticketing Team. As part of my project:

- 1) I have worked on Test Automation using JAVA and VBscript, creating, updating methods and specializing in tools such as HP UFT and Para soft SOA.
- 2) Worked on Regression Testing, Automation and gained hands on experience with the best Testing methodologies followed in the industry.
- 3) I have worked on several automation projects during my tenure at Sabre. This helped me to develop a sound understanding of Sabre GDS (Global Distribution System), Ticketing and Travel domain in general.

4) We (A team of 3 Interns) have developed a small tool which could help reduce time taken for Test Automation to about 60% as part of the Sabre Global Hackathon.

Tools used (Development tools - H/w, S/w): HP UFT, HP ALM, Parasoft SOA

Objectives of the project: Regression Testing and Automation in various ongoing company projects

Outcomes of the project: Automated 300+ Test Cases and Created 10 new functions in the central library and tweaked many others

Major Learning Outcomes: Got hands on Experience with UFT, VBScript and General Regression Testing methodologies

Brief Description of working environment, expectations from the company: Sabre's work culture impressed me with the flexible work timings and Employee first approach. My Team mates at Sabre were extremely enthusiastic and helpful. Had a great time working there and a steep learning curve made it invaluable to my budding career.

Name: Piyush Gupta

ID No: 2012A7PS094G

Student Write-up

Short Summary of work done during PS-II: Developed the code of various web services. Worked on two main projects and a lot of smaller projects and assignments. Projects assigned varied from high priority (development of Security Rules for web services) to different types of assignments (code review, analyzing code flow like Business Analysts etc.).

Tools used (Development tools - H/w, S/w): Languages - JAVA with Spring mvc, JAX-B, JUnit, Maven, SQL

Software - Soap-Ui, IntelliJ, SNT, Babun, Win-SCP, Dev-SQL

Objectives of the project: -Project 1: Developed all the security rules for pnr-display web service for migration of logic from PSS to Open Systems in order to save transaction costs.

Project 2: Introduced new type of Special Service Request (BRND) through update reservation web service to the Open Systems.

Outcomes of the project: Successfully completed both main projects assigned to me along with successfully completing all the other tasks/ assignments.

Major Learning Outcomes: Learned various coding techniques, new coding languages (spring mvc, JAX-B), new software (SNTE, SOAP-Ui, IntelliJ), learnt the way a corporation works and handles projects (Sprint planning and Agile).

Brief Description of working environment, expectations from the company: Assignment of team totally depends on LUCK. If assigned the team/work of your interest, very good place for work. I was assigned my favored designation of developer. Working environment is pretty good and interns are treated equally like Full Time Employees. Other employees are very helpful and lot of learning opportunities. Great Work-Life balance and numerous of recreational activities to keep engaged (Foosball tournaments, Hackathons, CSRs).

PS-II Station: Symantec Software Solutions Pvt. Ltd. , Bangalore

Faculty

Name: Vineet Garg

The company works in a very niche area of software for security, storage, backup and availability. Managers and mentors encourage students to explore this area and permit time to become comfortable with the domain. Students had opportunities to work in the area of digital certificates, user authentication in the cloud scenario, secure web transactions etc. Students who are looking forward to do their internship with Symantec must be familiar with network security, cryptography, and basic development skills in the web development.

Student

Name: Jaydev Sirmukaddam

ID No: 2013A7PS135P

Student Write-up

Short Summary of work done during PS-II: Worked on AWS, network emulators and tried to create an environment similar to Virtual Private Cloud on AWS in the available systems for CIC(company product) use. Certificate Authority working and certificate scans and verification.

Tools used (Development tools - H/w, S/w): AWS, JAVA

Objectives of the project: -To create an environment for demonstration of CIC (A Symantec product) and make the environment replicable with necessary components of it.

Outcomes of the project: Provided ground work for creating above mentioned environment, learned mainly about cloud computing and networking.

Major Learning Outcomes: Cloud computing, Networking, certificate authority side works

Brief Description of working environment, expectations from the company: Company is very good, not much work pressure so good if you want to prepare for something else. Has bus services which goes to all parts of Bengaluru. You may have to force your mentors/ managers to give some work at times.

Name: Saketh Gvs

ID No: 2013A7PS008H

Student Write-up

Short Summary of work done during PS-II: my work was mostly based on API and gateways. Even worked on upsell engine

Tools used (Development tools - H/w, S/w): eclipse api html

Objectives of the project: transferring apis to gateway and recommendation engine

Outcomes of the project: transferring apis to gateway

Launching the testing process in a single step using the wrapper class.

Major Learning Outcomes: api and api gateways...building REST and SOAP api

Brief Description of working environment, expectations from the company:friendly environment and good work

Name: Rishabh Lohia

ID No: 2013A7PS177P

Student Write-up

Short Summary of work done during PS-II: Various Projects, mostly web development

Tools used (Development tools - H/w, S/w): JAVA web frameworks (Spring, Struts, Jersey), Maven, JSP, JavaScript. Also, Shell Scripting, JAVA web development

Objectives of the project: -Projects included a web extension, a client wrapper around an existing program, modifications to a web console

Outcomes of the project: Most of the requirements of the projects were not completed. projects weren't difficult.

Major Learning Outcomes:Workflow of software development in industry. Various technologies like Maven, JSP, JAVA web frameworks. Worked in Linux a lot, so learnt about shell.

Brief Description of working environment, expectations from the company:The working environment here is very relaxed and easy going. The people are nice people who are hardworking but fun working. The company expects that you do your assigned project on time. nobody expects that you work after working hours (There may be an odd half an hour meeting after hours, but very rare though). You can go and come whenever, as long as you are up to date on your work. The leave and 'work from home' policy is quite lenient. All in all, a very good place to work. The quality of projects will depend on the team you get.

Name: G Spurthi

ID No: 2013A7PS025P

Student Write-up

Short Summary of work done during PS-II: I have been allotted a project to manage certificate life cycle using Web Crypto API which was earlier done using keygen mechanism.

A key pair was generated using web Crypto API and stored in Indexed DB browser storage. PKCS #10 request was generated and submitted to the CA (Certificate Authority) during user enrollment for certificate. After receiving the signed certificate from the CA, a PKCS #12 is generated binding the signed certificate and its corresponding private key and. p12 (PKCS #12) file is downloaded to the windows store. And using this. p12 file, the certificate is imported to the required browser for client authentication.

JavaScript code for generating PKCS #10 and PKCS #12 is written with the help of PKIjs and ASN1js open source libraries.

Tools used (Development tools - H/w, S/w): JavaScript Promise, HTML, JAVA, Apple Script

Objectives of the project: -Developing a JavaScript based client for managing the life cycle of a certificate using WebCryptography API, as a replacement to keygen.

Ensuring the functionality of the script in all the browsers and extending it with different algorithms.

Extending the interface to interact with hardware tokens such as smartcards and USB dongles in order to achieve highly secure transactions by two-factor authentication

Outcomes of the project: Symantec issues certificates to clients, which enhance level of authentication and privacy to digital communications. Hence, we require a better interface to manage certificate life cycle which was earlier managed with the help of keygen. But because of certain limitations with keygen, it has been deprecated by almost all the browsers. Thus, the project (Keygen replacement POC) enables Web applications that require features such as cryptographically strong random number generation, constant-time cryptographic primitives, and to the best extent possible, a secure key store with the help of WebCryptography API and Indexed DB.

Major Learning Outcomes: My work in Symantec is a very good learning experience. Got to work on WebCrypto API, the cryptographic primitives offered by it. Worked on generating PKCS formats (PKCS #10, PKCS #12) using JavaScript Promise.

Learnt about mobile app automation while working on testing for VIP Access proximity app using Apple Script and JAVA.

Brief Description of working environment, expectations from the company:Symantec is a very active company for career aspiration. Friendly environment, helpful coworkers, flexible working hours. Good projects to work on. Got to learn various skills through my projects which helped in boosting up my confidence

Name: Challa Shravya

ID No: 2013A7PS022P

Student Write-up

Short Summary of work done during PS-II: There are multiple projects we have done. One of them is a automation of certificate lifecycle management. We used open source protocol and client, connected to the CA server and were able to send CSR, get the certificate, install and renew it.

The second project is an extension for sales team which sends a Http get request to the CryptoReport API and displays a brief summary of the domain details in the popup. This will help the sales team to coordinate with the customers better.

Tools used (Development tools - H/w, S/w): Shell Scripting, JavaScript, Maven, Struts and spring frameworks, JSP.

Objectives of the project: The objective is to prepare an extension so that the sales team can get the information on the go and communicate it easily to the customers.

Outcomes of the project: The plugin is in use and the team has been satisfied with the information provided by it.

Major Learning Outcomes: Shell Scripting, JavaScript, Struts and spring frameworks, JSP and a little web development

Brief Description of working environment, expectations from the company:The working environment was pleasant and friendly. The work will be given mostly according to the interests and the mentors help a lot in solving the roadblocks if any. The work will be given by the product manager and he/she will be following up on the work periodically and expect us to finish it before deadline and be ready to do more. There are enough incentives to reach their expectations and it has always been worthwhile to do the work in time.

Name: Aditya Daflapurkar

ID No: 2013A7PS091G

Student Write-up

Short Summary of work done during PS-II: I was a part of the Validation and Identity Protection(VIP) during my PS at Symantec, Bangalore. The project assigned to me was a POC which dealt with the evaluation of facial recognition and typing detection as authentication factors in sign-in process. For this purpose, I was given third party biometric authentication SDK's which I had to integrate with sample login applications in order to test them for security and user experience analysis.

Tools used (Development tools - H/w, S/w): Android studio, XCode, SoapUI, Chrome Advanced REST client

Objectives of the project: -Evaluation of facial recognition and typing behavior detection as authentication factors in sign-in process

Outcomes of the project: At the end of my PS, I prepared a report which included the user experience gradation, dependency information, false positive and false negative analysis of the tested biometric authentication SDK's.

Major Learning Outcomes:I learnt a lot about mobile application development in android and IOS during the course of my project. The concepts that I had learnt during OOP, operating systems courses at BITS were very useful in application development. I also learnt about REST and SOAP web services as these concepts were very important for SDK integration. I was also introduced to certain concepts in the field of network security such as strong authentication and OAuth protocol.

Brief Description of working environment, expectations from the company:Symantec is a company which works in the area of network security. The working environment is really good with flexible working hours. Most of the projects deal with security technologies such as SSL certificates, authentication techniques etc. Senior members of the project teams are very encouraging and enthusiastic. Interns at Symantec can learn a lot especially in the fields of OOP, cloud computing and network security. During my project, i was briefly introduced to machine learning and I really liked this field of Computer Science. I expect that in future there will be more projects in machine learning which provide more experience and knowledge to the student about the field.

PS-II Station: Symantec Software Solutions Pvt. Ltd. , Pune

Mentor

Name:Abhishek Goel

Designation: HR

The PS-II students are good in adaptivity which encouraged their learning on tasks, assignments and corporate culture.

Student justified to their job role. Got a good and positive feedback from their respective mentors.

Per discussion with Mentor below capabilities they are looking for Interns:

- 1) Good Communication [Verbal & Written]
 - 2) Willingness to accept Challenges
 - 3) Quick Learning
-

Faculty

Name: Sonika Rathi

Per discussion with SPOC of Symantec Pune below is the list of Capabilities they are willing in an Intern:

- 1) Knowledge of Company Profile
- 2) Basics of Domain
- 3) Quick Learning
- 4) Good Communication [Verbal and Written]
- 5) Willingness to adapt & ready for new challenges

Student

Name: Achyuth Reddy

ID No: 2013A7PS041P

Student Write-up

Short Summary of work done during PS-II: I took part in development of Malware Replication and Attack Reproduction Server for IPS Team. With ever increasing Malware and Exploit Kits it has become a tedious task to analyze and track coverage of the malware. Automating it would save a lot of time for the IPS team. My task was to cooperate with my mentor Mr. Deepak Singh, for the design of the project. We started design the project based on his templates. We used Cuckoo Sandbox as Malware analysis tool. First few weeks I spent understanding Exploit Kits, Malware Analysis and designing the project along with my mentor. Then I spent most of the time setting up Cuckoo Sandbox and integrating Symantec tools with it. Then developed the web portal for submission of tasks for analysis.

I learnt a lot from the project mainly designing the project and setting up sandbox on ESX was challenging. My coding skills improved when I had understood Cuckoo Sandbox code to integrate Symantec tools. Designing the web portal has helped me sharpen Django and JavaScript.

Tools used (Development tools - H/w, S/w): Python, Django, Linux, Flask, Cuckoo Sandbox, JavaScript, Virtual Machines, ESX, Computer Networks

Objectives of the project: -I have to develop an automated attack reproduction server.

Outcomes of the project: We successfully completed the project supporting the strength of IPS team.

Major Learning Outcomes: Working with ESX and Virtual Machines has been great. Designing and coding skills improved. Got a closer look about Malwares and Security Domain.

Brief Description of working environment, expectations from the company:Initial few weeks spent time producing Exploit Kit attacks manually in the lab. Following days spent time with my mentor in designing the project course and structure. Explored various sandbox and choose Cuckoo sandbox for project. Initially we set the Cuckoo Sandbox on Virtual Box. During this time, I explored the sandbox and integrated Symantec tools with it. Next, we moved this setup onto ESX with more hardware and processing power. Next month spent time designing web portal for users which allows submissions of file hashes & URL, downloading PCAPS and reports. I feel the project is complete because of its

complexity. It involved web development, Sandboxes and Virtual Machines. My manager is satisfied with my work. I also got a closer look on malware reversing.

Overall I am very happy with the project and the work I did.

Name: Saransh Kumar Gupta

ID No: 2013A7PS159H

Student Write-up

Short Summary of work done during PS-II: In the internet age, the basic knowledge of computer security has become a must. There are many games on the internet that are designed to teach the basics of cyber security. However, their websites are willingly made vulnerable to several attacks in order to train the players about them and hence they expect the player to know the basics of HTML and JavaScript at the least.

Our target was to focus on regular computer users who lack a background/interest in computer related concepts and teach them about these security basics in a fun way through a 2.5D online game instead of being preachy. I created a complete virtual computing environment with functionalities ranging from an in-game browser, various websites, apps, social networking chat-bots, file explorer, terminal, etc. and implemented a bunch of security related tasks into it while maintaining a story based top down gameplay alongside to make the game interesting.

Tools used (Development tools - H/w, S/w): HTML5, CSS, JavaScript, JQUERY, Ajax, Node.js, MongoDB, Phaser Game Framework

Objectives of the project: The objective was to develop a game that aims to teach the nuances of security related vulnerabilities to regular computer users in a non-preachy manner.

Outcomes of the project: Developed a robust layout for the game and an in-game computer system, studied extensively about cyber security and implemented security based tasks in the game.

Major Learning Outcomes: Node.js, MongoDB and a vast spectrum of security vulnerabilities.

Brief Description of working environment, expectations from the company: Work environment and the people here are very friendly and the team tends to discuss your interests and then allocate projects accordingly instead of forcing an uninteresting project on you.

Name: Sai Charan Agraharam

ID No: 2013A7PS134P

Student Write-up

Short Summary of work done during PS-II: Basic aim was to build an online service for creating, editing and validating Base Certificate templates used in PKIs

Tools used (Development tools - H/w, S/w): Spring, JAVA Server Faces, Prime Faces, Hibernate, Persistence, Bouncy Castle

Objectives of the project: -Online interface for creating and editing certificate templates, Automating the validation of certificate templates

Outcomes of the project: Online service(portal) for managing Base Certificate Templates

Major Learning Outcomes:Spring, JAVA Server Faces, Prime Faces, Hibernate, Persistence, Bouncy Castle

Brief Description of working environment, expectations from the company:Extremely good work environment. Flexible timings. Only expectation is that work is completed before deadlines. Very supportive professionals. Good work-life balance with cultural and recreational events being regularly held. No particular dress code.

PS-II Station: Tangoe India Softek Pvt Ltd, Bangalore

Faculty

Name: Lucy J. Gudino

Practice School is a great opportunity for students to learn about corporate work and culture and to develop themselves for the same. Practice School aims to bridge the gap in the academic curriculum and industry. I had an opportunity to mentor students at PS-II station Tangoe India Softek services Pvt Ltd located at Bengaluru.

Tangoe is a leading global provider of Enterprise IT Expense Management software and services to a wide range of global enterprises and service providers. Tangoe's technology and services platform are designed to help companies transform the management of IT assets, services, expenses, and usage to create business value, increase efficiency, and deliver a positive impact to the bottom line. Three students allotted to this station were having CS background and could able to work on projects such as web site development, JAVA parser and testing framework, Automation of i18n Label Manager etc. that requires skills in JavaScript, Eclipse, HTML, CSS etc.

Student

Name: *Bikramjit Singh*

ID No: 2013A7PS163P

Student Write-up

Short Summary of work done during PS-II: Stage 1: worked on majorly UI (July - September),

Stage 2: worked on back-end, MVC (September - October),

Stage 3: worked on again UI, front-end, some tickets and unit testing

Tools used (Development tools - H/w, S/w): SpringIO, RabbitMQ, HanaDB, SQL, JSP, HTML, CSS, JavaScript

Objectives of the project: -Front and back-end development including unit testing for development of Matrix

Outcomes of the project: Learnt about various frameworks and also about deep core JAVA concepts

Major Learning Outcomes: Learnt about what it takes to build an enterprise platform alongside a talented and helpful team who are more experienced than us.

Brief Description of working environment, expectations from the company: The working environment is pretty decent and helpful as it is an established company working from past 10 years building telecom expense management software for big telecom companies like Vodafone.

Name: *A.L.Soumya*

ID No: 2013A7PS105P

Student Write-up

Short Summary of work done during PS-II: Work done was in the field of web application development. Designed, built and deployed a web application that would translate labels and update them as needed.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, JQUERY, JAVA, J2EE, Maven

Objectives of the project: Automation of an earlier completely manual project to ease internal use.

Outcomes of the project: A web application

Major Learning Outcomes: Front-end and Server-side application development

Brief Description of working environment, expectations from the company: The working environment is very friendly, helpful and conducive to an intern's development. My mentor was very helpful always and suggested amazing videos or sources for topics that I needed to study. My teammates were very encouraging.

Name: *Surendra Pal Singh Rathore*

ID No: 2013A7PS011P

Student Write-up

Short Summary of work done during PS-II: Designed and Implemented a JAVA parser and code generation testing framework. Framework is fully implemented in JAVA Language. It uses the power of Compiler API to parse the JAVA source code and TestNG to compare it with another content. Also, built dynamic, responsive website for project management which tracks all reports and status related to project and store them into MySQL database. Website's backend is supported by JAVA and MySQL and frontend has HTML, CSS and JavaScript.

Tools used (Development tools - H/w, S/w): Eclipse, ArgoUML, CompilerAPI

Objectives of the project: -The purpose of this project was to develop a validation framework for Key Maker which will decrease the manual effort of the developers by automating the work of testing of generated artifacts. I have created a generic framework which automatically pick the generated and expected file from the respected directory and perform the testing hence performing the test automation. My project also included the implementation of some of DmuTest operation which perform database automation hence reducing manual effort of accessing database for every single record. A dynamic, responsive Project management website has also been implemented. This website records daily activity on the project. It collects all the project related information at one place.

Outcomes of the project: 1. JAVA Parser and testing framework

2. Responsive content management website

Major Learning Outcomes: Gained experience of Coding in JAVA for big product, Learnt design patterns, Web Designing

Brief Description of working environment, expectations from the company:Tangoe gives perfect environment to the person who has a little knowledge of Object Oriented paradigm and little experience of Coding in JAVA language. A student with a learning mind set can explore various principles behind the management of IT assets and expense management and also can improve his object oriented design skills. It gives a perfect environment to learn JAVA from beginner to advance level by letting work on framework like Spring and hibernate. Tangoe has various projects to have a perfect experience. Colleagues are also very helpful and gives an opportunity to explore.

PS-II Station: Tata Consultancy Services, Bangalore

Student

Name: *Rajat Jain*

ID No: 2013AAPS226H

Student Write-up

Short Summary of work done during PS-II: The project was about home automation using ZigBee protocol. So, a customized home automation profile was supposed to be developed and a gateway to be created so that it can communicate over IoT

Tools used (Development tools - H/w, S/w): qtcreator, beyondstudio by nxp, JN 5168 board

Objectives of the project: -The project was about home automation using ZigBee protocol. So, a customized home automation profile was supposed to be developed and a gateway to be created so that it can communicate over IoT

Outcomes of the project: I was able to establish communication between coordinator and end devices, device mapping for IP address and accordingly mac addresses, basic timer's application on service layer for scheduling requests between server and network layer

Major Learning Outcomes: C++, hands on experience of using C++ over different API's, hardware interfacing

Brief Description of working environment, expectations from the company:the working environment was good and friendly initially I was not able to cope with the speed of other employees but once I learnt how to use api functions it was a good experience working for one of the biggest IT industry in the world

Name: *SPARSH JAIN*

ID No: 2013A7PS041H

Student Write-up

Short Summary of work done during PS-II: Application Framework for IOT

Tools used (Development tools - H/w, S/w): Xcode, Mobilefirst, Cordova

Objectives of the project: Application capable of talking to both IOS and non-IOS base accessories using an intermediate gateway and has a web-view interface

Outcomes of the project: Application capable of talking to both IOS and non-IOS base accessories using an intermediate gateway.

Major Learning Outcomes: Application Development, Hybrid Applications, Home Automation

Brief Description of working environment, expectations from the company: Professional, hard-working and motivated employees working in different domains. A lot of facilities and a well-regulated environment. However, I would still give 4/5 for the environment. Company expects discipline, hard work, dedication from the intern.

PS-II Station: Tonbo Imaging Pvt Ltd. , Bangalore

Mentor

Name:Shyam Sunder

Designation: Member, Technical Staff

The students are working on DM365 processor. They were quick in getting the concepts and start working on project. If students have some good knowledge of Embedded systems with C/C++ programming, Linux experience and ARM architecture experience is good. Overall students are performing well.

Faculty

Name: Rekha.A

At Tonbo Imaging students are working on various project areas like Image Processing, FPGA programming, Electromagnetic Interference Shielding, Machine Design and Drawing. Students are working on projects like Implementation of State Machine in Asynchronous Communication, Developing a new display frame work for a thermal imaging camera etc.

Operating systems, C++, C programming, Image processing, Embedded systems, CAD/ Solid works, mechatronics, robotics, manufacturing engineering computer graphics (frame buffers), ARM Architecture are some of the skill set expected by the organization to work on various projects.

The skill gap training sessions will help the student to be better prepared for PS II. They can brush up the basic concepts before they come for internship.

Student

Name: *Sahil Maniar*

ID No: 2013A8PS465G

Student Write-up

Short Summary of work done during PS-II: Embedded system software

Objectives of the project: -Improvement of system software of Davinci DM365 processor

Outcomes of the project: Completed the uvc video streaming application

Major Learning Outcomes: Embedded systems

Brief Description of working environment, expectations from the company: Good working environment

Name: *Radha*

ID No: 2012B1A8701G

Student Write-up

Short Summary of work done during PS-II: Worked on implementation of image processing algorithms in VHDL on FPGAs. Worked on developing an application for quality testing of thermal video output.

Tools used (Development tools - H/w, S/w): VHDL, MODELSIM, QUARTUS, C programming

Objectives of the project: Image processing of thermal video for development of good quality thermal imagers

Outcomes of the project: Developed a VHDL code for sharpening of blurred thermal videos and developed a C based application for noise parameters calculation

Major Learning Outcomes: FPGAs, VHDL

Brief Description of working environment, expectations from the company: Involves steep learning curve and good technical skills

Name: *Salman Anjum*

ID No: 2012B2A4722P

Student Write-up

Short Summary of work done during PS-II: My work consisted of several projects. Keypad design, fin design, humidity control, emi shielding, painting and coating are the areas I worked on.

Tools used (Development tools - H/w, S/w): Software: Solid works, ANSYS, MATLAB; Hardware: Arduino Due

Objectives of the project: Design and Development of Sealed Enclosure for Optical Devices

Outcomes of the project: Proper sealing was ensured for the enclosure along with efficient fin design for maximum heat transfer. The moisture content inside the enclosure was also controlled. It was also ensured that the enclosure conformed to MIL standards for painting and coating.

Major Learning Outcomes: Industry standard sealing methods, standard design practices, engaging with suppliers and manufacturers.

Brief Description of working environment, expectations from the company: Since Tonbo Imaging is a startup, the work environment was relaxed and a lot of flexibility and freedom was provided to interns. There were no fixed deadlines for projects. Employees were very helpful and assisted on every small problem we encountered.

PS-II Station: Walmart Global Technology Services , Bangalore

Faculty

Name:Preeti N.G.

Walmart Labs works on many areas like Big Data and Analysis, Inventory management, merchandising etc. Students need to be aware of Web development tools, OOPS, JAVA etc., Few of them also work in Big Data Analysis and get the opportunity to explore R Programming, Python,Spark,Scala etc. The basic programming skills and willingness to learn new technologies and tools with minimal guidance or support is the need from the industry. If the students have the knowledge of OOPS, JAVA, Python etc. then it's easier for them to quickly gel with the teams they are allotted and get started with the projects.

Student

Name: *Nilesh Sarupriya*

ID No: 2013A7PS124H

Student Write-up

Short Summary of work done during PS-II: Technologies used: Spring Framework, REST services, Integrating REST calls to JAVA APIs, Datastax Cassandra, Apache SOLr, ElasticSearch

Implementations: Using ElasticSearch along with JAVA APIs in order to get Responses from Users using Services and Products. Integrating Datastax Cassandra and Apache SOLr in order to make a database which allows it to do Text Based Queries which would allow instant Searches into the database. It would allow the user to search for anything that the user want to.

Tools used (Development tools - H/w, S/w): H/w: Macbook Pro

S/w: Spring Tools Suite, ElasticSearch, Kibana, Cassandra, SOLr

Objectives of the project: -User Response Collection

Outcomes of the project: Analysis of the Data for Enhancements

Major Learning Outcomes: Good Code Writing, Database Usage, REST services

Brief Description of working environment, expectations from the company: Working Environment is very friendly.

PPO process is very bad and unpredictable.

Name: *Abhinav Gandotra*

ID No: 2012B1A8847P

Student Write-up

Short Summary of work done during PS-II: My work was associated with backend and Middleware. I work on databases Hana and Teradata. For Web Services I worked on JAVA, REST APIs and Spring Framework. I also worked on sentiment Analysis.

Tools used (Development tools - H/w, S/w): Spring, Maven, Hana, Teradata, Hive, Eclipse

Objectives of the project: To make an application for quality managers to make their decision making easy.

Outcomes of the project: The project is in testing phase by business right now.

Major Learning Outcomes: How to handle with business while doing technical work, Learnt the implementation of Agile framework

Brief Description of working environment, expectations from the company:-working environment is good.

-Lots of things to learn.

- don't come to this company with hopes of getting PPO. You won't be getting.

-Manager review doesn't play role in intern conversion process as it's like campus process only.

- good Brand name and gr

Name: Shriya Jain

ID No: 2012B3A8452P

Student Write-up

Short Summary of work done during PS-II: Created REST services for the licensed Walmart Application.

Created Unit Tests for the server end of the same application.

Enhanced the performance of the code.

Tools used (Development tools - H/w, S/w): Node.js

Objectives of the project: -To increase the operational and financial efficiency of the transportation team by logging the work timings of the employees and generating periodic reports for effective resource management.

Outcomes of the project: The API developed will be used as building block for developing the layers of application. Unit testing will help in more streamlined development of code in future. This application will cut short the loss of productive time of workers by enabling them to report their work timings through mobile app. This data can be retrieved afterwards by managers.

Major Learning Outcomes: Learned how to work with node.js, unit testing and performance enhancement of the code.

Brief Description of working environment, expectations from the company: The working environment is fun with lots of opportunities to learn new technologies. The mentors are friendly and gives proper guidance. There are several team outings which included sports and different type of activities. The overall experience is pretty enjoyable. For PPO, pretty good knowledge of DSA and DP is required.

Name: Madhu Vemana

ID No: 2013A3PS152G

Student Write-up

Short Summary of work done during PS-II: I was responsible for the ETL (Extract, Transform, Load) of data from various heterogeneous databases to other databases by applying the required transforms to the data.

Tools used (Development tools - H/w, S/w): Hadoop, Oozie, Crunch, Spark, JAVA, SQL

Objectives of the project: -To help vendors make an informed decision by providing all the data collected at one place.

Outcomes of the project: Successful in migrating the data without loss and setup a framework to do the job every day until triggered off.

Was appreciated by several Directors and the CIO (Chief Information officer of Walmart).

Major Learning Outcomes: I learned how to work with a large team, across several time zone and deliver the product on a strict time line. I learned how to efficiently. Learned several new technologies and how to work on a scale that was earlier unfathomable.

Brief Description of working environment, expectations from the company: The working environment was good. The company expected us to know a few basic concepts of DSA, Databases and be able to comfortably work in a team.

Name: Akshit Goel

ID No: 2012B4A3716P

Student Write-up

Short Summary of work done during PS-II: 1. Created a dynamic web application to search for logs stored in different servers by running grep command and then make the results downloadable using JAVA Servlet.

- a. Various applications run in distributed environment in Wal Mart each generating its own logs in local machines.
 - b. The project connects different machines using Hazel Cast cluster and then run grep command on it.
 - c. The application allows user to access logs using different parameters like Date, Time, CorrelationID etc.
 - d. The application uses multithreading to increase the search speed and maintains a local history to keep track of recent searches.
 - e. A major challenge in the development of the application was to make the search synchronized and fast.
2. The front end of the application was also developed using HTML, CSS and Angularjs.
 3. Created a smoke test for Wal Mart's application Log Collector which was used to check the overall functionality of Log Collector. The test ran using TestNG framework.
 4. A number of unit tests were written to increase the code coverage in sonar. Easy Mock was used to mock the methods and write efficient Junit test cases.

Tools used (Development tools - H/w, S/w): JAVA, Hazelcast, Elasticsearch , Angularjs , EasyMock, TestNG

Objectives of the project: Make debugging of applications easy which are running in distributed environments by accessing logs stored on remote machines.

Outcomes of the project: The web application was completely build during the PS program as well as successful smoke and unit tests were written.

Major Learning Outcomes: 1. Learned how to design and build dynamic web applications.

2. Learned the importance of good unit tests and how to write them.

Brief Description of working environment, expectations from the company:-Walmart, is an American multinational retail corporation that operates a chain of hypermarkets, discount department stores and grocery stores. The Bangalore center of Walmart develops and maintains the various applications running in Walmart stores, distribution centers and e-commerce websites.

The company gives a good opportunity as well as time to learn new technologies being used in major corporations like Walmart.

The expectation from us is to deliver the work assigned to us in the allotted time while following the coding conventions.

Name: Kriti Jain

ID No: 2012B1A8796P

Student Write-up

Short Summary of work done during PS-II: Extraction of data from various sources like Teradata and Mainframe, applying various transformations and push it to Azure cloud. Migration and testing of data movement scripts from one Hadoop cluster to another.

Tools used (Development tools - H/w, S/w): Hadoop, Hive, Teradata, Oozie, Shell Scripting, JAVA

Objectives of the project: -To Extract Data from various sources like Teradata and Mainframe, apply various transformations and push it to the cloud.

Outcomes of the project: The movement of data to the cloud will enable the vendors and Walmart's internals to create micro queries and effectively retrieve the data needed. Cloud will enable easy retrieval, querying, reporting and analysis of data. There will be a common simplified interface for suppliers and merchants.

Major Learning Outcomes:Learnt about various Big data technologies like Hadoop, Hive, Oozie etc.

Brief Description of working environment, expectations from the company:Working environment in the company is good. Very friendly and helpful people. Work may get a little boring. Getting a pre placement offer is a bit difficult. Overall, a nice place to work.

Name: Bhargavi Addagulla

ID No: 2013A7PS007H

Student Write-up

Short Summary of work done during PS-II: We developed a platform for building, deploying and managing Big Data

Analytic applications. It enables quicker application development with its rich set of APIs. I worked on Notification engine service and also wrote unit test cases for the services to the platform and also developed a sample web page to monitor this platform and also fixed few bugs while production process.

Tools used (Development tools - H/w, S/w): Spring Tool Suite, Postman

Objectives of the project: -Do exploratory data analysis for model building exercise. Takes out the complexity of scaling and monitoring of application, so applications can focus only on Business problem.

Outcomes of the project: I am able to send the notification to the users regarding any logs or monitoring status and the necessary information. The unit coverage almost cent percent.

Major Learning Outcomes: JAVA, Junit, Angular JS

Brief Description of working environment, expectations from the company:Team interaction is good and co-operative, I gained a lot by sharing knowledge and new optimistic ways of solving a problem. The work culture was cool. Learned different technologies, interaction with other teams was great for technical help. Got lot of guidance from all. Food and atmosphere was superb.

Name: Antriksh Vijay

ID No: 2013A3PS228G

Student Write-up

Short Summary of work done during PS-II: Project work was initially about making a shipping module application using technologies such as EJB, JPA, HSQL, CDI. Later on, the work was on performance enhancement by reducing JAVA heap size of the application. Finally, the work was on frontend side using AngularJS.

Tools used (Development tools - H/w, S/w): Hibernate, JPA, Restful API, CDI, AngularJS

Objectives of the project: Objective was to learn new technologies and be able enough to write industry level code, develop new services and improve the efficiency of product.

Outcomes of the project: Fixed performance defects in the product which helped the team during a very crucial time of the year. (Black Friday and Cyber Monday)

Major Learning Outcomes: Learnt about new technologies and what are the factors which affect the performance of a product

Brief Description of working environment, expectations from the company:- Walmart labs is the software division of the giant US retail company Walmart. The working environment is really good. People are helpful and provided lot of support to the interns. Interns were treated like team members only and we contributed to the work that full time employees were doing. Company provided to-fro cab services which made travel easier in Bangalore traffic. Free lunch and snacks were a big plus. The only thing wrong about the station is there intern-conversion process. Only 2 out of 13 got PPO.

Name: *Pratik Jain*

ID No: 2013A3PS286P

Student Write-up

Short Summary of work done during PS-II: Understand the existing architecture of "search" backend used in ASDA Groceries website, and implement various refinements for "product search" using the commercial tools (Oracle Endeca), Also, deep understanding of how search actually works and leveraging the tools to enhance its capabilities.

Tools used (Development tools - H/w, S/w): Oracle Endeca, J2EE, Oracle ATG

Objectives of the project: -To add search refinements in ASDA Groceries Website

Outcomes of the project: Worked on the existing projects along with the Walmart team. Got to learn commercial tools used in e-commerce such as Product Catalog (ATG) and Search (Oracle Endeca).

Major Learning Outcomes: Detailed understanding of backend of "Search" in any e-commerce website.

Product Catalog Maintenance and the overall architecture of an e-commerce website.

Brief Description of working environment, expectations from the company: Team is quite friendly and helpful. Free pantry and free cab service.

Very less chances of PPO. every year they hire only a few (2/13 in our case and 1/19 last time). Also, the procedure is similar to campus hiring (coding round, tech interviews, manager round and HR round) and NOT based on your manager feedback. One can get rejected even in the HR round for no reason.

Name: *Utkarsh Singh*

ID No: 2013A7PS185H

Student Write-up

Short Summary of work done during PS-II: The project is about creating a platform that incorporates querying data and cache management, that would make it easier for Data Scientists and other teams in Walmart to implement their solutions in an easier and efficient way. Technologies involved were Hadoop, Alluxio, Spark. Most of technical aspects related to product development are already taken care in the platform. So an application developer can focus on developing their solutions forgetting about the other aspects.

Tools used (Development tools - H/w, S/w): Spring Tool Suite, Hadoop, Spark, Alluxio.

Objectives of the project: -Helping the data science community to get the data faster.

Major Learning Outcomes: Advanced JAVA, Spring boot, Knowledge about Hadoop, Spark, Alluxio.

Brief Description of working environment, expectations from the company: Working environment in Walmart was pretty good. It was a good learning curve for my future endeavors. Flexible timings, team members were approachable for any doubts regarding the implementations. Overall it was a decent learning experience in Walmart labs.

Name: Shubham Sharma

ID No: 2013A7PS110P

Student Write-up

Short Summary of work done during PS-II: Reporting is the collection and presentation of data so that certain processes can be analyzed.

Reports can either be in tabular form or graphs and provides a perspective of the data collected.

Efficient reporting gives an insight on how the business works and helps the management in making strategic decisions.

The web service implements the DAO pattern which is basically separating the high-level rest calls with the low-level API/data transactions.

The web service had 3 main functions which were get list, execute report and custom scheduler to schedule reports.

Other than coding the platform we also had to create certain reports as and when business requirements came in. Report generation mostly consists of writing SQL blocks.

Tools used (Development tools - H/w, S/w): JAVA, Restful Services, CDI, Informix and Exago

Objectives of the project: To create a framework for Reporting.

Outcomes of the project: The team had completed 2 of the 3 major functions and had started incorporating a hazel cast cache.

Major Learning Outcomes: JAVA, Restful Services and CDI.

Brief Description of working environment, expectations from the company:-The work environment was great and there are a lot of smart people around from whom one can learn a lot. The timings were also very relaxed which gives time to pursue other activities. The expectation from us is to deliver the work assigned to us in the allotted time while following the coding conventions.

Name: Vaishal Shah

ID No: 2013A8PS379P

Student Write-up

Short Summary of work done during PS-II: I was assigned to front-end web development team inside Walmart developing Web app to give clearance markdowns (Next Gen Pricing - Markdown). Initial 2 weeks I learned basic HTML, CSS, SASS, JAVAScript and AngularJS. My team followed AGILE principles which involved 10 working days sprint model. I was assigned my first user story in next sprint. It was about restricting user input based on specified regex. Commonly, other sprint stories involved HTML page design, API service integrations and designing custom directives. We used Angular JS 1.4.x version compared to latest Angular 2 launch. 8 days were given in a single sprint for developers and last 2 days for QA team to finish testing. After about 5 sprints, my team's product went to first production. We did a lot of testing from our side and made sure no more critical bugs came later in production. Product worked really smooth in production and was a full success. We were facing a lot of lag issues in scrolling. This problem was solved by using virtual scroll library for AngularJS which doesn't bind unnecessary data to list. Overall I worked in about 10 sprints completing Avg. 30 user stories. I had a pretty good user story delivery record with no spillovers. I really enjoyed working in front-end with the help from really smart people.

Tools used (Development tools - H/w, S/w): Webstorm IDE, Chrome developer tools

Objectives of the project: -Next Gen Pricing - Markdown web application development

Outcomes of the project: Web app went into first successful production release.

Major Learning Outcomes: Learned a lot about front-end web development and technologies like CSS, JavaScript, JQUERY and AngularJS.

Used and developed custom directives, services and filters in Angular.

Brief Description of working environment, expectations from the company: Working culture is really good.

Timings are flexible (Generally 9:30-5:30).

PPO process can be really tough. Don't get your hopes high.

Perks include 7 days stay at 4/5-star hotel, daily to and fro cab service and lunch.

Team members are friendly (manager also)

Workload isn't hectic so you can get a lot of time free to learn new things and can explore new areas.

Domain: Biological Science

PS-II Station: ARM, Bangalore

Student

Name: Nisarg Kanani

ID No: 2013A1PS059P

Student Write-up

Short Summary of work done during PS-II: In the first of the two projects that I worked on, the HbA1c percentage of individual red cells is measured and the red cell events as obtained in a cytometer are re-organized on a scale of percentage HbA1c. In this way, the HbA1c percentage of the different fractions is an independent parameter and can be used for the age calculation of the cells in the fractions. Also, corresponding fractions can be compared between different individuals of whom the red cells have undergone different glucose concentrations. This will further help in differentiating the diabetic patients and monitoring their glycemic history on an approximately per-week basis. For the second project, our main aim was to implement an additional feature in the present system of HemoCue device so that it can give a similar count output for CD4 positive cells in the blood sample, which in turn would provide an indication of HIV and/or an inefficient immune system. The tasks performed for this purpose included developing new formulations with specific reagents which would allow for surface staining in the cells and analyzing the captured images for the samples from the device to give a count of CD4+ cells as an output.

Tools used (Development tools - H/w, S/w): CytoFLEX, NavIOS; S/w: CytExpert, Kaluza Analysis

Objectives of the project: 1. To develop a glycaemia monitoring system/method with the help of HbA1c values obtained from Flow Cytometry.

2. To implement an additional feature in the present system of HemoCue device so that it can give a similar count output for CD4 positive cells in the blood sample, which in turn would provide an indication of HIV infection and/or an inefficient immune system.

Outcomes of the project: 1. The future applications of this project might include a useful tool for doctors to prescribe and/or adjust drug doses for diabetic patients after analyzing the trend of their glucose levels for the past weeks.

2. Being a point of care device, this method of CD4 cell counting would be a very fast, hassle-free and easily accessible indicative measure of the person's immunity conditions.

Major Learning Outcomes: A unique experience to work in an MNC, how exactly an organization works, how to handle multiple projects simultaneously and a general idea about research and development.

Flow Cytometry being one of the major learnings, there were other involuntary learnings that came along when I worked in the innovation team and that too in an organization of this stature.

Brief Description of working environment, expectations from the company: Although not exactly my field of expertise, Biotechnology and its applications are highly intriguing to say the least. After coming to pace with the fundamental knowledge required to work for the projects, which were based on Flow Cytometry, it was a thoroughly interesting and enjoyable experience. Beckman Coulter has an excellent work environment; people working here are friendly and helpful and guide you in the best possible manner. It is a great place to gain an experience in research and development and basically to get an idea about how an organization works. I would recommend this practice school station to all those who are willing to learn something new (and obviously have some interest in the field).

PS-II Station: belong.co, Bangalore

Faculty

Name: Rekha.A

Students at Belong.Co are working on projects like Development of a Customer Health Score framework, Business Intelligence automation, Twitter user classification, Analytics for Product providing insights and intelligence to help better products/features/processes, Crunching Big data and making sense out of it and tech tooling.

Student

Name:Amit Gaiki

ID No:2012B1A7660G

Student Write-up

Short Summary of work done during PS-II: Devops and infra management. Rabbitmq cluster setup. Elasticsearch optimization.

Tools used (Development tools - H/w, S/w):Docker, Ansible, AWS, rabbitmq

Objectives of the project: Make a high availability rabbitmq cluster

Outcomes of the project: Made a high availability rabbitmq cluster

Major Learning Outcomes: Learnt clustering and message queueing

Brief Description of working environment, expectations from the company: Very good tech culture. It was a good experience with respect to values and learnings.

Name:Abhinav Agarwal

ID No:2013A7PS124P

Student Write-up

Short Summary of work done during PS-II: The first part of the project is a new Customer Health Score framework. CHS is a very important internal metric assigned by the company to each user of the product to judge how they are using the product. It also has a role in analyzing upsell, churn and judging where intervention from customer success team is needed. The second is two intercompany tools for automating redundant data extractions from the ETL (Extract, Transform & Load) endpoint and analytics tasks. They were a much-needed requirement for the company as it scales and manual intervention becomes both time and manpower costly. It automates two of the basic analytics roles: data extraction and metrics calculation.

Tools used (Development tools - H/w, S/w):R, Python, SQL, Airflow, Hive, Pig

Objectives of the project: To implement a new Customer Health Score framework and automate existing analytics and metric reporting pipelines

Outcomes of the project: Customer Health Score is a very important companywide metric associated with each customer to judge how they are using the product and evaluate them on the churn-upsell scale. This revamp in CHS was critical for the company because the old framework was not able to accommodate the growing use cases as the company scales non-linearly. The second part of the project was essential in that it enables anyone in the company to look up any customer data instantaneously without having to make per the time consuming existing workflow. The impact in man hours saved is considerable. The implementation of open source tool Metabase led to phasing out of earlier used proprietary software bringing more than 5000 USD in annual licensing fee to zero.

Major Learning Outcomes: Learnt practical large scale SQL and ETL pipelines, automation in R and how it can be used to develop a web app, data analytics workflows and thought processes, how a fast-growing startup like belong functions internally and how it drives its vision.

Brief Description of working environment, expectations from the company: Belong is a small 80-member team. The work environment is very open and everybody has access to everything. This philosophy was a primary driver for my project since it involved making all customer data accessible to everyone instantaneously. Belong is very much driven by its vision and goals. Being a startup one notices the impact of their work immediately. Every person in the company, even the CEO, is very approachable and open to questions on anything. It is very inspiring to see the very motivated people at Belong work so tirelessly towards a common noble goal. The company expects ownership from the student and wants to see them asking questions and getting involved in things. It is also the student's responsibility to go out of their comfort zone and try to assimilate as much knowledge as possible in the limited time they have here.

PS-II Station: Cerner , Bangalore

Faculty

Name: Akanksha Bharadwaj

Since the company is mostly working on web application or mobile applications, the student should have basic knowledge of JAVA and JavaScript.

Course requirements - JAVA, JavaScript, database

Hardware/software tools - students should be keen to learn new tools and technologies

Soft skills - Team player, good learner, proactive, good communication skills.

Student

Name:Gaurav Bansal

ID No:2013A3PS307P

Student Write-up

Short Summary of work done during PS-II: Cerner is a health-care IT major. As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, SQLite

Objectives of the project: To build a stable app that can be used offline to enter the student details, hence can be used in areas with no internet connection, that will enable students to undergo early diagnosis of any serious conditions, based on the referrals given by the doctors that conduct these tests.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name:Abhishek Varma Alluri

ID No:2012B4A3922H

Student Write-up

Short Summary of work done during PS-II: As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The main purpose of this app is to know beforehand, the symptoms of any major disease likely to affect the student in the future, so early diagnosis can be performed. There is primarily Web development related work involved in building this application. The app was actually designed for government schools at first, but gradually another app is now being built for private schools as well. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, PHP, MySQL

Objectives of the project: To build a stable app that can be used offline to enter the student details, hence can be used in areas with no internet connection, that will enable students to undergo early diagnosis of any serious conditions, based on the referrals given by the doctors that conduct these tests.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name: Rohan Mohammad

ID No: 2013A7PS195H

Student Write-up

Short Summary of work done during PS-II: As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The main purpose of this app is to know beforehand, the symptoms of any major disease likely to affect the student in the future, so early diagnosis can be performed. There is primarily Web development related work involved in building this application. The app was actually designed for government schools at first, but gradually another app is now being built for private schools as well. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, XAMPP, JS, JQUERY, PHP, TortoiseSvN, Notepad++

Objectives of the project: To build apps that can be used by doctors for easier diagnosis or prognosis of students studying in Private Schools as well as Public School respectively.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name:Gaurav Tamba

ID No:2012B1A7327G

Student Write-up

Short Summary of work done during PS-II: Worked on creating a new Ruby on Rails Engine for a product that leverages the company's Ruby on Rails ecosystem

Tools used (Development tools - H/w, S/w): Ruby Mine for Debugging Rails flow execution

Objectives of the project: To create a Ruby on Rails engine that leverages existing services to help migrate an existing PHP application to the Rails ecosystem.

Outcomes of the project: I was able to code some UI pages using HAML, Ruby, and minor CSS and HTML

Major Learning Outcomes: Learnt the basics of Web Development, Ruby on Rails and the company's software infrastructure and ecosystems

Brief Description of working environment, expectations from the company: The company is relatively flexible, expects 8 hours in a working day but not strict about In-time and out-times as such. Managers communicate well to you and always take your opinion into consideration. Supplied devices are pretty neat, and the cafeteria is sufficiently subsidized. Less scope for research, great scope for working on bleeding edge tech for apps.

PS-II Station: CIPLA Ltd, Goa

Mentor

Name: Jayanth Sridhar

Designation: Global Head & Product development

They are quite satisfied with the BITS students overall. Three of the students who requested for extension did get extension. The student-mentor relation is excellent as mentioned by various department heads under whom the students are working.



Faculty

Name: Raviprasad Aduri

The company is pretty much satisfied with the students for the PS II. They think some kind of prior knowledge of the subject domain will help the students to gel in quickly with the company. They also want to know of an opportunity of them selecting the students for the PS II.



Student

Name: Priyanshu Lilha

ID No: 2012B2A1635G

Student Write-up

Short Summary of work done during PS-II: We worked in the Engineering Department at Cipla Biotec a new venture of Cipla Ltd. There we were involved in the expansion process of the plant which is being scaled up to provide 5kl biologics from the present 2kl. We worked on a heat exchanger project.

Objectives of the project: Validation of the current heat exchanger system and suggesting alternatives.

Outcomes of the project: Heat exchanger was validated and found out to be inefficient and a different system was implemented upon our suggestion.

Major Learning Outcomes: We learned the process that is involved in keeping a biotechnology plant running.

Brief Description of working environment, expectations from the company: Company is still new and is a good place to work at and offers employment chances to willing students.

Name: Khyati Agarwal

ID No: 2011B1A1718H

Student Write-up

Short Summary of work done during PS-II: Main focus of the report was documentation. The regulations and rules associated with documentation, its necessity and correct implementation.

Tools used (Development tools - H/w, S/w): The study material was provided by the station

Objectives of the project: The objective was to highlight the importance of documentation and the reasons for the same

Outcomes of the project: The redundancy observed in documentation system was identified.

Major Learning Outcomes: A familiarity with the several pharmacopeias of the world, the ICH regulations and CRF regulations was generated.

Brief Description of working environment, expectations from the company: The working environment was conducive to learning. The people were friendly, cooperative, helpful and professional

Name: Ankush Paul

ID No: 2012B5A1491G

Student Write-up

Short Summary of work done during PS-II: I worked in the Technology Management Lab. (TM Lab.) which was involved in R&D of products. I was part of the upstream, and we were responsible for running small experimental reactor batches. Experiments to be done were designed & decided by the upper management and our job was to run them, this involved cleaning the reactors, preparing reactor and bottle assemblies & autoclaving them, making media and other feed supplements & charging them, doing daily sampling, keeping a record of the data & at the end of the run harvesting the broth and storing of the supernatant. This was a continuous cycle, beside this we also did literature survey for our project.

Objectives of the project: To understand the effect of process parameters on culture & critical quality attributes.

Outcomes of the project: I studied the effect of various process parameters on VCC, viability & glycosylation first from literature available, then I tried to co-relate this with the findings in our product development experiments, this gave us a better understanding & control over glycosylation by manipulating our process parameters. Glycosylation constitutes one of the critical quality attributes in mAb production that requires thorough analysis as it affects not only their physicochemical properties and thermal stability, but also their reactivity with their receptors and circulating half-life.

Major Learning Outcomes: One of the major learning outcome was to have an experience of working in an industry in particular biotech industry about which I had no prior knowledge. Experiencing their work culture, learning about new developments in the field, handling professional instruments & working with professionals and some very experienced people are some of the learning outcomes, not to forget the literature survey and all the studies done with regard to my project.

Brief Description of working environment, expectations from the company: Working culture was healthy & positive, people were approachable and always there to help. You are allotted responsibility as per what you demand and can handle.

Name:Santosh Rananaware

ID No:2012B5A1469G

Student Write-up

Short Summary of work done during PS-II: Studied and understood the process of development of bIOSimilar drugs

Objectives of the project:To study the impact of various process parameters on final product quality and productivity

Outcomes of the project: Ten parameters having a major impact on cell culture quality and productivity was studied and understood

Major Learning Outcomes: The process of development of bIOSimilar drugs was studied.

Brief Description of working environment, expectations from the company: Cipla is a fantastic place to work and learn about the biopharmaceutical industry. The management is great. The company provides a fun working culture

PS-II Station: Halliburton Technologies, Pune

Student

Name:Manish Ojha

ID No:2013A1PS455G

Student Write-up

Short Summary of work done during PS-II:At Halliburton, I mainly worked on two of these control techniques namely, gravel pack and Resin consolidation. Purpose of the first project or control

technique (also known's as Sand treatment) is to optimize and recommend Epoxy resin composition and treatment parameters which can give best consolidation and regain permeability for the formation / produced sand samples. It helps in sand control by binding to the sand grains and increasing their unconfined compressive strength. The second project also known as Aqua linear Gravel pack sand control method is done to optimize different additives in a gel for transporting gravel sand to the reservoir zone and then breaking the gel to flow I back or leak it off.

Tools used (Development tools - H/w, S/w):H/w: Core flow, Viscometer, ISCO Pump, Sand consolidation assembly, Corrosion testing assembly, Compressive strength testing equipment, Swaging tools, Hot roller oven, HPHT viscometer and many more.S/w: E-draw

Objectives of the project:To perform successful gravel packing and Resin consolidation tests.

Outcomes of the project:Performed more than 50 tests and optimized fluids for 7 different oil fields for their usage in the field to control Sand production.

Major Learning Outcomes:Got to learn about Darcy's law and different fluid mechanics concepts. Also learnt about Rheology of polymer fluids and while working on different equipment's used different things learnt in process dynamics and control course.

Brief Description of working environment, expectations from the company: The people were very friendly from the beginning itself. I got to work on interesting projects and was provided with opportunities to work more and more in the laboratory to get hands on experience on most of the equipment present in the laboratory. Being a tech service PSL their guidance and persistence was much required for this project. In last 5 and a half months I've not only worked with the sand control team, but also with Hydraulic fracturing team and Acidizing team, which was very helpful to increase my knowledge about the upstream oil industry. The company expect us to have decent knowledge about our core subjects and also expects us to work hard in different areas. It was a great learning experience!

PS-II Station: Hindalco Innovation Centre - Semifab, Talaja, Navi Mumbai

Mentor

Name: Dr. Gautam Wagle

Designation: GM, Mathematical Modeler

Satisfied with the performance of the students. Interns were able to learn quickly, apply the concepts and arrive at a feasible solution given the amount of time they had.



Faculty

Name: Mukundhan C



Student

Name: Himanshu Gupta

ID No: 2012B1A4795P

Student Write-up

Short Summary of work done during PS-II: I was working on the product design project related to creating a profile for an aluminum parapet which might be launched as a product under Hindalco high end product brand Eternia. We started with basic solid mechanics but later used FEM to simulate various iterations.

Tools used (Development tools - H/w, S/w): H/w: FEM software Stimula Abaqus CAE

Objectives of the project:To design the profile of an aluminum parapet for extrusion

Outcomes of the project:A profile of an aluminum parapet for extrusion

Major Learning Outcomes:FEM, Solid mechanics, Data analysis, Excel, Working in R&D environment

Brief Description of working environment, expectations from the company:Working environment was calm. Not many people working there. We were the first 6 months' interns. Good lab facilities. It's far from the city so we lived in suburban areas. Company provides transportation facilities. Mentor was helpful and knowledgeable.

Name:Sri Amarnath

ID No:2012B5AB581H

Student Write-up

Short Summary of work done during PS-II: tried to do statistical analysis on profile of a flat rolled aluminum sheet and achieved initial results

Tools used (Development tools - H/w, S/w):H/w: Python,SQL,Rolling model

Objectives of the project: To predict the profile of hot rolled sheet from process parameters at hot mill

Outcomes of the project: profile prediction

Major Learning Outcomes: Research is slow. It takes time to produce valuable results. That was a major learning

Brief Description of working environment, expectations from the company: The people at the company are nice. They are helpful, especially our mentor. The company has high expectations from us bits interns.

PS-II Station: National Centre for Biological Sciences , Bangalore

Student

Name: SHUBHAM PRAVIN RATHI

ID No: 2012B1A1673P

Student Write-up

Short Summary of work done during PS-II: The project entitled Enhancing phagocytic uptake of mutant *Drosophila melanogaster* hemocytes was directed to explore the use of small molecules in mediating phagocytic uptake in larval macrophages. For this purpose, screening was done for chemicals that enhanced phagocytosis in wild type blood cells but it was found that they were incapable of recapitulating the same phenomenon when Notch function was perturbed in them. The uptake of latex beads in Notch perturbed and control *Drosophila* larval blood cells was compared by imaging these blood cells using various microscopic tools and techniques.

Tools used (Development tools - H/w, S/w): Hardware - Fly genetics, fly dissections, microscopy techniques - confocal, TIRF, fluorescence

Software - Image Processing tools - ImageJ, Cell Profiler

Objectives of the project: The central motif of my project was to enhance phagocytic uptake in *Drosophila melanogaster* plasmatocytes (macrophages) using specifically synthesized amphipathic chemicals which reportedly alter the biochemical composition of the cell membrane. This study answered the question whether endocytosis is only due to membrane fluidity or was affected by developmental cues like Notch.

Outcomes of the project: Endocytosis in blood cells was captured at a series of time points, which showed that endocytosis increased with increase in time. This assay, standardized for a particular concentration of chemical and fluorescent beads, didn't seem to restore the same amount of uptake in Notch loss of function blood cells as compared to control. This indicated that Notch signaling is crucial for endocytosis and membrane dynamics as well.

Major Learning Outcomes: Through this project, I was trained rigorously in basic fly genetics, larval dissections, immunohistochemistry, microscopy and image processing. I also made myself familiar with developmental cues guiding hematopoiesis and cell specification in *Drosophila*. Subsequently, I participated in scientific journals and paper discussions which helped me broaden my understanding of the subject.

Brief Description of working environment, expectations from the company: NCBS provides a fantastic environment for research, in terms of technology, resources and people. The labs are open 24x7, so one has the freedom to work at their own pace and time. All the faculties, research scholars and post docs are very approachable, both in terms of academics/non-academics, both inside and outside the lab. The open lab system here helps one interact with members of other labs as well. There are many international conferences and courses held round the year, which provides a great opportunity to learn about other fields and interact with top researchers. Moreover, the awesome sport facilities (again, open 24x7), swimming pool, subsidized food canteen, innumerable library and online resources makes research at NCBS even more fun!

Name: *V Soumya*

ID No: 2012B1A1782P

Student Write-up

Short Summary of work done during PS-II: My project was to check and validate a developed mathematical model using experimental data. The model was constructed to understand the growth of a cellular population in an antibiotic environment using parameters of ribosomal death and division. Specifically, I was characterizing bacterial growth curves at the antibiotic minimum inhibitory concentration.

Tools used (Development tools - H/w, S/w): R for data analysis

ImageJ for image analysis

Techniques of flow cytometry and fluorescence microscopy

Objectives of the project: To enumerate live and dead cells at antibiotic MIC and to fit it to the theoretical model

Outcomes of the project: At MIC, number of live cells remained constant while total number of cells increased linearly, as predicted by the model. This gave a new interpretation of MIC: that of it being a point where any particular cell has equal chances of life and death. This critical point hence can be used to study what particular cellular components tip the cell over to life or death.

Major Learning Outcomes: Besides honing my practical laboratory skills, I learnt how biological processes may be developed as mathematical models to derive parameters that cannot be obtained merely by experimentation

Brief Description of working environment, expectations from the company: Work environment is extremely flexible. One is expected to make progress in the project, but the details and planning are left entirely to you. Laboratories and the library is open 24 hrs. every day, and hence one can make good use of these resources. Besides free access to papers and books, conclaves, seminars and paper presentations take place regularly. The air, on a general basis, is thus filled with academic discussion.

*PS-II Station: National Institute of Science and Tech. Dev. Studies (NISTADS) ,
New Delhi*

Mentor

Name: Dr. Tabassum Jamal

Designation: Chief Scientist

NISTADS is one of the important research labs in the country. The current project deals with policy making for "Smart City" project initiative for the country. BITS student was put into this project and was expected to do research mainly in the area of transportation and mobility policies for Smart Cities. The BITS intern did an overwhelming work. In general, BITS students are hardworking and sincere in what they do.

Faculty

Name:Ritu Arora

Being one of the eminent research institutes in the field of Science and Technology, NISTADS offers good research projects for those interested to pursue higher levels of research. Projects ranging from the most talked SMART CITIES project to a simple software development project, students did all. Students received immense exposure to vast databases of existing research papers of all domains and were able to filter, gather and organize the required knowledge. As a faculty, I helped students organize the vast collection of research material that they obtained from the subscribed archives. The literature survey was reviewed with proposed creative changes. The software development project was also closely monitored for proposed user interface consistency and implementation.

Student

Name: Prasna Pinnika

ID No: 2012B4AA698H

Student Write-up

Short Summary of work done during PS-II: Worked on an android based app called TechNav and did a report on Renewable Energy in BRICS nations.

Tools used (Development tools - H/w, S/w): Dreamweaver, MySQL

Objectives of the project: To create a database of all the technologies present in all the CSIR laboratories

Outcomes of the project: Created login pages for the app

Major Learning Outcomes: learnt how to use php, MySQL and HTML

Brief Description of working environment, expectations from the company: It was a unique experience as a government workplace is very different from the traditional startup or private workplace. This company gives us the opportunity to work on socio-economic topics with scientists.

Name: Bhanu Prakash Reddy

ID No: 2013AAPS301H

Student Write-up

Short Summary of work done during PS-II: I have worked Social Network Analysis of Renewable Energy Research in India. I have extracted data of different universities in the country working on Renewable Energy Research and analyzed using tools like UCINET.

Tools used (Development tools - H/w, S/w): UCINET

Objectives of the project: To analyze the growth of PhDs in Renewable Energy Technology. To discuss the contribution of Universities in yielding PhDs in Renewable Energy. To understand different areas of Renewable Energy Technology that have been covered in the PhDs and their Distribution over time. To identify how PhDs are distributed across India. To find the network structure among Researcher, gender, Guide and University. To analyze the participation of women in Renewable energy research in India.

Outcomes of the project: From the analysis done in different fields of Renewable Energy Research it is pretty evident that focus must be shifted to wind energy and Hydro Energy as India has ample potential in these fields. IIT-Delhi itself, comprises of more than 40% of PhDs in Renewable Energy in India which shows the institutions high participation and concern towards Renewable Energy Technology. The comparison of PhDs in all fields and PhDs in renewable Energy Technology, all over India is done and it is found that a significant number of PhDs in Renewable Energy Technology is concentrated in Delhi, Rajasthan, Madhya Pradesh and Tamil Nadu whereas a major proportion of PhDs in all subjects is aggregated in western Uttar Pradesh and Andhra Pradesh. Women are equally encouraged as men in the field of Renewable energy research in the Jai Narain Vyas University-Jodhpur. This is a welcome step and should be followed in the other universities. But the overall participation of women in Renewable energy research is very poor and it has been improving over the decades as we had seen

Major Learning Outcomes: Learnt how to analyze large data using UCINET and PAJECK.

Brief Description of working environment, expectations from the company: Work environment is very comfortable and work-friendly. Deadlines were flexible and scientists here are very supportive. Our work was very well structured and scientists are very particular about our analysis and output derived.

PS-II Station: Vitacloud, Bangalore

Student

Name: Roshan Kumar

ID No: 2013A5PS595P

Student Write-up

Short Summary of work done during PS-II: Worked on different aspects of software development for the vitCloud API. Integrated Google fit sdk into the vitacloud sdk. Also, worked on the android app for the vitCloud team which is a patient related android app.

Tools used (Development tools - H/w, S/w): Android studio, eclipse, IntelliJ idea for JAVA development.

Objectives of the project: integrating Google fit into the vitacloud API.

Development of Android app for the vitacloud team.

Outcomes of the project: Successfully submitted the android app and also integrated Google fit into the vitacloud sdk.

Major Learning Outcomes: Android App development.

JAVA software development

Working with web APIs

Interaction and working with REST and JSON.

Brief Description of working environment, expectations from the company: Vitacloud is a recently founded started which aims to bring the major digital healthcare products under one platform. These are some really good people with flexible work environment. They mentor us quite well.

Name: Geetanjali Kumar

ID No: 2013B1TS979P

Student Write-up

Short Summary of work done during PS-II: When I joined the company, I was put in an ongoing project, Antibody Expansion Program. The project was already on its third stage of product development. This involved performing a set of experiments on various antibody-dye conjugates (catalogue products of Beckman Coulter labelled Research-Use-Only) to enable its conversion to CE-IVD for diagnostic purposes. The processed samples are then acquired on a Flow Cytometer NAVIOS (CE-IVD certified Instrument) and the data is compiled for analysis. It is then sent out for reviewing and is finally approved for CE-certification. The need for conversion of the product is because this will allow the reagents to be used for diagnostic purposes in the European market whereas an RUO product can't be used for diagnostic evaluation. Since the experiments had to be performed in the Lab, I was extensively trained in Good Lab practices and Standard operating procedures (SOPs) for all the instruments. I also had to read about Flow Cytometry, the dyes and cell markers used to gain some insight on what I was working with. This project has immensely helped me in improving my existing lab experience and practices. I've also learnt how to use the Flow Cytometer and brushed up my Immunology about markers and their importance in the detection of various cancers and underlying medical conditions.

Tools used (Development tools - H/w, S/w): Hardware- NAVIOS (Flow Cytometer), CytoFLEX

Softwares-NavIOS Software, Kaluza Analysis

Objectives of the project: To perform verification and validation studies on single color antibody conjugates to enable its conversion from RUO (Research Use Only) to CE-IVD (In-vitro Diagnostics)

Outcomes of the project: The Program successfully passed all specifications and is now moving onto its final stage of development, CE-Certification and Marking.

Major Learning Outcomes: The main learning from the project was an in depth learning of Flow Cytometry which can assist in the detection of a host of diseases. Apart from that I also learnt Good Lab practices and equipment handling. Various software analysis techniques which helped in converting raw data from flow cytometers into meaningful graphs or plots.

Brief Description of working environment, expectations from the company: The working Environment is very friendly and all the research associates are very helpful. The company carries a progressive culture and appreciates openness and innovation. In terms of Research, you deal with different cell markers on a day-to-day basis, which proves as a challenging task as each cell marker reacts and binds differently. This allows you to learn more about these cell markers and their purpose in diagnostics before performing experiments. The work enhances your knowledge in various fields like cancer biology, immunology and cell biology.

Name: *Sanath Shetty*

ID No: 2012A3PS216G

Student Write-up

Short Summary of work done during PS-II: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Tools used (Development tools - H/w, S/w): Linux, Angular2, Angular1, Nodejs

Objectives of the project: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Outcomes of the project: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Major Learning Outcomes: Learnt to use Angular2 and Nodejs to create complete micro API services

Brief Description of working environment, expectations from the company: It was a cozy office in an early stage startup with 7 employees. We were given complete control over the product we were working on. It was a great experience with a lot of learning.

Name: Saksham Agrawal

ID No: 2013A2PS501P

Student Write-up

Short Summary of work done during PS-II: The work done by us was solely related to the ongoing projects of the host organisation. We gained insight to the practical applications of the teachings by the professors in college. The work allotted to us was a gateway to learning new software like ETABS, SAFE, RCDC, SAP2000, etc. Overall, it was a great learning experience and 6 months felt too less for it.

Tools used (Development tools - H/w, S/w): ETABS, SAFE, RCDC, StaadPro, SAP2000, AutoCAD, Excel VBA

Objectives of the project: Help the host organisation through working as a design engineer

Outcomes of the project: Helped the organisation by contributing to many ongoing projects.

Major Learning Outcomes: Learnt analysis and design software, preparing schedules, etc.

Brief Description of working environment, expectations from the company: The working Environment is very friendly and all the research associates are very helpful. The company carries a progressive culture and appreciates openness and innovation. In terms of Research, you deal with different cell markers on a day-to-day basis, which proves as a challenging task as each cell marker reacts and binds differently. This allows you to learn more about these cell markers and their purpose in diagnostics before performing experiments. The work enhances your knowledge in various fields like cancer biology , immunology and cell biology.

Name: Akhil Diddiga

ID No: 2013A7PS069P

Student Write-up

Short Summary of work done during PS-II: Making Dashboards

Tools used (Development tools - H/w, S/w):Html, CSS, JAVA Script

Objectives of the project: Making Dashboards

Outcomes of the project: Learning basic web technologies

Major Learning Outcomes: Building web pages

Brief Description of working environment, expectations from the company: The project description in the PS website was no way related the work which was assigned to us, and the work was repetitive.

Name: Garima Gupta

ID No: 2012B1A4768P

Student Write-up

Short Summary of work done during PS-II: I wanted to leverage the PS 2 opportunity to gather experience in the field of consulting and NextGen, a pioneering startup in the CSR & Sustainability space. The projects I undertook gave me a lot of exposure in end-to-end program management and product standardization. During this internship tenure, I worked on a total of four projects out of which two were end-to-end CSR management. In these two projects, I was involved right from project conceptualization to NGO selection and product configuration. It helped me get a brief exposure to client-facing roles. Next, I worked on a social audit which required field visits in Bangalore and Chennai. This helped me quickly pick up skills of multi-level stakeholder management, data collection and analysis, and reporting of findings. All this while, I was working in a small team with strict deadlines and interacting with the top leadership of the client team.

Next, I worked on product standardization and configuration. It helped me learn product design thinking and apply it to the problem at hand. It also involved a lot of testing and troubleshooting work. This PS2 experience has been an important milestone in shaping my skills as well as approach to the work culture at a startup.

Tools used (Development tools - H/w, S/w):Soft Skills

Objectives of the project: End-to-end CSR Management, Social Audit, Dashboard Standardization & Product Configuration

Outcomes of the project: Dashboard standardization helped in developing executive dashboards with standard style, approach, features and color scheme. The product configuration was done in a way which included all project life-cycle stages before monitoring and evaluation. The social audit highlighted under-utilization of funds by NGOs and helped improve partner evaluation and selection process along with constant monitoring of the ongoing projects.

Major Learning Outcomes: Multi-level stakeholder management, data collation, analysis and reporting. Product design, testing and troubleshooting.

Brief Description of working environment, expectations from the company: The company is transitioning from a start-up to corporate and hence a mixed style of working is witnessed. A lot of work is expected from your end without much guidance which leads to reiterations and changes in the work already done. There is no work culture to look forward to. In case, one should not join the station in hope to learn about development sector, since that kind of exposure is minimal.

Name: Siddhant Gupta

ID No: 2013A8PS747G

Student Write-up

Short Summary of work done during PS-II: We created dashboards using different web technologies.

Tools used (Development tools - H/w, S/w): JAVAScript,html,css

Objectives of the project: To create dashboards according to different client requirements

Outcomes of the project: Proper monitoring and evaluation of different csr projects.

Major Learning Outcomes: Web technologies

Brief Description of working environment, expectations from the company: Amazing people and good work environment.

Name: R Prasanna Malavika

ID No: 2012B2A4677H

Student Write-up

Short Summary of work done during PS-II: The project focuses on key aspects in Corporate Social Responsibility and Sustainability. There are 3 projects that I have worked on, 2 in CSR and 1 in Sustainability. Sustainability project for a major Apparel Manufacturer in Sri Lanka required various indicators as per the Global Reporting Initiative (GRI)'s guidelines to have been followed while mapping the necessary indicators for tracking Environmental, Social and Economic impact. Under the CSR banner, Social Audit and Needs Assessment for MNCs in the financial sector have been completed. Upon performing the necessary Impact Assessment & Needs Assessment for the Stakeholders, and on analyzing various financial documents provided, extensive reports have been furnished. Deployment of projects on NextGen's p3 platform for creating dashboards necessary for client's usage is a major part of all projects taken up by the firm.

Tools used (Development tools - H/w, S/w):MS Excel

Objectives of the project: To gain knowledge and insight about end-to-end CSR Management

Outcomes of the project: The project has made CSR project management for major clients highly efficient and thorough. These clients contribute towards major revenue for the firm.

Major Learning Outcomes: Various parameters and indicators involved in Sustainability reporting, In-depth knowledge of various stages in End-to-End CSR Project Management, Efficient Data collection, collation and analysis using Excel tools, Concepts of product design and data visualization, Nuances of formal reporting techniques.

Brief Description of working environment, expectations from the company: Most of the co-workers are aged 30 years or lesser. The work culture is that of a start up. Work timings are usually from 9:30 AM - 7 PM, however a lot of days require people to stay overtime. Some people stay overnight to work too. The consulting team is slightly short staffed, so there is generally a lot of work load on each individual. However, the work is interesting and the learning curve is steep.

Name: Naimil Shah

ID No: 2013A7PS129G

Student Write-up

Short Summary of work done during PS-II: I joined the consulting team of Nextgen as a Business analyst intern as a part of my PS-II. My work involved supporting the senior analysts and consultants to fulfill client requirements. Most of the work was related to configuring the technology platform of Nextgen, called p3 for the clients. There was a considerable amount of data collection, cleaning and determination of KPIs that I did. I got to work with multiple teams and face clients as well. over all it was a mixed bag experience with the positive highlight being the great exposure and the negative highlight being long work hours and sometimes mechanical monotonous work.

Tools used (Development tools - H/w, S/w):Excel and In-House technical platform "p3"

Objectives of the project: According to Section 135, companies having a net worth of Rs 500 Cr and more need to spend 2% of their average three year's profits on CSR projects which are validated by the Government. With the advent of this CSR mandate, the corporates have project requirements like identification of an implementation partner, monitoring and evaluation, and impact assessment of CSR initiatives in sectors ranging from livelihood and education to sanitation. My project involved working with such clients to develop a strategy of their programs and get in place analytics tools to gain insights of their CSR interventions. It also involved configuring the p3 platform developed by Nextgen for the clients and adding data to it.

Outcomes of the project: Successfully contributed to multiple projects. Assisted various teams on p3 configuration. Helped in internal development and standardizing processes.

Major Learning Outcomes: I have worked and interacted with multiple teams and clients. Owing to this experience, my thoughts about the development sector have evolved and this firmness to the thought process reflects in discussions that I engage in. I am now able to better relate to the issues that are always talked about like poverty and illiteracy. At the end of the internship, I can say I clearly know the CSR scenario in India and have a thorough understanding of the product p3 being developed and used here.

Brief Description of working environment, expectations from the company: It's a fast paced, high growth startup with a very young team. Working environment is not very formal and there is no strict dress code (apart from client meetings). There is very little structure in the company currently and you get a chance to interact with a lot of people. I was expecting more of a consulting based role here (research, framework development, designing implementation plan etc.), but the work here is closer to

project management. They will give you work and you will be given a responsibility to complete it within a given span of time. You will usually work for 8-9 hours a day and might have to stay back on a few days' after 7 pm as well (long work hours). The exposure I got was great. I met clients and traveled for few small assignments. Overall it was a mixed bag experience.

PS-II Station: Nucleus Software Export Ltd , Noida

Mentor

Name:Gaurav Marwaha

Designation: Associate Vice President, GPM ,NSEL

The company develops products for banking and financial domain using Java and related technologies. The students undergo rigorous training for around a month and are prepared for the same. The students are put in live product modules. Most of the features developed by BITS students have already become a part of the final product. BITS interns are intelligent and hardworking. Nucleus prefers to continue with BITS on this program.

Name:Shashank Bhaskar

Designation: Manager -Product Engineering

Faculty

Name: Ritu Arora

Nucleus Software is into developing banking and financial software. It is essentially a product and service based company. With already an established base of products like FinnAxia and FinnOne, it is moving ahead in other domains as well. BITS students essentially from EEE and other related disciplines have a good opportunity to do their internship here. The students undergo rigorous training for more than a month on JAVA and related technologies that would be required for the projects ahead. The students get opportunity to work on modules that become a part of the final product and most of which are shipped to the customer even before the students complete their internship. Nucleus Software is a good place to work with an extremely good work-life balance.

Student

Name: Gona Prudhvi

ID No: 2013A8PS462H

Student Write-up

Short Summary of work done during PS-II: Development of Enterprise Content Management

Tools used (Development tools - H/w, S/w): languages used-JAVA, JAVAscript frameworks-spring,hibernate

Objectives of the project: - main objective of the project is to develop a common entity for all the products which can manage their documents

Outcomes of the project: version 1 of the product was almost ready for deployment

Major Learning Outcomes: bootstrap, JAVA, SQL,mvc

Brief Description of working environment, expectations from the company:Nucleus provides lot of opportunities for learning and has a encouraging work environment

Name: Harshit Srivastava

ID No: 2013AAPS285H

Student Write-up

Short Summary of work done during PS-II: Developed a platform for Dynamic Dashboard.

- Concept referenced from JIRA.
- Client can create his/her own widgets using Transactional Metadata.
- Data could be displayed in the form of Pie, Column or 2D Charts.
- Features like Advanced Search Query, download to Excel, Auto refresh and Option of selection and deletion of different attributes included.
- No maintenance required.

Tools used (Development tools - H/w, S/w): JAVA, Spring, Hibernate, JPA, Struts,Ajax, HTML,CSS,JQUERY,JAVAScript, Bootstrap,Oracle SQL.

Objectives of the project: Developing a platform for Dynamic Dashboard.

Outcomes of the project: Platform was created.

Major Learning Outcomes: Got the opportunity to learn new Technologies. Worked with R&D of the Organization.

Brief Description of working environment, expectations from the company:Well 250 words are too less for this. Firstly, the organization doesn't have a proper system in place for Hiring Process. The company initially said they will judge interns on the quality of their work, but as soon as the last month approached they changed their own policy saying we(interns) have to go through an online assessment test for which cutoff was 50%. A surety was given by them that if a person is unable to clear 50%, he/she will be judged on his coding skills (again change in policy). The top management of the organization weren't able to decide till this very point (14th Dec 2016) to whom PPO was given (I am sure they are still in a dilemma). In the end, when we approached Company's Product Head for the feedback, these were the words he said "We are running a business here. Why should we hire people from TIER 1

college and give them x salary when we can get it done by giving x/2 to some other college student"? I am not judging anyone here but they always taunted us by saying you belong to TIER 1 college and still in the end they couldn't come up with a proper valid reason why we were rejected. They kept saying that many parameters were involved but they didn't disclose any. I wouldn't recommend any junior to join the company if he/she is interested in getting a PPO.

Name: Naga Deepa Alavalapati

ID No: 2013A3PS242G

Student Write-up

Short Summary of work done during PS-II: PS-2 started off with initial training for 2 months to improve our technical skills mainly JAVA, Spring, Hibernate, JSP, Servlets and database queries. Then we started software development in FinnOne Neo Loan Management System. Areas where I worked include Excel file Uploader and Downloader using Spring Batch Excel and Apache Poi APIs, fix for Malware Injection through File content during file upload and Download.

Tools used (Development tools - H/w, S/w): JAVA, Spring, JSP, SQL

Objectives of the project: -Development of additional features in the existing product FinnOne Neo LMS

Outcomes of the project: Successful feature addition

Major Learning Outcomes: Learnt to face challenges in the vast product

Brief Description of working environment, expectations from the company: Team was very good and encouraging at every step. Employees have to work for long hours and it needs to be changed.

Name: Jayant

ID No: 2012B2AA708H

Student Write-up

Short Summary of work done during PS-II: Our project was to build a new product for the company- Enterprise Content Management which will later be integrated into their existing products. As it was a new product we had lots of interaction with senior managers and often had to refactor our code according to user stories. The company has their own framework built using Spring and Hibernate which

was used as the backbone of the project. We learned quite a lot here from building client side pages using JSP and JQUERY, writing hibernate queries to writing controllers and services for the web-app. The work environment is fast paced and you are expected to learn a lot of new things required for the project, for which you are provided ample technical support by your peers. On joining we had one month of technical training so we didn't face much problems during our development stage.

Tools used (Development tools - H/w, S/w): Spring, Hibernate, maven, MySQL

Objectives of the project: To build a new product for the company-Enterprise Content Management

Outcomes of the project: Milestone version is ready to showcase to potential customers and take their feedback.

Major Learning Outcomes: Core JAVA, SQL, Spring, Hibernate, JSP Servlets, JQUERY

Brief Description of working environment, expectations from the company: Overall our experience with the company was quite good. The environment here is very supportive and they try to accommodate the needs of every intern. Being from BITS Pilani you are treated well and their expectations are also accordingly high. We were provided with one week of lodging and had to undergo one month of mandatory training on certain technologies like Spring. After evaluation and asking your interests you are allotted to different teams and the work given to you is mostly development and you are expected to perform on par with other employees. From the perspective of learning and career opportunities, this company is very good.

Name: *Prashant Mishra*

ID No: 2013AAPS067H

Student Write-up

Short Summary of work done during PS-II: Training: one and half months of training of spring /hibernate framework, we have created a sample of web application based on it. We were graded according to that and sent to different departments.

First task I was asked to create a customized tag file with its own CSS JS and TLD. It has to be created over their customized framework and this project took around two months and was successfully committed to their product. Then some of the issues or blockers were found out by testing team which

were further resolved by me for next 10-15 days. Then second task i was given was to recreate the menu bar of their application and solve the overloading problem and UI problems in that. Finally, after two weeks i have committed the recreated new responsive menu bar for their product.

Tools used (Development tools - H/w, S/w): Maven, Eclipse, SVN Tortoise

Objectives of the project: -To look out the problems in the previous tag file and recreate according to the product team requirements.

Outcomes of the project: The project is now a part of the product

Major Learning Outcomes: CSS, TLD, JS, AJAX, JAVA, SPRING, HIBERNATE, learnt much about web development

Brief Description of working environment, expectations from the company:Environment differs from department to department in this company. Work pressure is too much in some department. HR policies are not firm, they themselves don't stand on their sayings.

Don't expect PPO from this company as they will first take full advantage of you through work as you are capable enough to work / sort their product problems but finally they may say your work was not up to the mark as expected, after completion of project.

I guess they understood the BITS year to year system of PS and they are thoroughly utilizing our capabilities by paying us small as an intern because they won't get this cheap labor for 6 months for their expected work from anywhere else.

Name: Sanket Ashok Thanvi

ID No: 2013A3PS204P

Student Write-up

Short Summary of work done during PS-II: Development of Enterprise Content Management, using advanced JAVA

Tools used (Development tools - H/w, S/w): IDE: Eclipse. Language: Advanced JAVA, JavaScript(JQUERY) , Tortoise SVN

Objectives of the project: To create a product for document management system (Ex: Loans)

Outcomes of the project: Version 1 of Product was almost developed for banking system.

Major Learning Outcomes: Bootstrap,SQL,Advanced JAVA(Spring and Hibernate),MVC.JQUERY

Brief Description of working environment, expectations from the company:Working environment depends on team. My Working environment was fine I would say better than I expected. At first timings might seem an issue (Weekly 45hrs and 7hr/day minimum), but it won't bother afterwards. While working here, you would get a feel of how products for banks are designed and various complexities in it.

Name: Divya Rai

ID No: 2012B3A8536G

Student Write-up

Short Summary of work done during PS-II: Added Right-to-left support in BIB (Business Internet Banking) Application for the company's clients in Middle East

UI development was done using Bootstrap, JSP, JQUERY and HTML/CSS.

Functionalities and Features of the same are:

- Right to left text-input fields
- Chosen drop-downs, tables, tooltips etc. in RTL format
- Horizontally-Flipped layout including dropdown main menu and side menu

Tools used (Development tools - H/w, S/w): JAVA, Spring, Hibernate, Bootstrap, CSS, HTML, JAVAScript, JQUERY, AJAX, MySQL

Objectives of the project: -The key focus of the project is to develop a way such that it automatically mirrors your site's content for Right-to-left languages whenever user switches the locale

Outcomes of the project: After the necessary changes being made, the application is able to support left-to-right environment for entering, editing, and displaying text.

Major Learning Outcomes: These 5 months have been a good learning experience for me. I got the opportunity to acquire various technical skills and expand my soft skills while working at Nucleus. I learned how to handle criticism with grace, which also built my confidence in a professional setting. I

have also grown professionally through building a strong network with fellow Nucleus employees and interns. Web development is a growing field with lot of modern technologies being developed. During my internship, I had the freedom of learning about the ins and outs of these technologies along with some frameworks like Spring, Hibernate.

Brief Description of working environment, expectations from the company: Nucleus software is an amazing company to work with. It offers both technical and professional enhancement as one can learn lot of things here. It has a great work culture and good working environment. Mentors and managers are very polite and supporting. I expect the company to have consistency in its policies towards the selection process of interns for pre-placement offers.

Name: Ayush Agrawal

ID No: 2012B5A8504G

Student Write-up

Short Summary of work done during PS-II: During PS-II we had to work on various technologies which include JAVA8, Hibernate, Spring, MVC framework, etc. First, we were given short training and then teams were allotted. My work was in their product FinnOne which is a lending software. The work was challenging and had great learning opportunity.

Objectives of the project: Upgrade Bootstrap and JQUERY

Outcomes of the project: Upgraded Bootstrap from 2.3 to 3.3.7 and JQUERY from 1.7 to 2.2.4.

Major Learning Outcomes: The work given to me was implemented in their main product. I got to learn how a large-scale application is built and maintained. Since my work was in frontend, I got to learn various technologies used in frontend development.

Brief Description of working environment, expectations from the company: Working environment is good. The managers are good and supportive. There is a lot of work load.

Name: Anurag Malik

ID No: 2012B2A8515G

Student Write-up

Short Summary of work done during PS-II: First we started off with basic JAVA concepts like polymorphism, inheritance and abstraction etc. Then we moved on to learn database i.e. MySQL along with Servlets and JSPs. We built a maker-checker web-app using all these concepts. After that, we moved on to Spring and hibernate and rebuilt the web-app using these new concepts. Then our respective teams were allotted and we started off with the work. I was involved in FinnOne Loan Management System and built a file uploader with the help of Spring API which was used in their rescheduling engine. I also worked on making validations for excel files. After that I upgraded the existing versions of Bootstrap and JQUERY in the Loan Management System with the help of regular expressions in JAVA. Side by side I was also given a Business training about their existing product, database management, receipt and payment engines of the system etc.

Tools used (Development tools - H/w, S/w): Core JAVA, SQL, JQUERY, Spring, Hibernate, JSP

Objectives of the project: To make the file uploader a public utility (for intra-Nucleus depts.) and understand all the sub-engines of the loan management system

Outcomes of the project: Uploader has been merged successfully with the rescheduling engine of FinnOne Loan Management System. The work for its extension to support .csv and .xlsx files is under process.

Major Learning Outcomes: Core JAVA concepts, Spring, SQL

Brief Description of working environment, expectations from the company: Working here with Nucleus was totally a different experience all together. We started off in a learning environment where we were given proper training about the Core JAVA concepts, Spring etc. This was really beneficial because few of us were new to all these concepts and those who weren't, they also got a chance to brush up their concepts again. Everyday there used to be lectures that we had to attend and where learning was actually fun and after those we were given tasks/assignments to complete each day that we had to finish. In the beginning, we used to work from 9-5 and then we had an option of going to their rejuvenation center which has TT and pool tables along with carom, gym and some music equipment's. After 2 months of training, we were allotted our teams and we began our work. Work and life balance has to be maintained and that again depends on the team you are in. Some managers themselves leave by 5 and some start off their main work in the evening by 5 and work till late in the night. So, working hours is not something that is fixed in this company. Rest, everything was good, people are friendly and

really helping and the best part is that it already has a lot of BITSians so it is definitely one of the very good PS stations that one can consider working in.

Name: Shashwat Sinha

ID No: 2013A8PS386P

Student Write-up

Short Summary of work done during PS-II: We had to work on various technologies include JAVA8, Hibernate, Spring MVC framework, Web Development, etc. First, we were given short training and then teams were allotted. My work was in their product FinnOne which is a lending software. The work was challenging and had great learning opportunities.

Objectives of the project: -Upgrade Bootstrap and JQUERY

Outcomes of the project: Upgraded Bootstrap from 2.3 to 3.3.7, JQUERY from 1.7 to 2.2.4 and other JQUERY Plugins.

Major Learning Outcomes: The work given to me was implemented in their main product. I got to learn how a large-scale application is built and maintained. Since my work was in frontend, I got to learn various technologies used in frontend development.

Brief Description of working environment, expectations from the company: Working environment is good. The managers are good and supportive. There is a lot of work load. Work-life culture is not well maintained here.

Name: Harsh Yadav

ID No: 2013A3PS317G

Student Write-up

Short Summary of work done during PS-II: Created Simulators for various Banking Messages which are an integral part of any Banking Transaction Software.

Tools used (Development tools - H/w, S/w): Core JAVA, Spring, Hibernate, Weblogic Servers, Tomcat Servers

Objectives of the project: Simulation Of Banking Messages

Outcomes of the project: Simulator Created for Different Banking Messages.

Major Learning Outcomes: JAVA Development Tools

Brief Description of working environment, expectations from the company: Nucleus Software Exports Pvt Ltd has both Bank lending and transaction software for the Practice School Program. I am in the Bank Transaction Software Department. Here I have worked on creating simulators for various banking messages which are an integral part of any banking transaction in core JAVA with the help of spring and hibernate. For simulators, I learnt and used a WebLogic and tomcat servers. The learning here at Nucleus Software Exports Pvt. Ltd is at par to the industry standards and the work culture is quite amicable. Regular meetings with the mentor and the team helped me learn about the process of the development of the various products and their review.

I think this exposure to the industry will definitely help me in my future endeavors. I learnt how to actively inquire into the progress of your own work and got feedback from team members and mentors to tone my skills and adapt to the changing demands of the project. This was an opportunity to learn from everyone around, actively discuss and establish a network with professionals. Overall the PS-II has been a great learning opportunity and a very efficient exposure to the industrial applications of the technologies learnt.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS), Bangalore

Mentor

Name: Renjith Ravindran

Designation: Project Lead - Engineering

Work Done by intern include UI changes to make it HTML5 compatible and modelling process flow integration with OFSAA. Prefers interns with hands-on JAVA, JSP , SQL

Name:Seema Monterio

Designation: Project Lead - Engineering

Work Done by intern include enabling multibrowser compatibility of oracle's Data Management Tool by UI re- design. Prefers interns with hands-on JAVA, JSP, Oracle database

Name:Niraj Bhiswal

Designation: Team Lead - Engineering

Work Done by intern include creating user interface for exporting meta data from client database through connector definition functions. Prefers interns with hands-on JAVA, JSP, Oracle database and expects the right attitude to try the experiments to the next level

Name:Atam Prakash Bajaj

Designation: Software Engineer - Engineering

Work Done by intern include creating a JAVA parser solution to identify and list the dependencies between project module. Prefers interns with hands-on JAVA, JSP, Oracle database

Name:Arjun Ray Chaudhuri

Designation: Project Manager - Engineering

Mentor A white paper was presented internally at the OFSS by the intern stating the research result. Work Done by intern include a research work on decision tree analytics on financial data and constructing comparative interface for time series financial data analysis. Prefers interns with ability to learn given technologies with ease and think creative solutions

Faculty

Name:Raja vadhana P

Industry welcomes students with good professional attitude in approach, analytical problem solving skill, ability to learn and adapt to given requirement/project.

With respect to OFSS, its happy to welcome hands on skills on following technologies:

>JAVA

> Web Technologies - Scripting Languages

- > Data base
 - > BPEL
 - > Data structures
 - > Machine learning
-

Student

Name: Sai Teja K

ID No: 2013A7PS034P

Student Write-up

Short Summary of work done during PS-II: Developed applications for metadata report and Connector definitions

Tools used (Development tools - H/w, S/w): KO, d3, require, OJET, JQUERY,JAVAscript,JAVA servlets,HTML5,JQUERY UI, AJAX

Objectives of the project: -Develop and application for meta data report and connector definition

Outcomes of the project: First project was completed and second is almost complete

Major Learning Outcomes: Code Optimization, Code development in modules, New technologies learnt

Brief Description of working environment, expectations from the company:The work environment was good. The mentor was very helpful in developing my skills and helped me in finding a good approach to solve the problems and tackle with the bugs.

Name: Arth Patel

ID No: 2013AAPS263H

Student Write-up

Short Summary of work done during PS-II: Client and Server side scripting.

Tools used (Development tools - H/w, S/w): Eclipse, Winscp, SVN, Text editor

Objectives of the project: HTML5 Conversion

Outcomes of the project: Web pages have been made multi-browser compatible

Major Learning Outcomes: Web Development

Brief Description of working environment, expectations from the company:Very chilled out work environment, you will be given work only if you show interest. Good place to learn as you can work as much as a full-time employee if you want to. Easy PPO.

Name: Sai Krishna Movva

ID No: 2013A7PS043G

Student Write-up

Short Summary of work done during PS-II: Designed and developed learning models for various business needs.

Tools used (Development tools - H/w, S/w): R Studio, R, WinSCP, SQL Developer etc.

Objectives of the project: -Develop more efficient learning models

Outcomes of the project: Random Forest models for various business insights

Details of papers/patents:White Paper

Brief Description of working environment, expectations from the company:Work environment was good. My manager was very helpful in guiding and developing my skills and helped me in improving my time management skills and functional knowledge.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS) ,
Mumbai

Faculty

Name:Swarna Chaudhary

Software Tools Used: Hadoop, Maven, GitHub, Eclipse, Putty, Locus, JSON, Postman

Soft Skills: Ability to work in team environment, attention to details, adherence to timelines, good communication skills, promptness and timeliness

Students can prepare better by building basic concepts in topics such as Data Mining, Android Programming, DBMS (SQL Query Designing), JAVA Programming

Industry expect PS2 interns to have a learning attitude, and willingness to work hard. While industry people understand that students will not know everything beforehand, but expect students to learn quickly. Industry also expects sincerity and discipline from students.

Student

Name: Sachin Kumar

ID No: 2013A3PS280P

Student Write-up

Short Summary of work done during PS-II: Web application development, Eclipse plug-in development and GUI development

Tools used (Development tools - H/w, S/w): JAVA, Eclipse SWT, Rest API, Oracle BI publisher

Objectives of the project: -To create a report generation framework using Rest web service, and to make an eclipse plug-in for file upload template generation

Outcomes of the project: Eclipse Plug-in created and is forwarded to officials for a test run. The report framework is ready to be apt of the latest release

Major Learning Outcomes: PL-SQL, Rest API, Oracle BI publisher

Brief Description of working environment, expectations from the company: The company has an air of professionalism surrounding the working environment and the all the employees are hard working, helpful and welcoming.

Name: Manoj Madabhushi

ID No: 2012B1A7734H

Student Write-up

Short Summary of work done during PS-II: Repository/Dashboard creation, BI components onto ADF and repository merging

Tools used (Development tools - H/w, S/w): OBIEE tools

Objectives of the project: To merge repositories of two modules

Outcomes of the project: Repositories were merged

Major Learning Outcomes: Error debugging and database handling

Brief Description of working environment, expectations from the company: Working environment in OFSS is employee-friendly. Flexible work hours are the norm. Goal-oriented company that is fit to serve the current banking systems.

Name: Arjun Singh Ahluwalia

ID No: 2013A3PS273G

Student Write-up

Short Summary of work done during PS-II: In the first part of my project, I made an extension which saves quite a lot of time. In general, if you make changes on the task flow, to see its visual appearance you need to first deploy the task flow onto the server. This process takes time. With the help of the extension you don't need to deploy the file on the server, changes made will directly make changes in either the xml or xsl files, result of which can be seen by running xml file on the browser.

In the second part, I worked on the OBP TV. I edited php scripts to optimize searches to bring out suitable list of pages relevant to the search.

In the final part, I worked on OBP UI Development. I developed ADF task flows. With the help of wconfs, I was able to generate projects. Files like jsf, handler, pagedef, taskflowdef, helper, utils, etc. were suitably coded in jdeveloper and eclipse to get the required UI display and HOST calls from the database.

Tools used (Development tools - H/w, S/w): S/w: Jdeveloper, Eclipse

Objectives of the project: -Jdeveloper Plug-in for ADF task flow and UI Product Development for Credit Monitoring

Outcomes of the project: This extension saves quite a lot of time. In general if you make changes on the task flow, to see its visual appearance you need to first deploy the task flow onto the server . This process takes time . With the help of the extension you dont need to deploy the file on the server , changes made will directly make changes in either the xml or xsl files , result of which can be seen by running xml file on the browser Credit Monitoring Dashboard product will enable bank users to monitor status of their accounts using parameters such as Facilities , Collaterals , Conditions & Covenants and Insurance . It will also enable the user to modify the information (if required) and update the same.

Major Learning Outcomes:JDeveloper SDK extensions , ADF Taskflows

Brief Description of working environment, expectations from the company:Very satisfied with the corporate experience and the project that OFSS, Mumbai has provided.

PS-II Station: Oracle Financial Services Software Ltd. (OFSS) , Pune

Student

Name: *Harit Yadav*

ID No: 2013A7PS040P

Student Write-up

Short Summary of work done during PS-II: Initially I was given constant POCs to get experience with the technologies used in the development of the product OB Collections. After that I was given several bugs to fix during final testing of the release and was asked to make a map of the services used from UI to Business Services. Finally, I was involved in development of enhancements that are to be incorporated in the coming release.

Tools used (Development tools - H/w, S/w): JAVA, Oracle ADF on IDEs Eclipse and JDeveloper

Objectives of the project: -Bug Fixing

To Make A map of the services used from UI to Business Services

Enhancements that are to be incorporated in the coming release

Outcomes of the project: The given objectives were achieved

Major Learning Outcomes: Learned about the MVC architecture, how to do UI development on Oracle ADF and acquainted with Web Services.

Brief Description of working environment, expectations from the company: The working environment was very healthy. The seniors constantly encouraged us to ask questions and learn new things, we were to remain updated with the newest arrivals in technologies. I also got a view at how the development of a large-scale enterprise product happens.

Name: *Gaurav Dahima*

ID No: 2013A7PS169P

Student Write-up

Short Summary of work done during PS-II: For the first half, I worked on the Module Dependency Parser. I had to do the bug fixing and had to design a new TaskFlow parser. Technological knowledge required is basically JAVA only. On the second half of the PS I worked on the JMS (JAVA Messaging

Service). I had to automate the transfer of messages from Backup queue to normal message queue. For this I learned how to configure JMS. Overall It was a great experience and my learning curve grows exponentially.

Tools used (Development tools - H/w, S/w): Eclipse J2EE , Oracle JAVA Developer, Oracle WebLogic Server

Objectives of the project: Bug fixing in the Module Dependency Parser and Designing the new TaskFlow Parser. After that worked on the JAVA Messaging Service.

Outcomes of the project: Fixed the Module Dependency Parser and integrated the new TaskFlow Parser in the existing parser. Automated the process of message transfer from Backup queue to message queue.

Major Learning Outcomes: Learned to work on such a large-scale project.

Learned to parse XML/HTML files.

Learned the asynchronous type of messaging in JAVA Messaging Service.

Brief Description of working environment, expectations from the company: During the course of Practice school, I got to work in a project which requires a lot of coordination from other team members. My team members helped me a lot in these issues. I got to know how a real time working environment looks like in a multinational company. Work culture is awesome here. Work timings are flexible here and moreover your peers are always ready to help you if you are having any problem. Overall this PS was a great learning opportunity for me where I learnt the industry standards for working and otherwise.

PS-II Station: Oracle India Pvt Ltd. , Bangalore

Student

Name: Shrirang Mundada

ID No: 2012B2A3718H

Student Write-up

Short Summary of work done during PS-II: Developed an automation framework for Oracle cloud platform. It was a wrapper around Oracle's IaaS (Infrastructure as a service) offering. It's similar to Amazon cloud formation (part of AWS).

Tools used (Development tools - H/w, S/w): JAVA, Jersey, Hibernate, Eclipse

Outcomes of the project: Project achieved all the specified objectives

Objectives of the project: Develop a wrapper around cloud platform to simplify and automate provisioning and configuration of compute resources.

Major Learning Outcomes: Learned about web development and enterprise software development in JAVA.

Brief Description of working environment, expectations from the company: Work environment and project details are team specific. For me it provided a perfect mix of challenge and work-life balance. Highly recommended station!

Name: Raghul Reddy Katpally

ID No:2013A7PS125H

Student Write-up

Short Summary of work done during PS-II: Develop Mobile application that answers voice or text based natural language queries about the Asset Monitoring data.

The Natural Language query will be converted to SQL query and sent to the Oracle IoT cloud services and executed in it. The result of the query will be brought back to the mobile app and displayed to the user

Tools used (Development tools - H/w, S/w):Android Studio, JAVA, Stanford Nlp, Apache Spark, Oracle IoT cloud services

Objectives of the project: Develop Mobile application that answers voice or text based natural language queries about the Asset Monitoring data.

Outcomes of the project: Mobile app was created, and natural language to SQL conversion done to some extent

Major Learning Outcomes: Android Development, Apache Spark, Natural Language Processing

Brief Description of working environment, expectations from the company: working environment was pretty good, managers were knowledgeable, teammates were helping when needed. Oracle organised an outing and hackathon for us, it was pretty fun experience. The work given was also very interesting. I got to learn new things.

Name: *Suraj Naidu sambangi*

ID No: 2013A7PS020H

Student Write-up

Short Summary of work done during PS-II: Public execution of selenium tests in Oracle cloud

Tools used (Development tools - H/w, S/w): Docker, Oracle container cloud service

Objectives of the project: Implementing the selenium test execution on Oracle cloud

Outcomes of the project: Completion of proof of concept of a working model of selenium test execution using container cloud service

Major Learning Outcomes: Developing cloud applications

Brief Description of working environment, expectations from the company: Working environment was Good.

Name: *Nikhil Srinivas*

ID No: 2013A7PS122P

Student Write-up

Short Summary of work done during PS-II: Writing an Automation JAVA code for Template and Stack Operatoins Next, I worked on product standardization and configuration. It helped me learn product design thinking and apply it to the problem at hand. It also involved a lot of testing and troubleshooting work. This PS2 experience has been an important milestone in shaping my skills as well as approach to the work culture at a startup.

Tools used (Development tools - H/w, S/w):Postman Rest Client, Eclipse, Rest Assured API, JAVA, Shell Scripting

Objectives of the project: Main Objective of my project is To write a JAVA code which helps to simply Import, export Templates and Stacks (Services) on to PSM (Platform on which all the PaaS services are being provided to Customers)

Outcomes of the project: JAVA code for Implementing aboveoperations is completed and I even tested the working of template and stack Operations. It is Integrated into the Hudson with their already existing code and also pushed onto git.

Major Learning Outcomes: Learned a Lot about PaaS (Platform as a Service).

Learned how to design code such that its easily readable and flexible to implement functionalities

Brief Description of working environment, expectations from the company: Overall the working environment of Oracle is really good, especially the freedom which company provides employees. Working place is quite spacious to work on.

Name: Vibhor Joshi

ID No: 2013A8PS511G

Student Write-up

Short Summary of work done during PS-II: The internship projects involved working on different aspects of the client side stack of the Oracle Financial Services Analytical Applications. The major part of the project involved working on UI, client side JavaScript, API and RESTful web service design using JAVA. In addition, software development practices like AGILE, SCRUM and version control were a part of the daily work.

Tools used (Development tools - H/w, S/w): Languages: JAVA, JavaScript, HTML5, CSS3

Software: Eclipse, SVN

Objectives of the project: Enabling Multi Browser Support for OFSAA

Outcomes of the project: OFSAA is now supported in all leading browsers. In addition, browser, specific quirks are handled. The Suite UI has also been update to a much sleeker design.

Major Learning Outcomes: The project dealt with all aspects of handling the client side stack of OFSAA.

Brief Description of working environment, expectations from the company: The R&D division in divided into several teams which handle different aspects like Application and Platform development. I was part of the Enterprise Modeling Framework team which worked on providing the platform for data modeling and creation of analytical models. As part of the team I worked on the UI for the platform, client side JavaScript to handle the different components of the platform and designed RESTful web services using JAVA and the jersey implementation of JAX-RS. In addition, I was exposed to software development patterns and practices like version control and nightly builds. The team used the AGILE software development strategy and the progress was monitored using regular SCRUM call and the JIRA tracking platform. The internship was focused on learning hence I got to interact with a lot of senior developers in order to understand the best dev strategies for work. My mentor and team members were very helpful and patient with me and helped me through the entire process.

Name: Yogesh Godhwani

ID No: 2012B1A3644G

Student Write-up

Short Summary of work done during PS-II: Extend the files API with HDFS File System Provider.

Migrate the Data Lens Tools from vb.net to JAVA. Our main aim was to create a wrapper around the org.apache API, so that the user only needs to use the java.nio.Files API for accessing and managing files in the hadoop distributed File System instead of using the apache API which requires the user to write lengthy commands to accomplish simple tasks. We, therefore integrated the apache and the Files APIs in order to auto-detect the HDFS scheme from the user and use the installed HDFSFileSystemProvider on the machine to interact with the Files API and perform the standard files operations such as reading the file data, copying, creating directories.

Tools used (Development tools - H/w, S/w): JAVA, Hadoop, JAVAFOX, EDQP.

Objectives of the project: Extend the files API with HDFS File System Provider.

Migrate the Data Lens Tools from vb.net to JAVA.

Outcomes of the project: Implemented HDFS File System Provider and extended the Files API for Hadoop file system too. Migrated the data lens tools in excel to JAVA based desktop application.

Major Learning Outcomes: Understanding the existing technologies.

Learning the new method of implementation.

Implementing the project with the new technology.

Brief Description of working environment, expectations from the company: The HDFSFileSystemProvider project is based on understanding the working of the apache APIs and how to link them with the existing Files API and to identify the equivalent methods for the HDFS File System.

The ramp up process surely helped in gauging the enormity of the project requirements. After having worked on this project for a little over two months now, I have made significant progress and am confident of being able to complete the project in time. As with any development process, the project requirements change from time to time and I believe I have been able to adapt and conform to them.

The EDQP Data Lens tools project helped me to understand the nuances and challenges involved in migrating an application from one technology to another. It helped me to understand application development in JAVAFX and the various UI elements required to display different types of data on the application. I also got to understand how to send network requests to the REST APIs and how to parse the response data received from them to display them in the application.

Overall, the internship at Oracle was a great learning experience and my mentors and managers were extremely supportive and helpful throughout the internship which helped to learn a lot throughout the internship.

Name: *Syam Sree Manoj*

ID No: 2013A8PS702G

Student Write-up

Short Summary of work done during PS-II: Created mobile app

Tools used (Development tools - H/w, S/w): Cordova framework

Objectives of the project: Display live tracking on maps

Outcomes of the project: Created app for both IOS, android

Major Learning Outcomes: JAVAscript, Node.js

Brief Description of working environment, expectations from the company: Work environment is very good and people over here are supportive. Oracle expect to have good coding skills in JAVA.

Name: Anurag Panda

ID No: 2013A7PS129H

Student Write-up

Short Summary of work done during PS-II: Improving the granulation in the provisioning of a service such that it can run step wise instead of end to end. This saves the overhead created in case of an error midway through a run and improves the flexibility and efficiency of the process.

Tools used (Development tools - H/w, S/w): vi editor, host virtual machine, testing virtual machine.

Outcomes of the project: GRANULATION OF ORACLE DATABASE EXADATA CLOUD SERVICE PROVISIONING

Objectives of the project: Successfully implemented the said objective in platform layer and merged it with the product code-base. This resulted in improved efficiency of the service deployment process.

Major Learning Outcomes: Database deployment in cloud infrastructure, database management and coding in Python and JAVA; convincing team members for approval, group discussions, and team co-ordination

Brief Description of working environment, expectations from the company: The work environment is highly supportive for interns as they are treated similar to regular employees. Everybody in the team is highly cooperative and help out whenever needed. The timings are extremely flexible and working from home is permitted. The expectations are mapped out into weekly timelines to which you need to commit and present progress emails at the end of the weekly cycle.

Name: Nancy Nigam

ID No: 2012B1A3646G

Student Write-up

Short Summary of work done during PS-II: I was assigned two projects during my internship at Oracle.

My first project was Enhancement of tests of JAVA.util package and JAVA.text package related to Internationalization which were using deprecated APIs and data structures and replacing them with the latest available option. Also, using Generics, Streams, Lambdas, Autoboxing /Unboxing, Varargs, Enums etc. in the code to make it more efficient.

My second project was Development of a stand-alone application demonstrating key I18N features using JAVAFX. The application could detect word, character, line and sentence boundaries in a text, detect directionality of a given text (LTR or RTL) and sort a list of strings, all according to the rules of selected language .

Tools used (Development tools - H/w, S/w): JAVAFX, Jtreg , Webrev, IntelliJ

Objectives of the project: Project1 : Code maintenance.

Project2 : Showcasing key I18N features graphically.

Outcomes of the project: Project1: Enhancements have been pushed and will be reflected in JDK-9

Project2: Application could be used to demonstrate the I18N features across different platforms

Major Learning Outcomes: Streams,Lambda's,Generics,Data structures,JAVAFx,CSS

Brief Description of working environment, expectations from the company: The working environment is fun and flexible. There are no fixed working hours. There are a lot of learning opportunities and not much work pressure so can learn and implement at our own pace. It's extremely important to know JAVA as most of the work here is done in JAVA especially for the JDK team. Overall, it's a nice place to work.

Name: *Sai Harish Balijepalli*

ID No: 2013A3PS441H

Student Write-up

Short Summary of work done during PS-II: Work was mostly related to improvising and enhancing the existing company product performance and functionality wise

Objectives of the project: Optimize various functionalities of Oracle products

Outcomes of the project: Performance wise improvised versions of product and some added functionalities

Major Learning Outcomes: I got to know how complicated things can get when working on a standard product. I worked on current technologies for development of applications which gave me a huge boost in both the learning and experience perspectives.

Brief Description of working environment, expectations from the company: Working environment was pretty cool. Peers helped a lot and they are very informative. It was exactly as what I expected it to be. Overall it is a wonderful experience to work as an intern here.

Name: Krit Goyal

ID No: 2013A3PS283P

Student Write-up

Short Summary of work done during PS-II: Build POC for front end migration from ADF to JET for PBCS Application, build custom REST APIs, generate API documentation using Swagger, perform Compliance checks on APIs

Tools used (Development tools - H/w, S/w): JDeveloper, Swagger UI

Objectives of the project: Build POC for front end migration from ADF to JET for PBCS Application

Outcomes of the project: Standalone listing page component

Major Learning Outcomes: JS, CSS, Swagger usage, importance of other tasks than just writing code

Brief Description of working environment, expectations from the company: The working environment is relaxed. All the people here are very patient and willing to help out in any form. Everyone is afforded the same respect from an intern to the top management. The seniors don't interfere, but help out wherever needed and trust you to complete the task assigned within the given time.

Name: Sravan Kumar Menthula

ID No: 2013A7PS003H

Student Write-up

Short Summary of work done during PS-II: In my period of my internship, I have worked on 2 major projects, titles being:

1) Data Model Platform - performance enhancement through converting the JPA into JDBC.

2) Swagger Documentation.

Objectives of the project: 1) To enhance the performance of the Data model platform by transforming the JPA into Native queries i.e. JDBC.

2) Swagger Documentation: i.e. To incorporate the swagger annotations to the REST APIs and generate the swagger documents and deploy on the server and make them available to the client.

Outcomes of the project: The Performance of the platform has been increased by the factor of 2.5

Major Learning Outcomes: I have learnt quite a lot of new technologies. Grabbed the knowledge on, JPA -JAVA Persistence API, EJB - Enterprise JAVA Beans, Web servers, EAR, WAR, REST APIs

Brief Description of working environment, expectations from the company: Well, Oracle is great place to work especially for a fresher or an intern. In my case, I was very fortunate to have a great team, they have helped me in the initial stages where I couldn't understand anything. They gave me sufficient time to understand and learn the required concepts and technologies prior jumping into the actual project. Expectations from the company are also reasonable enough, depending upon the expectation they had, they gave the intern the appropriate resources and time to do so.

Name: Ashwini Patil

ID No: 2013A8PS508G

Student Write-up

Short Summary of work done during PS-II: We built a text classifier application that extracts features from plain text in order to categorize it. This categorization saves time for the company to handle the large number of Service Requests that it gets on a daily basis. We used NLP and ML to achieve this.

Tools used (Development tools - H/w, S/w):JDeveloper, SQLDeveloper, Weka, JAVA, PL/SQL

Objectives of the project: To build a text classifier application

Outcomes of the project: We built an application that categorizes plain text documents.

Major Learning Outcomes: Databases, how companies build software, different API implementations of similar applications

Brief Description of working environment, expectations from the company: Working at Oracle has been quite interesting. There were no time restrictions, we could come and go at any time as long as we got our work done. We stayed in the office late a couple of times because the work was so interesting we couldn't get ourselves to leave without solving the problem first. My manager was very supportive. He helped us whenever we got stuck on something and encouraged us to explore and learn as much as possible. My team members were also very helpful. I could count on them to patiently solve any problem I got stuck on. Our PS instructor was also very nice, and we had a good time overall. There were team lunches and interns outings during the course of our internship, and it was a fun experience. We started off the internship doing research on how to go about implementing algorithms to classify text. We also did research on how NLP works and how it could be used to extract the gist of any text provided to us. We implemented the algorithms in open source and Oracle software and compared results. This was all done in JAVA. We then implemented it within the Oracle database, and cut down on processing time. Simultaneously, we recorded stats for each API implementation. By the end, we handed over our work to the team who would continue the project after we left. I learned a lot in PS2 and it was definitely an enriching experience.

Name: Aditya Singh

ID No: 2013A7PS098G

Student Write-up

Short Summary of work done during PS-II: Developed performance analyzing and interpreting tool for easy visualizations of thousands of call stack traces generated in any software event which help in finding any bottlenecks in its performance

Tools used (Development tools - H/w, S/w):Jdeveloper

Objectives of the project: Building call stack profiler

Outcomes of the project: Successfully constructed required software

Major Learning Outcomes: JAVA

Brief Description of working environment, expectations from the company: Good opportunity to learn and grow. Ample amount of time to learn and implement the same

Name: K Deepak

ID No: 2013A3PS406H

Student Write-up

Short Summary of work done during PS-II: Designed a User Interface for Monitoring tool which gets data via RESTful Web Services

Tools used (Development tools - H/w, S/w):Oracle JET, NetBeans, Eclipse

Objectives of the project: To observe the trends of testing tool for a specific period of time via a User Interface

Outcomes of the project: User Interface to observe the trends of results of testing suite

Major Learning Outcomes: Oracle JET, RESTful Web Services

Brief Description of working environment, expectations from the company: They encourage to self-learn. They support you to work with your own pace.

Name: Abhinav Mittal

ID No: 2012B3A7479G

Student Write-up

Short Summary of work done during PS-II: My work was to certify Enterprise User Security and implement SCIM REST services for OUD

Objectives of the project: To make OUD SCIM compliant

Outcomes of the project: I completed various implementations of operations.

Major Learning Outcomes: You get to learn how to debug, understand the workflow and do some concrete coding to implement the operation required

Brief Description of working environment, expectations from the company: The timings are flexible. The work is good but not too hectic either.

They treat you like normal employees which is the best part

Name: Manoj Chandra

ID No: 2013A7PS030G

Student Write-up

Short Summary of work done during PS-II: I had to develop an application which monitors the Live Occupancy and Usage of Conference Rooms based on the data obtained from Motion sensors in the Conference rooms and also enabled the booking of Conference rooms in my application. Its really an amazing journey in building this application from scratch all by myself.

Tools used (Development tools - H/w, S/w): Motion Sensor, raspberry pi, Tomcat, Mongodb...

Objectives of the project: Check availability and book room/facility straight from your Desk/Phone - manage space & resources smartly.

Outcomes of the project: Live availability and complete statistics of Usage

Major Learning Outcomes: Lot learned about new technologies like Rest api, Ajax, JavaScript and deep learning in JAVA

Brief Description of working environment, expectations from the company: The working environment was really great. Our team of manager and mentor in my project have helped me in all the milestones of my project. Guiding my thought process and helping me in solving issues whenever I got stuck. Its really a great experience working here.

Name: Murali Krishna

ID No: 2013A7PS026H

Student Write-up

Short Summary of work done during PS-II: Most of the work was on data mining, machine learning and information retrieval , had to know at least basics on these lines. Text mining was the study that we were doing.

Objectives of the project: To create an application to mine text

Outcomes of the project: Research on how the algorithms work and improvisations to improve mining model

Major Learning Outcomes: Using new API's out of blue

Creating and using pl/SQL packages, How customizations and tweaks have to be made to improve an application's performance

Brief Description of working environment, expectations from the company: The working environment is excellent, no time constraints (but deadlines have to be met no matter how much time u spend). Its excellent to join in this company as a fresher. Got a lot better after this internship as per the coding terms. PPO depends only on team vacancy and head count.

Name: Harshit Sandhir

ID No: 2013A7PS115P

Student Write-up

Short Summary of work done during PS-II: A robust software which can be used to set up any cloud service easily by just providing a Json file called blueprint. The blueprint is a shareable template which contains the specifications as per which the cloud service should be set up on the virtual machine. It controls the lifecycle operations of the machines such as creation, deletion, re-submit and patching. It has additional tools which help set it up and the virtual machine with the required specifications. It is currently in patching phase and is going through many improvements to make it more dynamic and robust. The different key assignments undertaken have helped the project in many ways such as reduce total time taken, improve efficiency and productivity and setup different cloud services easily without much effort from end user.

Tools used (Development tools - H/w, S/w):Eclipse and Oracle Linux

Objectives of the project: The objective is to create a software which bootstraps on the underlying Cloud infrastructure and sets up the required virtual machines with the required configurations as per the cloud service requirements.

Outcomes of the project: The software achieves full automation of creation, deletion and maintaining the lifecycle of the virtual machines.

Major Learning Outcomes: Hands on experience with cloud based applications with their usage as well as coding experience.

Brief Description of working environment, expectations from the company: An excellent conducive working environment with stress on gaining knowledge and implementing it rather than doing things mechanically. A very friendly atmosphere without much formalities, however deadlines are expected to be met on time. Work hours are neither long nor short, however it might be expected to stay longer on few crunch days.

Name: Viplove Paliwal

ID No: 2013A3PS314P

Student Write-up

Short Summary of work done during PS-II: My first task was enhancement of WebView test application. I added two test applications to analyze memory consumption of WebView and to analyze performance of JavaScript engine of Web Kit.

Tools used (Development tools - H/w, S/w): JAVA, JAVA FX, Python, Gradle

Objectives of the project: 1) Improve WebView test application to have more WebView functionalities.

2) Add a reliability test to test top websites which outputs result summary in graphical format.

3) Add a JavaScript Core performance test which outputs result summary in graphical format.

Outcomes of the project: 1) Enhanced Hello WebView: WebView test application in the OpenJFX repository.

2) Added a reliability test to analyze memory consumption of WebView API of JAVA FX.

3) Added test to analyze performance of JavaScript engine of WebKit.

Major Learning Outcomes: UI development, Performance analysis, reliability testing.

Brief Description of working environment, expectations from the company: The working environment was very good and the team mates and manager were very helpful.

Name: Anubhav Dua

ID No: 2012C6PS705H

Student Write-up

Short Summary of work done during PS-II: I worked on a product named "Planning and Budgeting Cloud Service". The purpose of my project was to analyze the feasibility of a possible migrations from the current ADF technology to a newer JET technology for its Dashboards. I created and demonstrated several PoCs (Proofs of Concepts) to show that such a migration is possible and would leave the company with production ready code.

Objectives of the project: To analyze the feasibility of migration to a new technology

Outcomes of the project: Successful in proving a possible migration of PBCS Dashboards to JET

Major Learning Outcomes: Web Technologies, Full Stack Development

Brief Description of working environment, expectations from the company: Oracle has a comfortable working environment with independence of thought. They have all the facilities one can ask for. Given the company is going through a pivot right now, one can expect most teams to be working on cutting edge technology.

Name: Rajula Harish Kumar Reddy

ID No: 2013A7PS106H

Student Write-up

Short Summary of work done during PS-II: The advent of new information sharing technologies has led society to a scenario where thousands of textual documents are publicly published every day. The existence of confidential information in many of these documents motivates the use of measures to

hide sensitive data before being published, which is precisely the goal of document redaction or sanitization. Automating Named Entity Recognition is a step to redaction. Done a lot of research on using Machine Learning to recognize terms. Implemented them in tools like Python NLTK, Mallet, Stanford NER, Factorie and trained them with own data to create own model. tested them and compared the results. Added a new entity other than what was already there in the Mallet and Stanford NER.

Tools used (Development tools - H/w, S/w):Mallet, Stanford NER, Python NLTK, Factorie

Objectives of the project: To recognize named entities in unstructured data and further apply document classification and then redaction

Outcomes of the project: Learnt more about Machine learning algorithms and also the effort that goes into a new product designing and building

Major Learning Outcomes: Team building, Soft skills, Ways to approach a new problem

Brief Description of working environment, expectations from the company: Company expects the employee to be more expressive. Even though the idea or the thing he/she is speaking about is not much of relevance or well formed, they want him/her to first speak up about it.

Name: Chava Bhavitha

ID No: 2013A7PS058H

Student Write-up

Short Summary of work done during PS-II: Enhanced the configuration tool by adding a resource type container support to the product which acts as a proxy server that converts LDAP requests to SCIM requests and vice versa. Worked on automated verification of the server's functionalities with the help of unit tests and integration tests. Also, worked on improving the code coverage of the core code using jacoco tool.

Tools used (Development tools - H/w, S/w): JAVA, groovy, Spock, jacoco, ant, XML, JSON, postman plugin for making the REST calls.

Objectives of the project: Enhancement of configuration tool of a proxy server by introducing one level hierarchy to the flat hierarchical structure of SCIM. This improved the efficiency of the product.

Automation of the verification of the server functionalities to prevent regression. Improvement of code coverage using JAVA code coverage tool to ensure that all the lines of the code is getting validated.

Outcomes of the project: Great learning in addition to that we have learned in our academic courses. Practical application of what we have learnt. This PS has provided a very good software industrial exposure. Improvement in my programming skills as well as soft skills is quite noticeable.

Major Learning Outcomes: I've almost learned everything from scratch starting from LDAP and continuing with SCIM, JNDI, end-to-end testing, groovy unit tests, mocking, writing Integration tests, JAVA code coverage, to understanding the very core functionalities.

Brief Description of working environment, expectations from the company: The work timings were really flexible. I found the work being quiet interesting day after day. Everything contributed to a new learning. I've got an immense support and guidance from my team which helped me to improve myself both knowledge wise and personality wise in the past few months. The work we do in this internship contributes to our PPO chances if we have a good feedback from the manager in addition to the availability of team openings.

PS-II Station: Oracle India Pvt Ltd. , Hyderabad

Faculty

Name: GOPALA KRISHNA KONERU

Student

Name: *Mehran Ali Banka*

ID No: 2013A3PS001P

Student Write-up

Short Summary of work done during PS-II: Worked on Oracle Transport Management Cloud(OTM). Developed a Diagnostic Viewer application to allow end users to review their as well as OTM Engine's decisions about bulk orders Using Oracle ADF. The basis for the application was converting a raw unreadable log file into a proper tree Data Structure where each level indicates a step-in order planning. Some more functionalities such as filtering, auto suggest search and statistical analyzer were also added to improve user experience. All the business logic was implemented using JAVA and managed beans and rendered using ADF UI Components.

Tools used (Development tools - H/w, S/w): Eclipse IDE, Eclipse MAT, Jdeveloper, Jrockit.

Objectives of the project: To Enhance Oracle OTM Diagnostic Framework Using ADF

Outcomes of the project: Completed the application by the end of the internship.

Major Learning Outcomes: Leaned about Software development, design, Time Optimization, Memory optimization.

Brief Description of working environment, expectations from the company: The work environment was great and my mentors and manager were very accessible and helpful. My work was constantly checked upon and I was treated like an employee. Overall, It was a very good learning curve.

Name: *Peddi Kavya Sree*

ID No: 2012B1A8729H

Student Write-up

Short Summary of work done during PS-II: My PS 2 was good learning experience. First two weeks were spent in getting to know the team and understanding the kind of work. We had brief sessions on the product and its working details by our colleagues. Then all the interns had 2 weeks training on JAVA and ADF which are the common technologies expected to be used for our projects. Then we had a learning phase where they gave us reading material to go through and gave small tasks each day to progress with

understanding. Then I have been assigned a project on Unit testing their product. Next few weeks for understanding the requirement. HCM Data Loader helps in integrating the data from other sources into Oracle Fusion. The working of the data loader and main processes involved are transfer, import and load. The business objects involved and structure of files for loading the data is different for different objects. JUnit is a unit testing environment which tests the output of the code before implementation. The need for JUnit creation and how it helps in easy debugging is understood. Out of the three-main process that occur during loading data through HDL, transfer is the first one. Unit tests for this transfer process are created. These tests are independent of object being used. Also, a generic way of validating new cases with minimal input parameters has also been implemented using the concept of inheritance and further scope of the project is to continue this for other processes.

Tools used (Development tools - H/w, S/w): Environment used - JDeveloper

Software tools - JAVA, JUnit

Objectives of the project: HCM data loader is the utility which helps in loading bulk data into Oracle Fusion. Exhaustive unit testing for the processes involving in the data loader and testing all the validations performed in order to help in easy debugging and developing the product further.

Outcomes of the project: This Unit testing helps in maintaining the product efficiently and easy debugging of the product.

Major Learning Outcomes: Technical skills, Integrity, Team work, Professional Behavior.

Brief Description of working environment, expectations from the company: Friendly working environment. Team mates are more than willing to help us.

Name: *Satya Pavan Lingam*

ID No: 2013A7PS150P

Student Write-up

Short Summary of work done during PS-II: Development of data (.dat) file generation utility which is used for functional verification of stage/Test Instance of HCM Data Loader after applying the patch bundle to it.

Tools used (Development tools - H/w, S/w): Application Development Framework(ADF)

Objectives of the project: After a patch bundle was applied to test instance, the customer has to check for functionality manually. In case of HCM data Loader, all the different types of dat files used by customer have to be generated and verified in the test instance. The whole process is time consuming and tiresome and requires a lot of resources.

To avoid resource wastage, the whole processes have to be automated. This can be achieved by developing a utility such that it generates the data files (.dat) automatically and loads them into HCM data loader, verifies the functionality and generates the report.

Outcomes of the project: Reduction of time wastage for testing the instances of HCM Data Loader.

Major Learning Outcomes: Deep understanding of SQL && database systems, JAVA acquaintance with ADF.

Brief Description of working environment, expectations from the company: Working environment is good . mentor and manager have been very supportive and helpful.

Name: N.D.Sharath

ID No: 2013A7PS150H

Student Write-up

Short Summary of work done during PS-II: The objective of the project was to build a mobile application for dynamic data visualization. That is enabling user to choose the data that has to be visualized, in the format, he wants to visualize it in and also displaying it in the position/order he chooses, thereby giving more control to the user.

When the user selects the data, and submits it, the remote database is queried and the result is then used to populate and display the graph in the format and position specified by the user.

The tools used to achieve this are - Jdeveloper 12c IDE - ADF, MAF, Oracle Database. The business logic was implemented using JAVA and Oracle SQL.

Tools used (Development tools - H/w, S/w): Oracle Jdeveloper 12c -Mobile Application Framework , Application development framework, Oracle Database

Objectives of the project: The objective of the project was to build a mobile application for dynamic data visualization.

Outcomes of the project: Created a Mobile Application that enables user to-select the tables from which data has to retrieved, choose the format (Pie/bar/line chart) to visualize data, select position in dashboard to display the chart.

Major Learning Outcomes: Learnt about the working of the company.

Technical Knowledge-

Worked with JAVA and SQL language and learnt how to write clean, efficient code.

Worked on Jdeveloper to Use MAF,ADF,Oracle Database and also learnt about RESTful Web Services.

Was able to polish my social skills

Brief Description of working environment, expectations from the company:

Working in Oracle India Private Limited (Hyderabad) was a very good experience. The working environment was positive and I was able to learn a lot of things. We had training sessions on JAVA and ADF before the projects were assigned to us. The Managers, Mentor and employees were very supportive and helpful. The project given to me was to build a mobile application for dynamic data visualization. Besides what was taught in the training I had to learn Oracle MAF and RESTful Web Services as prerequisites to start working on the project and I was given necessary support and resources for doing the same. I met frequently with my mentor and manager to review the progress in the project and also to clear doubts regarding it. The project was interesting and challenging, and improved my technical skills. Besides technical knowledge, I also got an idea of the working of the company. I was also able to improve my social skills. Overall, the PS-2 program at Oracle was very productive.

Name: Parsaviswa Sai Nikhil

ID No: 2013A7PS113H

Student Write-up

Short Summary of work done during PS-II: Oracle FUSION is a cloud based enterprise resource planning application of which Human Capital Management (HCM) is one of the sub-products. As this is a cloud application, there is a need for integration with on-premises applications for which HCM Data Loader tool is widely used. Data is to be loaded as a DAT file with a specific format onto the cloud. But if data is

provided by some third parties to the customer, there is a need to change this format to that of the specified format. In order to automate this, an utility tool is built which uses a configuration file to convert any input file into the required format specific DAT file. Advanced features include validations and defaulting values for which same configuration file can be used. Later these DAT files can be uploaded onto HCM cloud using HCM Data Loader tool.

Tools used (Development tools - H/w, S/w): JDeveloper

Objectives of the project: Build a utility tool which can convert any input file into a respective output file with a specified format given by a configuration file

Outcomes of the project: A tool is built where input files like a CSV or XML file with data can be converted into an output file (DAT file) specific to the given format provided by the configuration file. Data can also be defaulted and validated before writing it to the output file where the valid and default values are given in the configuration file

Major Learning Outcomes: Understanding of Databases, SQL, JAVA, Oracle Applications Development Framework (ADF), XML, XSL (Stylesheet Language for XML)

Brief Description of working environment, expectations from the company: It is a great environment to work where one is expected to do the work given to that person on time. Mentors and other colleagues are very approachable.

Name: *Aditya Jindal*

ID No: 2012B4A3818H

Student Write-up

Short Summary of work done during PS-II: Oracle Business Activity Monitoring analyzes information and data before, during and, after business events. It provides real time matching, trend analysis, rolling-window computation, and both static and dynamic thresholds.

It has a build-in continuous query language engine evaluates incoming event streams against business requirements and data patterns of interests.

We can define these patterns using with easy to use business query and key performance indicator templates. Based on these patterns we can implement variety of alerts and actions. Oracle BAM

provides a variety of visually effective and easy to read dashboards for all major components of Oracle Business Process Management (BPM) and Oracle Service Oriented Architecture (SOA).

With the adoption of Oracle Application Development Framework, Data Visualization Tool (DVT) components, Oracle BAM provides us with various visualization components to add to our dashboards.

Tools used (Development tools - H/w, S/w): S/w - JAVA, SOA, Oracle ADF, Oracle BAM

Objectives of the project: Updating the Oracle Fusion Middle Ware Order Orchestration User Interface to work in real time using Oracle Business Activity Monitoring.

Outcomes of the project: The current graphs of Fusion Order Management which shows order status and errors are changing in real time preventing the employees from refreshing them again and again.

Major Learning Outcomes: Learnt about how Business Intelligence support growing management issues that organizations face. Learnt about Oracle Business Activity Monitoring, how to make interactive dashboards, proactive alerts. Also, learnt about service oriented architecture and Oracle application development framework.

Brief Description of working environment, expectations from the company: Work environment of oracle is very friendly and open. Even the managers insisted us not to call them sir/ma'am. Employees are very helpful, they almost never turn you down when you need something.

Name: *Daripineni Phani Teja*

ID No: 2012B3A7596H

Student Write-up

Short Summary of work done during PS-II: Developed a design page with certain functionalities which will be implemented in the new Spreadsheet data loader functionality.

Tools used (Development tools - H/w, S/w): Oracle ADF (Application Development Framework)

Objectives of the project: Objective was to develop the user interface with certain functionalities for the new functionality about to be implemented in the product.

Outcomes of the project: The design page created by us will be used in the future when the multi-tab model of the spreadsheet data loader is ready.

Major Learning Outcomes: Learning the framework and understanding the functioning of an organization

Brief Description of working environment, expectations from the company: Working environment is great. People around will always help.

Name: Rahul Vemula

ID No: 2013AAPS244H

Student Write-up

Short Summary of work done during PS-II: Initially, I was given a work to develop a new feature for Oracle Cloud Commerce which converts JSON hyper schema to Swagger metadata schema for documentation of the endpoints API. I have studied how the REST API, swagger works and its part of OCCS. Then I have developed a JAVA class which converts the endpoint docs. Then I have tested the developed feature with various scenarios and found various bugs and fixed them. After the new feature, had been integrated to the main software, I was asked to study how the main software works and fix the bugs assigned to me in the main software by learning the about the various technologies used in it.

Tools used (Development tools - H/w, S/w): Eclipse, JAVA, Jira, KnockOut JS, REST API, Swagger 2.0

Objectives of the project: The main objective of my project is to learn how Oracle cloud commerce services work and understand the technologies used in the development of the software and fix the bugs. The secondary objective is to develop a new feature which converts JSON hyperschema to Swagger metadata schema for documentation of the endpoints API.

Outcomes of the project: A converter which converts the JSON hyperschema to Swagger metadata schema and a various bug fixes for the software.

Major Learning Outcomes: I have learned how a software is developed with methodologies like Agile, waterfall. I have earned a good knowledge in JAVA, REST Api, Swagger. I have understood how Oracle Cloud Commerce works as a software.

Brief Description of working environment, expectations from the company: My overall experience at Oracle is excellent. When I first joined this company about five months ago, I am new to the software

company but the peers here have been very helpful. Initially, I was given a work to develop a new feature for Oracle Cloud Commerce which converts JSON hyperschema to Swagger metadata schema for documentation of the endpoints API. For the first two weeks, I have spent most of time in studying how the software works and what is the use of REST API in a software and understood them. Then I have started developing for the feature they have asked me for. I have got a great support from my mentor and peers who have helped me in studying and understanding the project. On a whole, it was a great experience where I just didn't learn how to code or test but learned about expert guidance, apprehending new technologies and their developments and building a character. The most of the project, I was not given the clear-cut vision about some of the technologies and the development and I had to research about them to understand which was of a great use which not just only used for that project but also used for a common learning about the technologies and the trends. We also had some leader speaker series in which we had a tele presence conference with the other interns and a professional from Oracle, who discussed on various trend in software and technologies. Later when the swagger project was completed, I was given the work of fixing various bugs in the software. Fixing bugs involves studying and understanding the code already written and find the code which is causing the bug and fix it. It has added a lot to my knowledge. I was able to learn a lot of new concepts and standards, overall it was an enriching experience interning at Oracle.

Name: Kona Dhirane Satvik

ID No: 2012B4A7691H

Student Write-up

Short Summary of work done during PS-II: test automation using oats and notifying adf applications fast and lean using database query result change notification. developing functionality of unified dashboard infolets in oracle fusion web application.

Tools used (Development tools - H/w, S/w):OATS,QC,JDEVELOPER,LINUX

Objectives of the project: notifying infolets in fusion web application of db changes without user explicit query

Outcomes of the project: made user know that db changes are pending in fusion web application and tracked the entire events over the whole architecture.

Major Learning Outcomes: getting a detailed understanding of the whole events and their progression through the tiers of adf and implemented the same on fusion web application

Brief Description of working environment, expectations from the company: work environment exceeded expectations of me since i was a part of team from the first week.project structure is very well defined and progress is well monitored.created a platform for students to make use of the tools available and develop both technical and communication skills.daily scrum meetings resolve most of the issues that are pending.overall a very good learning experience.

Name: Mohit Singh

ID No: 2013A8PS397P

Student Write-up

Short Summary of work done during PS-II: Automation of Document-Set generation is important to reduce the time and labor invested in the current process in work. The user interface is to be designed by encompassing the features of advanced Application Development Framework and those of Oracle Business Rules. The main objective is to create a custom Document-Set which fully incorporates all the consumer requirements using just the information about the sales order and inventory database of the company.

Tools used (Development tools - H/w, S/w): Application Development Framework, JAVA, Oracle Business Rules, Visual Information Builder

Objectives of the project: In the process of shipping an order, several documents are required to be shipped alongside the product. The number and type of these documents solely depends on the requirements of the consumer.

The objective of the project was to find and implement means to automate this process and submit the Document-Sets (set of documents required for an order) at the time of ship-confirmation.

Outcomes of the project: A prototype rule based User Interface was successfully developed using Oracle Business Rules and Visual Information Builder. The idea was to prove that an existing technology can be used to develop this User Interface and achieve the above-mentioned objective. This was proven with the prototype application.

Major Learning Outcomes: Oracle Technologies: Opportunity to learn technologies used in oracle (Application Development Framework, Oracle Business Rules , Visual Information Builder).

Professional Collaboration: Opportunity to work in collaboration with professionals. The project demanded a working understanding of new technologies not commonly used in the Logistics department. I got to interact with many employees and gathered their experience to move forward.

Working of the Company: Opportunity to learn the working of the Logistics department, moreover the working of the Shipping section of Logistics.

Brief Description of working environment, expectations from the company: The working environment of the company was excellent, everyone was helpful and supportive. At every point of time, my mentor was there for any assistance I required. The overall experience was very nice, it was easily better than any expectations I had from an IT company.

Name: Khaja Ausafullah

ID No: 2013A7PS001H

Student Write-up

Short Summary of work done during PS-II: PS - II provided me an opportunity to put my theoretical knowledge into practice. It gave an industrial exposure and an experience of the real world scenario suitable for my technical background. After having spent duration of five and a half months at my PS - II station, Oracle India Pvt. Ltd., I can positively say that I have gained a lot of confidence and expertise to face the challenges in the industrial world.

The first few weeks were filled with anxiety as everyone was new. Since my team is filled with experienced people and only one fresher, every conversation was a learning in itself. There is a lot of emphasis laid out on grooming newcomers. Even the higher line managers spend a decent amount of time talking to interns and learning about our experiences with the view of making it better for us and the company. The career advice that I have received from my mentors and manager have given me valuable insights into what my strengths are and what I should be focusing on. There are some things that can be incorporated in our academic courses - especially the disciplinary electives - as projects which require students to use the toolkits that are employed in the industry. It will be interesting to

have an academic project that goes through the cycles followed in the industry - design, development, testing, documentation, deployment.

My PS II project was "Releasejango" a tool to do label level validations, which gave me an exposure to both front-end and back-end development. My learning began with brushing up of complete basics of Web Development that is, HTML, CSS and JavaScript which involved some UI enhancements in existing tools. Back-end development was in python and Django web framework (which was completely new to me) assistance from my mentor helped me understand it a bit faster. Initially coding for even a small task took quite some time until I got used to it. As my understanding increased I learnt a lot thing like code optimization, and looking for loopholes in the current code. I was able to point put my own mistakes while coding and correct them immediately. This gave me a lot of confidence. I also learnt to work in a team and be able to estimate my own progress as we had to constantly provide ourselves with practical deadlines. The valuable experience I gained by working has definitely enhanced my knowledge base to great extent and has improved my future career prospects by gaining valuable industrial experience.

Tools used (Development tools - H/w, S/w): Python, Django, Oracle SQL, HTML, CSS, JavaScript

Objectives of the project: Examining the quality of code by consolidating various scans \ checklist results in a single report

Outcomes of the project: Quality assessment of code before pushing to production

Major Learning Outcomes: Effective Team-Working, Real-world application of theoretical knowledge, Time management

Brief Description of working environment, expectations from the company: The working environment is awesome. There is a lot of emphasis laid out on grooming newcomers. Even the higher line managers spend a decent amount of time talking to interns and learning about our experiences with the view of making it better for us and the company. There isn't any lock in time per day i.e. compulsory stay of specified time in office, as long as we complete the work assigned to us we don't face any issues. If we are stuck somewhere with our work everyone is willing to help us out.

Name: Nikita Tanwani

ID No: 2012B4A8626P

Student Write-up

Short Summary of work done during PS-II: I completed two major projects during my six-month internship at Oracle. I started with developing a hybrid mobile application. I got to learn so much about different kinds of mobile apps and the development process, multi-platform issues to be kept in mind and I was familiarized with the practical aspect of the things that I learnt in my 4 years at BITS - namely factors such as budget, current developer skills, and time and client requirements. The outcome of the first 3 months was two mobile applications - an employee database manager app and a Higher education WLP application for universities.

After that I started working on developing an automation reporting tool based on OJET nad used NodeJS to automate the backend process. It was an extremely enriching experience to learn from and interact with people from across the world and be able to develop a live tool with them.

Tools used (Development tools - H/w, S/w): OJET, Android Studio, NodeJS

Objectives of the project: Hybrid Application Development; Automation Tool Dev

Outcomes of the project: Automation reporting Tool was launched and is being used by the SOA team currently to manage and analyze all SOA test result logs. The hybrid application development helped the team to visualize their application on the Android platform and enhanced the responsiveness and several other features for the application to be capable of multi-platform efficiency and functionality.

Major Learning Outcomes: Automation scripting languages; JavaScript, GitHub, etc.

Brief Description of working environment, expectations from the company: The first few weeks were filled with anxiety as I did not have a CS background unlike most other interns. But Oracle trained all interns in JAVA and ADF, that would be required for our projects which was really helpful. There are some things that can be incorporated in our academic courses - especially the disciplinary electives - as projects which require students to use the tool-kits that are employed in the industry. It will be interesting to have an academic project that goes through the cycles followed in the industry - design, development, testing, documentation, deployment.

Name: Vivek Haldiya

ID No: 2013A7PS043P

Student Write-up

Short Summary of work done during PS-II: Automation, Developing new Products

Tools used (Development tools - H/w, S/w): Core JAVA, JAVAEE, Python, Android, Apache Cordova, Oracle Frameworks

Objectives of the project: New product development

Outcomes of the project: Prototyping/ Demoing new Products

Major Learning Outcomes: New Technologies

Brief Description of working environment, expectations from the company: Good working environment, nice team, nice work.

Name: Bhavani Bhamidipaty

ID No: 2013A7PS186H

Student Write-up

Short Summary of work done during PS-II: 1. Oracle ADF design patterns

2.How tables are joined in read-only view objects

3.How dependent view links are created

4.Use of ADF faces components to create a page

5.In-depth learning about HCM data loader and HCM Spreadsheet data loader

6.Familiarity with kinds of keys used and their applications

7.Use of .dat and .xls files to load data into HCM Fusion

8.Acquired know-how of the flexible framework of Fusion HCM Employment model to meet a wide range of business requirements

9.Development skills in JAVA and HTML

10.End-to-end development of web page and associated data collections

Tools used (Development tools - H/w, S/w): JAVA, Oracle ADF, JDeveloper, SQL, PHP, WebLogic Server

Objectives of the project: Developing a Feature for easy automation and searching through datasets

Outcomes of the project: Creating a webpage based on the existing framework

Major Learning Outcomes: Learnt about end-to-end development using JAVA, JavaScript, php and other technologies

Brief Description of working environment, expectations from the company: Learning how each aspect of a product is developed was a truly enriching experience. We were involved in making a quick access page for ease of use. But even this took a considerable amount of learning and knowledge transfer. However, it is truly gratifying to realize how what we developed fits into the big picture which the product release as a whole. Just understanding how the framework works and aids the developer was illuminating.

My first steps into the corporate world have been this internship. The amount of new experiences and learning I have derived at Oracle, I could not have done anywhere else and I am grateful for this opportunity. The goals I had at the beginning of this internship have been fulfilled and have been exceeded by a boost in my self-confidence and my skillset. The community at Oracle is friendly and the environment is constructive for innovation and teamwork. The facilities are ample and refreshing along with being state-of-the-art. Most importantly, the work is engaging and stimulating.

Name: Chaitra SN

ID No: 2013A3PS333H

Student Write-up

Short Summary of work done during PS-II: Created a Chatbot to access Services like JIRA and Bug DB from an XMPP Chat client like Pidgin.

Tools used (Development tools - H/w, S/w): OpenNLP, REST API, Smack API, Bug API

Objectives of the project: To create a smart Chatbot with autocorrect features and user impersonation to access various services.

Outcomes of the project: Objectives achieved.

Major Learning Outcomes: NLP, SQL, Application Development

Brief Description of working environment, expectations from the company: Friendly, congenial atmosphere. Helpful colleagues.

PS-II Station: Pilani Experts Technology Labs Pvt Ltd, Bangalore

Student

Name: Sumantra

ID No: 2012B5A8567P

Student Write-up

Short Summary of work done during PS-II: Worked as a marketing and operations intern at the early stage startup. My work involved digital marketing, operations and sales. Designed marketing creatives and product features.

Tools used (Development tools - H/w, S/w): Slack, MS excel, Hootsuite, heap analytics, mix panel, grapelli

Objectives of the project: To scale key metrics of the organization

Outcomes of the project: Scaled user growth and transaction metrics 5x in 6 months

Major Learning Outcomes: Primarily learnt the working of an early stage startup

Brief Description of working environment, expectations from the company: Work environment is extremely fast paced. Learning curve is steep and enjoyable

Name: Sarthak Mangla

ID No: 2012B2AB733P

Student Write-up

Short Summary of work done during PS-II: Social Media Marketing strategy is a quintessential element in the growth strategy of any early stage startup. In today's market where social media channels are one of the busiest mediums a proper social media marketing strategy is something any startup cannot do without.

Tools used (Development tools - H/w, S/w): Hootsuite, Medium

Objectives of the project: The objective of this project is to develop a social media and content marketing strategy for Tap Chief to ensure social media presence, branding and customer outreach.

- College Approach
- Social Media Approach
- Sales and Marketing

Outcomes of the project: The social media strategy has been helping us build a great brand on social media and the following has increasing constantly, due to the new content campaign. The college approach has been getting great results as we are able to track the number of time each mail has been opened because of the tracker we incorporate in the mail.

Major Learning Outcomes: Exposure to a fast-paced Startup environment.

High degree of professionalism.

Friendly work culture

Team work

Latest trends and tools being used in the startup environment

Brief Description of working environment, expectations from the company: The progress in growth strategy has been good. The implementation has started along with the management and execution is also on. We are planning to try and improvise some of the growth strategy to experiment and see if it effects the results by visiting some colleges to conduct seminars.

PS-II Station: Pilani Experts Technology Labs Pvt Ltd , Bangalore

Student

Name: Krishna Kumar Joshi

ID No: 2013A7PS102P

Student Write-up

Short Summary of work done during PS-II: Built the Weekly Status Report Module (WSR) for Upshot.ai, which shall let the clients view 4 of their key parameter's progress that week, along with some other predefined parameters. Also, customize those key parameters, Select the notification recipients for a new Report and download any report in PDF format to local computers.

Tools used (Development tools - H/w, S/w): PHP, YII framework v1.1, JQUERY, HTML-CSS, PhantomJS, AJAX, Python, MongoDB

Objectives of the project: To Create a Module that let's user define/select key parameters and sub parameters to visually represent progress on them per week, and customize the receivers of alerts when a new report is created.

Outcomes of the project: The project was successfully designed, coded and integrated with Upshot.ai.

Major Learning Outcomes: Learnt how to work with various individuals from different teams like design, Backend, etc. and chalk out the course of action for the completion of the project. Learnt all the languages/tools required for the completion of the project.

Brief Description of working environment, expectations from the company: The work was challenging as I was supposed to learn and implement the project pretty much on my own, with help from others. My Mentor and Project Manager were extremely understanding and helpful. The people I worked with were helpful too. Although the work is hectic for beginners and they are expected to learn and implement the task within a very challenging timeframe.

Name: Azendla Ram Pratheek

ID No: 2013A7PS090H

Student Write-up

Short Summary of work done during PS-II: This project contains insight into natural language processing, Microsoft bot framework. It outlines the ways to use and integrate the NLP framework api calls into a bot. It gives report on the techniques to create a bot that uses NLP calls, Solr search, Chatterbot. It also stresses on the authentication of Google and Outlook web api's.(OAuth2)

Tools used (Development tools - H/w, S/w): Python, Pyspark, Microsoft BotFramework, Wit.ai, Api.ai, Google developer Api

Objectives of the project: The main objective of my project is to build a chat bot that interacts with users and implements services like creating events and booking cabs.

Outcomes of the project: My main output from this project is my new proficiency with python and pyspark. I also got a greater insight into natural language processing and different implementations of api's using REST api

Major Learning Outcomes: During the five and half months of internship at PurpleTalk, I have developed a core understanding of the need for Bots. Through this project, I got a in depth insight into building a huge project as well as working with available bot frameworks. I also got a greater insight in calling different api's and using frameworks like Django, flask in python. I also got well versed with various machine learning algorithms and data manipulation in Apache Spark I also look forward to integrate more Natural Language Processing and Machine Learning into the Bot.

Brief Description of working environment, expectations from the company: The working environment is extremely friendly and responsive to our queries. The expectations are nothing beyond normal and are very receptive to our queries regarding our capabilities.

PS-II Station: Qubole , Bangalore

Student

Name: *Kshitij Agarwal*

ID No: 2013A7PS117P

Student Write-up

Short Summary of work done during PS-II: Implemented CI Pipeline of Qubole using Jenkins 2.0.

Tools used (Development tools - H/w, S/w): Jenkins, Groovy, JAVA, Selenium Cucumber UI Testing

Objectives of the project: Reduce release cycle time of Qubole

Outcomes of the project: Reduced release cycle of Qubole from 28 days to about a week.

Major Learning Outcomes: Git tools, Agile Development (Atlassian JIRA)

Brief Description of working environment, expectations from the company: Environment is pretty cool to work if you feel passionate about the work you are doing. Though, I would like that they disclose the projects each individual assigned to it is going to work on as I was assigned the QA team but my real interest lies in core development which was a letdown. Otherwise, company is pretty cool to work with.

Name: *Shambhavi Mehrotra*

ID No: 2012B2A7549P

Student Write-up

Short Summary of work done during PS-II: Worked as a part of the Middleware Team at Qubole which maintains and updates the application framework that the Qubole software runs on. I was allotted two projects during the course of my internship, both of which involved major changes to the code in production and served as an integral addition to the work done by the company. I was writing code in mostly Ruby on rails with substantial use of MySQL queries. Other technologies that I got to learn about as a part of my internship were Hive, Spark and Hadoop.

Tools used (Development tools - H/w, S/w): Ruby on rails, MySQL, Hive, Spark, Hadoop

Objectives of the project: New Credentials Validation Framework; Fetching logs from the cluster machine

Outcomes of the project: Designed an updated version of the Credentials Validation Framework and created an API for the same; Wrote a script to fetch logs from cluster machine which are needed by the Support Team to resolve customer issues.

Major Learning Outcomes: Learned about designing new frameworks which make the existing frameworks perform better. Designed tools from scratch for the Support Team which reduced the time taken by them for issue resolution by almost 100%. Great opportunity to get hands-on experience in development and learning about new and upcoming Big Data technologies like Hive, Spark and Hadoop.

Brief Description of working environment, expectations from the company: Qubole has a typical Start-up culture where every member of the company is assigned integral roles, be it an employee or an intern. Most of the work is done using latest technologies. The company expects its employees to have good inter-team communication as there is a big interdependence between the work that several teams do. There are weekly meets for every Team where work done by each member is discussed and schedule for the next week is decided. These meets are to discuss the deadlines and release dates of majority of the products and one is expected to meet with these requirements.

Name: *Dhruv Goel*

ID No: 2013A7PS116P

Student Write-up

Short Summary of work done during PS-II: My work included working with cloud technologies and infrastructure configuration tools like Chef, Terraform, and Docker. I got to learn about different Amazon Web Services such as their compute cloud service, S3 storage service, RDS and Elastic Cache database services, and many others. I worked with AWS Ruby SDK where I wrote code to bring up new EC2 instances and configure them according to the user's preferences automatically and quickly using Chef recipes and terraform templates. Everything was automated and all this happened just by one command entered by the user.

Tools used (Development tools - H/w, S/w): Ruby AWS SDK, Chef, Terraform, Amazon Web Services (EC2, IAM, RDS, Route53)

Objectives of the project: To give every employee at Qubole a development version of the Qubole Environment for themselves. Currently, the employees outnumbered the environments by a factor of 7:1.

Outcomes of the project: Now, every user has an env to develop and test code. Now they don't have to contest for the environments and they can just bring up their own in less than 15 minutes. These are throwaway environments so that the company doesn't get billed for idle envs.

Major Learning Outcomes: Understanding of Infrastructure behind Applications, Ruby application stack understanding. Amazon Web Services knowledge.

Brief Description of working environment, expectations from the company: The work environment was friendly and cooperative. There is a huge scope for learning because of the age relevant technology stack at Qubole. The employees are forever ready to entertain doubts and are very competent at explaining difficult concepts in a simple manner.

Name: Sakshi Agrawal

ID No: 2013A7PS153P

Student Write-up

Short Summary of work done during PS-II: Developed a caching framework named RubiX. RubiX is a light-weight data caching framework that can be used by Big-Data engines. RubiX can be extended to support any engine that accesses data in cloud stores using Hadoop FileSystem or Amazon S3 interface via plugins. Most of the work I've done is JAVA development. Apart from that I've also used Python and written bash shell scripts. For JAVA development I am using IntelliJ IDEA as my IDE. I am also constantly using Git which is a distributed revision control and source code management system. Through my work, I am learning about Big Data technologies like Hadoop, Hive and Presto.

Tools used (Development tools - H/w, S/w): Git, JAVA, S3

Objectives of the project: Develop a caching framework that can be used by Big-Data engines

Outcomes of the project: Increase in speed of Big Data queries for Hadoop2, Hive and Tez and additional features in the framework.

Major Learning Outcomes: OOP, Big Data Systems, Cloud storage, MR

Brief Description of working environment, expectations from the company: The work environment was friendly and cooperative. The employees are forever ready to entertain doubts and are very competent at explaining difficult concepts in a simple manner. It was a great learning experience. The startup atmosphere was enriching.

PS-II Station: Sabre Holdings(Formerly Sabre Travels) , Bangalore

Mentor

Name: Rudrappa Athawani

Designation: Senior Technical Lead

BITS Pilani students contribute in several projects of Sabre in constructive way. They are good in understanding the technology and quickly come up to the speed.

Faculty

Name: Vineet Garg

Sabre is one of the world's largest software companies providing software solutions for travel reservations and hospitality industry. Students interested to their internship should be familiar with database systems, Web development, JAVA, scripting, OO and testing methodologies.

Student

Name: Afroze Shaik

ID No: 2013A7PS054G

Student Write-up

Short Summary of work done during PS-II: Automation of Test scripts

Tools used (Development tools - H/w, S/w): QTP, ALM

Objectives of the project: -To automate the test cases received from the manual Q/A's

Outcomes of the project: Submitted the test suites and are accepted by the CAT team

Major Learning Outcomes: VB scripting, knowledge about QTP tool

Brief Description of working environment, expectations from the company: Friendly and accepting environment. Not much work pressure. Helping Employees.

Name: Vishnuvardhan Reddy Alla

ID No: 2013A7PS099H

Student Write-up

Short Summary of work done during PS-II: Functional testing and Automation of the testing procedure for Air Vision Fares Manager Application by SABRE. Majority of the work was focused on writing scripts to automate various test cases designed for the application screens. Execution as well as Debugging of the already existing and new scripts to generate standardized reproducible results in the form of Log Files.

Tools used (Development tools - H/w, S/w): HP-UFT(Unified Functional Testing), HP-ALM(Application Lifecycle Management), SQL Developer and Wrapper classes with VB-Scripting, SVN-Tortoise.

Objectives of the project: Automating the testing process for faster results, reduction in cycle time and improvement in the quality of testing. Creating new scripts and simultaneous execution. Merging Repositories of all the scripts to one final root repository and checking in the changes through Tortoise-SVN. Updating the ALM and recording the results in the form of Log Files. Execution of Wrapper class for hassle free launch and run of the scripts.

Outcomes of the project: Created over 80 scripts for the Fares Manager Application and executed them successfully. Major outcome would be the increase in the percentage of Automation concerning to the Fares manager application. Creation of a single root repository for all the scripts by merging the local repositories of each script.

Launching the testing process in a single step using the wrapper class.

Major Learning Outcomes: VB-Scripting, using Wrapper classes, testing methods using UFT, starting and terminating the servers on various databases.

Brief Description of working environment, expectations from the company:SABRE is a wonderful place to work as a Full-Time Employee. It recently received the award for being one of the GREAT PLACES TO WORK in INDIA. However, I feel the company lacks a concrete policy for Interns (Not everyone knows how to use a intern). An Intern's work depends on his field(Dev/Testing) and the team he's allotted. Working on the product directly gives a good firsthand experience about the present Tech scene. SABRE has a very bad hiring policy: extension of Internships over a long period of time is a stalling and bad way to treat interns without converting them. This is the first time they had CS students as interns and yet didn't convert a single student upon many requests from the teams as well. Work culture is amazing and you have the flexibility to approach anyone for any help. In short: Great place to work, Amazing culture, team spirit is immense, extremely friendly and supportive co-workers, bad intern policy, not so good for learning new technologies. Company has flexible work hours and expects you to set your own deadlines and stick to them. They extend great facilities and extremely useful incentives for Employees and Interns(Limited).

Name: Shantanu Challa

ID No: 2013A7PS108H

Student Write-up

Short Summary of work done during PS-II: My first assignments were to identify defects in code and fix them. This helped me understand how good coding practices contribute towards maintainability. Also, I was exposed to a number of new languages, coding methods, testing frameworks and software utilities.

My Assignments varied from developing tools, fixing bugs, developing a testing framework and also an analytical tool.

I was assigned to develop an interactive user guide, fix a utility code in C++, develop a testing framework using selenium and testing, and developing an analytical tool on the elastic stack.

Tools used (Development tools - H/w, S/w): Smart GWT, Tiddlywiki, Selenium WebDriver, TestNG, Elastic Stack, Apache POI

Objectives of the project: -Fix defects in a code

Develop an Interactive User Guide

Develop a testing framework for Data Validation

Develop an Analytical tool on the Elastic stack

Outcomes of the project: Interactive User Guide

Framework for Data Validation

Performance Tracking on Elastic Stack

Major Learning Outcomes: Good Coding Practices

Exposure to various frameworks on JAVA

Working with the Elastic Stack

Brief Description of working environment, expectations from the company: Sabre has a very warm and welcoming working environment that is easy to adjust. The mentors and managers are very supportive and help you through the transition from a college going kid to a person in the professional world. The flexible working conditions only add to an advantage. The work culture here is amazing enabling a smooth transition and in learning and understanding the high standards of a professional environment. All interns are involved like any other employee and work is assigned as a team, which enriches team spirit. Well, an intern at Sabre is expected to learn rather than perform and people here are always there for you when you want to push your boundaries and take an extra step. At Sabre, I have discovered a lot about myself and improved a lot of areas in which i considered myself weak. Similarly, i got strengthen myself in the areas i was good at and showcase my skills. In short, it was an amazing experience that made me realize the potential I had.

Name: Sajidur Rahman

ID No: 2011B5A7496G

Student Write-up

Short Summary of work done during PS-II: Quality Assurance of Airline Solutions products

Tools used (Development tools - H/w, S/w): HP-ALM, UFT

Objectives of the project: -Automating of Test Scripts

Outcomes of the project: Automation Scripts were sent to Central Automation Team for regression tests

Major Learning Outcomes: Quality Assurance of Software Products

Brief Description of working environment, expectations from the company: Good work environment, approachable employees

Name: Sandeep Nekkanti

ID No: 2013A7PS071P

Student Write-up

Short Summary of work done during PS-II: I have continued the development of Automation tool which they use, I fixed issues and added few enhancements, In the end worked on regression testing due to loss of resources in the team.

Tools used (Development tools - H/w, S/w): Python, Django

Objectives of the project: To make the automation tool free from issues

Outcomes of the project: Automation tool is more reliable and working more effectively with free from issues

Major Learning Outcomes: Development and Design of Software/Web Server

Brief Description of working environment, expectations from the company: Sabre is a company with lot of flexible benefits. Every intern is treated equal to employee and we even got the work employees are working on. My manager Vivek Gupta gave me lot of nice challenges to work on. He is always supportive and helped me if face any issue all the way. My team people are very encouraging and they

would explain me with such patience if i have any doubts. My PS-2 faculty Vineet Garg, is also extremely helpful whenever we faced any issue.

Name: Mavilla Sai Manoj Reddy

ID No: 2013A7PS113P

Student Write-up

Short Summary of work done during PS-II: I have created an offline tool to obtain specific data from new ICE web service, parse and store the data. And enhanced VCMP distribution functionality to distribute images with room type codes and HD360 Images to all downstream systems

Tools used (Development tools - H/w, S/w): JAVA, Spring Framework

Objectives of the project: -The objective of the project is enhancing the Visual Content Management Platform for the new and more powerful web services provided by ICE and providing the original functionality with new ones such as room type codes, HD360 Images, Videos etc.

Outcomes of the project: After this VCMP enhancement, it provides more information to the downstream systems which in turn helps the end customer in their purchase.

Major Learning Outcomes: I learnt Web Technologies such as JavaScript, JQUERY, Servlets and got efficient working on Spring framework.

Brief Description of working environment, expectations from the company: The working environment and expectations completely depend on the team we work in. The timing in our team were a bit flexible and colleagues always ready to help. I worked on the ongoing live projects at the company, so was expected to work quite a lot.

Name: Rajasekhar Reddy. Ch

ID No: 2013A7PS013G

Student Write-up

Short Summary of work done during PS-II: I worked for a team which develops front end for PMS V4, a web application for hotels to manage inventory and reservations, guest profiles, staffing, back office and payment system integration.

Tools used (Development tools - H/w, S/w): React JS, a JavaScript library, and HTML, CSS, Spring Tool Suite(STS), Tomcat Server.

Objectives of the project: -Developing UI for a huge web application.

Outcomes of the project: Product ready UI

Major Learning Outcomes: I Learned React JS with my previous knowledge of HTML, CSS.

Brief Description of working environment, expectations from the company:The work environment is encouraging to Interns. The HR changed my team when i complained regarding the non-technicality of my project, that explains the work flexibility and giving preference to employee's satisfaction.

Name: Shivank Garg

ID No: 2013A7PS133P

Student Write-up

Short Summary of work done during PS-II: Project was on automation of deployment of a product using Continuous Integration tool Team city. The automation was done using Maven (XML Scripts). The preprocessing included setting up ssh Daemon in windows and Cygwin for remote execution of commands in windows virtual machine with Teamcity agent being the host of execution.

Tools used (Development tools - H/w, S/w): Maven, IntelliJ Idea, Teamcity, Cygwin, mRemoteNG

Objectives of the project: Continuous Integration till the deployment of application.

Outcomes of the project: Can have automated deployment of application using a trigger every day.

Major Learning Outcomes: Networking, XML, Maven, SSH'ng.

Brief Description of working environment, expectations from the company:Working environment was good , mostly helpful but they don't have a well-defined system as to what type of work to be given to interns. A lot is dependent on which team you get into. Many at times it will be you who will be asking for work.

Name: Guddu Kumar Singh

ID No: 2013A7PS004P

Student Write-up

Short Summary of work done during PS-II: Had to migrate script from QTP to Selenium testing framework. Here we had to write automation script in Gherkin Language with JAVA gluecode(back end JAVA code) which can run on " selenium testing framework". Also, had to do testing of the product both manually and through automation.

Also Contributed to Get There product Release.

Participated in Global Hackathon (an annual Hackathon at Sabre which gives a platform to the employees to put forth path breaking innovating ideas, which can be translated into some product roadmap). Also, participated in Big Pitch (generally for disruptive business ideas focused towards the travel industry).

Tools used (Development tools - H/w, S/w): Selenium, Cucumber, Eclipse, JAVA, maven, Apache, etc.

Objectives of the project: -Quality Assurance of GetThere Product (migrating script from QTP to selenium testing framework)

Outcomes of the project: Migrated script from QTP to selenium, participated in Release Support, did testing, etc.

Major Learning Outcomes: Learned Gherkin, write script for selenium testing framework, participated in release support, participated in sabre Global Hackathon

Brief Description of working environment, expectations from the company: The automation script which I wrote will reduce tests time execution and human resources required. It will also enable complete control over the tests results (actual results vs expected results). And can quickly change test preconditions and input data, and re-run the tests dynamically with multiple sets of data. I did testing of these scripts also.

Contributed in GetThere Product Release Support.

Participated in Global Hackathon and Big Pitch Event and gave partially implemented product which can be converted into Sabre Product.

Name: Sairam Kalavala

ID No: 2013A7PS068H

Student Write-up

Short Summary of work done during PS-II: While working in Sabre for different teams in both Development and Testing, I have understood how every process in designing, testing and deploying a software is important to assure quality and usability of an application. The main objective of my project is to write Fitness Fixtures and Test Cases. Fitness is mainly for Acceptance Testing. There is a new version of the product to be developed in the coming days so Fitness Test cases will play some important role in checking the functionality of the product and finding errors during the development stage.

Tools used (Development tools - H/w, S/w): Selenium, Fitnesse, IntelliJ, ApachePOI, JAVA

Objectives of the project: -The main objective of my project is to write Fitnesse Fixtures and Test Cases which will help in Testing the product in the initial stages of development itself.

Outcomes of the project: The work I have done during the PSII is useful for Acceptance Testing while Developing New Product. I have written Fitnesse Fixtures for the application in JAVA. I have also written many Fitnesse Test Cases related both to the Fixtures that I have written and the for Fixtures that are already present.

Major Learning Outcomes: One assignment has given me exposure to Selenium Web driver, which is popularly used in testing web based applications. Also, I learnt using Apache POI which is a powerful tool, which can read from and write into files. Apache POI is a powerful utility that can be used along with many programs giving them a way to take in Input and record Output. The other assignment which is my project has given me exposure to Fitnesse which is used for Acceptance Testing. I have learnt writing Fitnesse Fixtures for an application. I have also learnt writing Fitnesse Test Cases which helps to build the right code.

Brief Description of working environment, expectations from the company: The happiness while working in Sabre comes from its work culture. The relationship between mentor and intern is very friendly that interns call their mentor as "Buddy". This relationship has never let me hesitate to approach my mentor whenever I was in doubt. This helped me finish my tasks smoothly. There is a process called StandUp every day at a specific time as per the convenience of the team during which

every member of the team has to update what he/she has done the previous day and what are they going to do on that day. This helped me not to get stuck at the same work for a long time. It gives a chance to raise the issue which kills your time and the team gives any suggestions/inputs which would help to resolve the issue.

Name: Sankalp Parakala

ID No: 2013A7PS110H

Student Write-up

Short Summary of work done during PS-II: Worked on reports mostly and quite a few times on IntelliJ

Tools used (Development tools - H/w, S/w): SQL, JAVA

Objectives of the project: Developing a software Crew Manager

Brief Description of working environment, expectations from the company: One of the best PS for Bitsians.

Name: Sai Vaibhav

ID No: 2013A7PS009G

Student Write-up

Short Summary of work done during PS-II: Quality Assurance Automation using C# and Selenium

Tools used (Development tools - H/w, S/w): C#, Selenium, MbUnit

Objectives of the project: -Automation of Test Cases for Guest Connect Quality Assurance

Outcomes of the project: New Test Cases were Automated and Pass rate during Regression Testing was kept above 90% pre-release

Major Learning Outcomes: Experience gained in working with a team, in Selenium, in Testing

Brief Description of working environment, expectations from the company: Quiet working environment, with interns being treated as equals to employees and responsibility given to interns to govern and monitor themselves.

Name: Rohit Jammalamadaka

ID No: 2013A7PS096H

Student Write-up

Short Summary of work done during PS-II: Recognizing and distributing revenue shared between Aircraft carriers in less than few hours.

Tools used (Development tools - H/w, S/w): S/w : JAVA, Spring Framework, Hibernate, Quartz, Camel Frameworks etc.

Objectives of the project: -Recognizing and distributing revenue shared between Aircraft carriers in less than few hours.

Outcomes of the project: Decreasing the current revenue management by 48 hours.

Major Learning Outcomes: Technologies used in IT industry.

Brief Description of working environment, expectations from the company:Working environment is very friendly with very liberal deadlines, completing the above said project are the expectations.

Name: Sarath Babu Gatram

ID No: 2013A7PS182H

Student Write-up

Short Summary of work done during PS-II: I have worked with Sabre in Shared Systems Development, primarily with the GDS Ticketing team and Airline Ticketing Team. As part of my project:

- 1) I have worked on Test Automation using JAVA and VBscript, creating, updating methods and specializing in tools such as HP UFT and Para soft SOA.
- 2) Worked on Regression Testing, Automation and gained hands on experience with the best Testing methodologies followed in the industry.
- 3) I have worked on several automation projects during my tenure at Sabre. This helped me to develop a sound understanding of Sabre GDS (Global Distribution System), Ticketing and Travel domain in general.

4) We (A team of 3 Interns) have developed a small tool which could help reduce time taken for Test Automation to about 60% as part of the Sabre Global Hackathon.

Tools used (Development tools - H/w, S/w): HP UFT, HP ALM, Parasoft SOA

Objectives of the project: Regression Testing and Automation in various ongoing company projects

Outcomes of the project: Automated 300+ Test Cases and Created 10 new functions in the central library and tweaked many others

Major Learning Outcomes: Got hands on Experience with UFT, VBScript and General Regression Testing methodologies

Brief Description of working environment, expectations from the company: Sabre's work culture impressed me with the flexible work timings and Employee first approach. My Team mates at Sabre were extremely enthusiastic and helpful. Had a great time working there and a steep learning curve made it invaluable to my budding career.

Name: *Piyush Gupta*

ID No: 2012A7PS094G

Student Write-up

Short Summary of work done during PS-II: Developed the code of various web services. Worked on two main projects and a lot of smaller projects and assignments. Projects assigned varied from high priority (development of Security Rules for web services) to different types of assignments (code review, analyzing code flow like Business Analysts etc.).

Tools used (Development tools - H/w, S/w): Languages - JAVA with Spring mvc, JAX-B, JUnit, Maven, SQL

Software - Soap-Ui, IntelliJ, SNT, Babun, Win-SCP, Dev-SQL

Objectives of the project: -Project 1: Developed all the security rules for pnr-display web service for migration of logic from PSS to Open Systems in order to save transaction costs.

Project 2: Introduced new type of Special Service Request (BRND) through update reservation web service to the Open Systems.

Outcomes of the project: Successfully completed both main projects assigned to me along with successfully completing all the other tasks/ assignments.

Major Learning Outcomes: Learned various coding techniques, new coding languages (spring mvc, JAX-B), new software (SNTE, SOAP-Ui, IntelliJ), learnt the way a corporation works and handles projects (Sprint planning and Agile).

Brief Description of working environment, expectations from the company: Assignment of team totally depends on LUCK. If assigned the team/work of your interest, very good place for work. I was assigned my favored designation of developer. Working environment is pretty good and interns are treated equally like Full Time Employees. Other employees are very helpful and lot of learning opportunities. Great Work-Life balance and numerous of recreational activities to keep engaged (Foosball tournaments, Hackathons, CSRs).

PS-II Station: Symantec Software Solutions Pvt. Ltd. , Bangalore

Faculty

Name: Vineet Garg

The company works in a very niche area of software for security, storage, backup and availability. Managers and mentors encourage students to explore this area and permit time to become comfortable with the domain. Students had opportunities to work in the area of digital certificates, user authentication in the cloud scenario, secure web transactions etc. Students who are looking forward to do their internship with Symantec must be familiar with network security, cryptography, and basic development skills in the web development.

Student

Name: Jaydev Sirmukaddam

ID No: 2013A7PS135P

Student Write-up

Short Summary of work done during PS-II: Worked on AWS, network emulators and tried to create an environment similar to Virtual Private Cloud on AWS in the available systems for CIC(company product) use. Certificate Authority working and certificate scans and verification.

Tools used (Development tools - H/w, S/w): AWS, JAVA

Objectives of the project: -To create an environment for demonstration of CIC (A Symantec product) and make the environment replicable with necessary components of it.

Outcomes of the project: Provided ground work for creating above mentioned environment, learned mainly about cloud computing and networking.

Major Learning Outcomes: Cloud computing, Networking, certificate authority side works

Brief Description of working environment, expectations from the company: Company is very good, not much work pressure so good if you want to prepare for something else. Has bus services which goes to all parts of Bengaluru. You may have to force your mentors/ managers to give some work at times.

Name: Saketh Gvs

ID No: 2013A7PS008H

Student Write-up

Short Summary of work done during PS-II: my work was mostly based on API and gateways. Even worked on upsell engine

Tools used (Development tools - H/w, S/w): eclipse api html

Objectives of the project: transferring apis to gateway and recommendation engine

Outcomes of the project: transferring apis to gateway

Launching the testing process in a single step using the wrapper class.

Major Learning Outcomes: api and api gateways...building REST and SOAP api

Brief Description of working environment, expectations from the company:friendly environment and good work

Name: Rishabh Lohia

ID No: 2013A7PS177P

Student Write-up

Short Summary of work done during PS-II: Various Projects, mostly web development

Tools used (Development tools - H/w, S/w): JAVA web frameworks (Spring, Struts, Jersey), Maven, JSP, JavaScript. Also, Shell Scripting, JAVA web development

Objectives of the project: -Projects included a web extension, a client wrapper around an existing program, modifications to a web console

Outcomes of the project: Most of the requirements of the projects were not completed. projects weren't difficult.

Major Learning Outcomes:Workflow of software development in industry. Various technologies like Maven, JSP, JAVA web frameworks. Worked in Linux a lot, so learnt about shell.

Brief Description of working environment, expectations from the company:The working environment here is very relaxed and easy going. The people are nice people who are hardworking but fun working. The company expects that you do your assigned project on time. nobody expects that you work after working hours (There may be an odd half an hour meeting after hours, but very rare though). You can go and come whenever, as long as you are up to date on your work. The leave and 'work from home' policy is quite lenient. All in all, a very good place to work. The quality of projects will depend on the team you get.

Name: G Spurthi

ID No: 2013A7PS025P

Student Write-up

Short Summary of work done during PS-II: I have been allotted a project to manage certificate life cycle using Web Crypto API which was earlier done using keygen mechanism.

A key pair was generated using web Crypto API and stored in Indexed DB browser storage. PKCS #10 request was generated and submitted to the CA (Certificate Authority) during user enrollment for certificate. After receiving the signed certificate from the CA, a PKCS #12 is generated binding the signed certificate and its corresponding private key and. p12 (PKCS #12) file is downloaded to the windows store. And using this. p12 file, the certificate is imported to the required browser for client authentication.

JavaScript code for generating PKCS #10 and PKCS #12 is written with the help of PKIjs and ASN1js open source libraries.

Tools used (Development tools - H/w, S/w): JavaScript Promise, HTML, JAVA, Apple Script

Objectives of the project: -Developing a JavaScript based client for managing the life cycle of a certificate using WebCryptography API, as a replacement to keygen.

Ensuring the functionality of the script in all the browsers and extending it with different algorithms.

Extending the interface to interact with hardware tokens such as smartcards and USB dongles in order to achieve highly secure transactions by two-factor authentication

Outcomes of the project: Symantec issues certificates to clients, which enhance level of authentication and privacy to digital communications. Hence, we require a better interface to manage certificate life cycle which was earlier managed with the help of keygen. But because of certain limitations with keygen, it has been deprecated by almost all the browsers. Thus, the project (Keygen replacement POC) enables Web applications that require features such as cryptographically strong random number generation, constant-time cryptographic primitives, and to the best extent possible, a secure key store with the help of WebCryptography API and Indexed DB.

Major Learning Outcomes: My work in Symantec is a very good learning experience. Got to work on WebCrypto API, the cryptographic primitives offered by it. Worked on generating PKCS formats (PKCS #10, PKCS #12) using JavaScript Promise.

Learnt about mobile app automation while working on testing for VIP Access proximity app using Apple Script and JAVA.

Brief Description of working environment, expectations from the company:Symantec is a very active company for career aspiration. Friendly environment, helpful coworkers, flexible working hours. Good projects to work on. Got to learn various skills through my projects which helped in boosting up my confidence

Name: Challa Shravya

ID No: 2013A7PS022P

Student Write-up

Short Summary of work done during PS-II: There are multiple projects we have done. One of them is a automation of certificate lifecycle management. We used open source protocol and client, connected to the CA server and were able to send CSR, get the certificate, install and renew it.

The second project is an extension for sales team which sends a Http get request to the CryptoReport API and displays a brief summary of the domain details in the popup. This will help the sales team to coordinate with the customers better.

Tools used (Development tools - H/w, S/w): Shell Scripting, JavaScript, Maven, Struts and spring frameworks, JSP.

Objectives of the project: The objective is to prepare an extension so that the sales team can get the information on the go and communicate it easily to the customers.

Outcomes of the project: The plugin is in use and the team has been satisfied with the information provided by it.

Major Learning Outcomes: Shell Scripting, JavaScript, Struts and spring frameworks, JSP and a little web development

Brief Description of working environment, expectations from the company:The working environment was pleasant and friendly. The work will be given mostly according to the interests and the mentors help a lot in solving the roadblocks if any. The work will be given by the product manager and he/she will be following up on the work periodically and expect us to finish it before deadline and be ready to do more. There are enough incentives to reach their expectations and it has always been worthwhile to do the work in time.

Name: Aditya Daflapurkar

ID No: 2013A7PS091G

Student Write-up

Short Summary of work done during PS-II: I was a part of the Validation and Identity Protection(VIP) during my PS at Symantec, Bangalore. The project assigned to me was a POC which dealt with the evaluation of facial recognition and typing detection as authentication factors in sign-in process. For this purpose, I was given third party biometric authentication SDK's which I had to integrate with sample login applications in order to test them for security and user experience analysis.

Tools used (Development tools - H/w, S/w): Android studio, XCode, SoapUI, Chrome Advanced REST client

Objectives of the project: -Evaluation of facial recognition and typing behavior detection as authentication factors in sign-in process

Outcomes of the project: At the end of my PS, I prepared a report which included the user experience gradation, dependency information, false positive and false negative analysis of the tested biometric authentication SDK's.

Major Learning Outcomes:I learnt a lot about mobile application development in android and IOS during the course of my project. The concepts that I had learnt during OOP, operating systems courses at BITS were very useful in application development. I also learnt about REST and SOAP web services as these concepts were very important for SDK integration. I was also introduced to certain concepts in the field of network security such as strong authentication and OAuth protocol.

Brief Description of working environment, expectations from the company:Symantec is a company which works in the area of network security. The working environment is really good with flexible working hours. Most of the projects deal with security technologies such as SSL certificates, authentication techniques etc. Senior members of the project teams are very encouraging and enthusiastic. Interns at Symantec can learn a lot especially in the fields of OOP, cloud computing and network security. During my project, i was briefly introduced to machine learning and I really liked this field of Computer Science. I expect that in future there will be more projects in machine learning which provide more experience and knowledge to the student about the field.

PS-II Station: Symantec Software Solutions Pvt. Ltd. , Pune

Mentor

Name:Abhishek Goel

Designation: HR

The PS-II students are good in adaptivity which encouraged their learning on tasks, assignments and corporate culture.

Student justified to their job role. Got a good and positive feedback from their respective mentors.

Per discussion with Mentor below capabilities they are looking for Interns:

- 1) Good Communication [Verbal & Written]
 - 2) Willingness to accept Challenges
 - 3) Quick Learning
-

Faculty

Name: Sonika Rathi

Per discussion with SPOC of Symantec Pune below is the list of Capabilities they are willing in an Intern:

- 1) Knowledge of Company Profile
 - 2) Basics of Domain
 - 3) Quick Learning
 - 4) Good Communication [Verbal and Written]
 - 5) Willingness to adapt & ready for new challenges
-

Student

Name: Achyuth Reddy

ID No: 2013A7PS041P

Student Write-up

Short Summary of work done during PS-II: I took part in development of Malware Replication and Attack Reproduction Server for IPS Team. With ever increasing Malware and Exploit Kits it has become a tedious task to analyze and track coverage of the malware. Automating it would save a lot of time for the IPS team. My task was to cooperate with my mentor Mr. Deepak Singh, for the design of the project. We started design the project based on his templates. We used Cuckoo Sandbox as Malware analysis tool. First few weeks I spent understanding Exploit Kits, Malware Analysis and designing the project along with my mentor. Then I spent most of the time setting up Cuckoo Sandbox and integrating Symantec tools with it. Then developed the web portal for submission of tasks for analysis.

I learnt a lot from the project mainly designing the project and setting up sandbox on ESX was challenging. My coding skills improved when I had understood Cuckoo Sandbox code to integrate Symantec tools. Designing the web portal has helped me sharpen Django and JavaScript.

Tools used (Development tools - H/w, S/w): Python, Django, Linux, Flask, Cuckoo Sandbox, JavaScript, Virtual Machines, ESX, Computer Networks

Objectives of the project: -I have to develop an automated attack reproduction server.

Outcomes of the project: We successfully completed the project supporting the strength of IPS team.

Major Learning Outcomes: Working with ESX and Virtual Machines has been great. Designing and coding skills improved. Got a closer look about Malwares and Security Domain.

Brief Description of working environment, expectations from the company:Initial few weeks spent time producing Exploit Kit attacks manually in the lab. Following days spent time with my mentor in designing the project course and structure. Explored various sandbox and choose Cuckoo sandbox for project. Initially we set the Cuckoo Sandbox on Virtual Box. During this time, I explored the sandbox and integrated Symantec tools with it. Next, we moved this setup onto ESX with more hardware and processing power. Next month spent time designing web portal for users which allows submissions of file hashes & URL, downloading PCAPS and reports. I feel the project is complete because of its

complexity. It involved web development, Sandboxes and Virtual Machines. My manager is satisfied with my work. I also got a closer look on malware reversing.

Overall I am very happy with the project and the work I did.

Name: Saransh Kumar Gupta

ID No: 2013A7PS159H

Student Write-up

Short Summary of work done during PS-II: In the internet age, the basic knowledge of computer security has become a must. There are many games on the internet that are designed to teach the basics of cyber security. However, their websites are willingly made vulnerable to several attacks in order to train the players about them and hence they expect the player to know the basics of HTML and JavaScript at the least.

Our target was to focus on regular computer users who lack a background/interest in computer related concepts and teach them about these security basics in a fun way through a 2.5D online game instead of being preachy. I created a complete virtual computing environment with functionalities ranging from an in-game browser, various websites, apps, social networking chat-bots, file explorer, terminal, etc. and implemented a bunch of security related tasks into it while maintaining a story based top down gameplay alongside to make the game interesting.

Tools used (Development tools - H/w, S/w): HTML5, CSS, JavaScript, JQUERY, Ajax, Node.js, MongoDB, Phaser Game Framework

Objectives of the project: The objective was to develop a game that aims to teach the nuances of security related vulnerabilities to regular computer users in a non-preachy manner.

Outcomes of the project: Developed a robust layout for the game and an in-game computer system, studied extensively about cyber security and implemented security based tasks in the game.

Major Learning Outcomes: Node.js, MongoDB and a vast spectrum of security vulnerabilities.

Brief Description of working environment, expectations from the company: Work environment and the people here are very friendly and the team tends to discuss your interests and then allocate projects accordingly instead of forcing an uninteresting project on you.

Name: *Sai Charan Agraharam*

ID No: 2013A7PS134P

Student Write-up

Short Summary of work done during PS-II: Basic aim was to build an online service for creating, editing and validating Base Certificate templates used in PKIs

Tools used (Development tools - H/w, S/w): Spring, JAVA Server Faces, Prime Faces, Hibernate, Persistence, Bouncy Castle

Objectives of the project: -Online interface for creating and editing certificate templates, Automating the validation of certificate templates

Outcomes of the project: Online service(portal) for managing Base Certificate Templates

Major Learning Outcomes:Spring, JAVA Server Faces, Prime Faces, Hibernate, Persistence, Bouncy Castle

Brief Description of working environment, expectations from the company:Extremely good work environment. Flexible timings. Only expectation is that work is completed before deadlines. Very supportive professionals. Good work-life balance with cultural and recreational events being regularly held. No particular dress code.

PS-II Station: Tangoe India Softek Pvt Ltd, Bangalore

Faculty

Name: Lucy J. Gudino

Practice School is a great opportunity for students to learn about corporate work and culture and to develop themselves for the same. Practice School aims to bridge the gap in the academic curriculum and industry. I had an opportunity to mentor students at PS-II station Tangoe India Softek services Pvt Ltd located at Bengaluru.

Tangoe is a leading global provider of Enterprise IT Expense Management software and services to a wide range of global enterprises and service providers. Tangoe's technology and services platform are designed to help companies transform the management of IT assets, services, expenses, and usage to create business value, increase efficiency, and deliver a positive impact to the bottom line. Three students allotted to this station were having CS background and could able to work on projects such as web site development, JAVA parser and testing framework, Automation of i18n Label Manager etc. that requires skills in JavaScript, Eclipse, HTML, CSS etc.

Student

Name: *Bikramjit Singh*

ID No: 2013A7PS163P

Student Write-up

Short Summary of work done during PS-II: Stage 1: worked on majorly UI (July - September),

Stage 2: worked on back-end, MVC (September - October),

Stage 3: worked on again UI, front-end, some tickets and unit testing

Tools used (Development tools - H/w, S/w): SpringIO, RabbitMQ, HanaDB, SQL, JSP, HTML, CSS, JavaScript

Objectives of the project: -Front and back-end development including unit testing for development of Matrix

Outcomes of the project: Learnt about various frameworks and also about deep core JAVA concepts

Major Learning Outcomes: Learnt about what it takes to build an enterprise platform alongside a talented and helpful team who are more experienced than us.

Brief Description of working environment, expectations from the company: The working environment is pretty decent and helpful as it is an established company working from past 10 years building telecom expense management software for big telecom companies like Vodafone.

Name: *A.L.Soumya*

ID No: 2013A7PS105P

Student Write-up

Short Summary of work done during PS-II: Work done was in the field of web application development. Designed, built and deployed a web application that would translate labels and update them as needed.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, JQUERY, JAVA, J2EE, Maven

Objectives of the project: Automation of an earlier completely manual project to ease internal use.

Outcomes of the project: A web application

Major Learning Outcomes: Front-end and Server-side application development

Brief Description of working environment, expectations from the company:The working environment is very friendly, helpful and conducive to an intern's development. My mentor was very helpful always and suggested amazing videos or sources for topics that I needed to study. My teammates were very encouraging.

Name: *Surendra Pal Singh Rathore*

ID No: 2013A7PS011P

Student Write-up

Short Summary of work done during PS-II: Designed and Implemented a JAVA parser and code generation testing framework. Framework is fully implemented in JAVA Language. It uses the power of Compiler API to parse the JAVA source code and TestNG to compare it with another content. Also, built dynamic, responsive website for project management which tracks all reports and status related to project and store them into MySQL database. Website's backend is supported by JAVA and MySQL and frontend has HTML, CSS and JavaScript.

Tools used (Development tools - H/w, S/w): Eclipse, ArgoUML, CompilerAPI

Objectives of the project: -The purpose of this project was to develop a validation framework for Key Maker which will decrease the manual effort of the developers by automating the work of testing of generated artifacts. I have created a generic framework which automatically pick the generated and expected file from the respected directory and perform the testing hence performing the test automation. My project also included the implementation of some of DmuTest operation which perform database automation hence reducing manual effort of accessing database for every single record. A dynamic, responsive Project management website has also been implemented. This website records daily activity on the project. It collects all the project related information at one place.

Outcomes of the project: 1. JAVA Parser and testing framework

2. Responsive content management website

Major Learning Outcomes:Gained experience of Coding in JAVA for big product, Learnt design patterns, Web Designing

Brief Description of working environment, expectations from the company:Tangoe gives perfect environment to the person who has a little knowledge of Object Oriented paradigm and little experience of Coding in JAVA language. A student with a learning mind set can explore various principles behind the management of IT assets and expense management and also can improve his object oriented design skills. It gives a perfect environment to learn JAVA from beginner to advance level by letting work on framework like Spring and hibernate. Tangoe has various projects to have a perfect experience. Colleagues are also very helpful and gives an opportunity to explore.

PS-II Station: Tata Consultancy Services, Bangalore

Student

Name: *Rajat Jain*

ID No: 2013AAPS226H

Student Write-up

Short Summary of work done during PS-II: The project was about home automation using ZigBee protocol. So, a customized home automation profile was supposed to be developed and a gateway to be created so that it can communicate over IoT

Tools used (Development tools - H/w, S/w): qtcreator, beyondstudio by nxp, JN 5168 board

Objectives of the project: -The project was about home automation using ZigBee protocol. So, a customized home automation profile was supposed to be developed and a gateway to be created so that it can communicate over IoT

Outcomes of the project: I was able to establish communication between coordinator and end devices, device mapping for IP address and accordingly mac addresses, basic timer's application on service layer for scheduling requests between server and network layer

Major Learning Outcomes: C++, hands on experience of using C++ over different API's, hardware interfacing

Brief Description of working environment, expectations from the company:the working environment was good and friendly initially I was not able to cope with the speed of other employees but once I learnt how to use api functions it was a good experience working for one of the biggest IT industry in the world

Name: *Sparsh Jain*

ID No: 2013A7PS041H

Student Write-up

Short Summary of work done during PS-II: Application Framework for IOT

Tools used (Development tools - H/w, S/w): Xcode, Mobilefirst, Cordova

Objectives of the project: Application capable of talking to both IOS and non-IOS base accessories using an intermediate gateway and has a web-view interface

Outcomes of the project: Application capable of talking to both IOS and non-IOS base accessories using an intermediate gateway.

Major Learning Outcomes: Application Development, Hybrid Applications, Home Automation

Brief Description of working environment, expectations from the company: Professional, hard-working and motivated employees working in different domains. A lot of facilities and a well-regulated environment. However, I would still give 4/5 for the environment. Company expects discipline, hard work, dedication from the intern.

PS-II Station: Tonbo Imaging Pvt Ltd. , Bangalore

Mentor

Name:Shyam Sunder

Designation: Member, Technical Staff

The students are working on DM365 processor. They were quick in getting the concepts and start working on project. If students have some good knowledge of Embedded systems with C/C++ programming, Linux experience and ARM architecture experience is good. Overall students are performing well.

Faculty

Name: Rekha.A

At Tonbo Imaging students are working on various project areas like Image Processing, FPGA programming, Electromagnetic Interference Shielding, Machine Design and Drawing. Students are working on projects like Implementation of State Machine in Asynchronous Communication, Developing a new display frame work for a thermal imaging camera etc.

Operating systems, C++, C programming, Image processing, Embedded systems, CAD/ Solid works, mechatronics, robotics, manufacturing engineering computer graphics (frame buffers), ARM Architecture are some of the skill set expected by the organization to work on various projects.

The skill gap training sessions will help the student to be better prepared for PS II. They can brush up the basic concepts before they come for internship.

Student

Name: *Sahil Maniar*

ID No: 2013A8PS465G

Student Write-up

Short Summary of work done during PS-II: Embedded system software

Objectives of the project: -Improvement of system software of Davinci DM365 processor

Outcomes of the project: Completed the uvc video streaming application

Major Learning Outcomes: Embedded systems

Brief Description of working environment, expectations from the company: Good working environment

Name: *Radha*

ID No: 2012B1A8701G

Student Write-up

Short Summary of work done during PS-II: Worked on implementation of image processing algorithms in VHDL on FPGAs. Worked on developing an application for quality testing of thermal video output.

Tools used (Development tools - H/w, S/w): VHDL, MODELSIM, QUARTUS, C programming

Objectives of the project: Image processing of thermal video for development of good quality thermal imagers

Outcomes of the project: Developed a VHDL code for sharpening of blurred thermal videos and developed a C based application for noise parameters calculation

Major Learning Outcomes: FPGAs, VHDL

Brief Description of working environment, expectations from the company: Involves steep learning curve and good technical skills

Name: *Salman Anjum*

ID No: 2012B2A4722P

Student Write-up

Short Summary of work done during PS-II: My work consisted of several projects. Keypad design, fin design, humidity control, emi shielding, painting and coating are the areas I worked on.

Tools used (Development tools - H/w, S/w): Software: Solid works, ANSYS, MATLAB; Hardware: Arduino Due

Objectives of the project: Design and Development of Sealed Enclosure for Optical Devices

Outcomes of the project: Proper sealing was ensured for the enclosure along with efficient fin design for maximum heat transfer. The moisture content inside the enclosure was also controlled. It was also ensured that the enclosure conformed to MIL standards for painting and coating.

Major Learning Outcomes: Industry standard sealing methods, standard design practices, engaging with suppliers and manufacturers.

Brief Description of working environment, expectations from the company: Since Tonbo Imaging is a startup, the work environment was relaxed and a lot of flexibility and freedom was provided to interns. There were no fixed deadlines for projects. Employees were very helpful and assisted on every small problem we encountered.

PS-II Station: Walmart Global Technology Services , Bangalore

Faculty

Name:Preeti N.G.

Walmart Labs works on many areas like Big Data and Analysis, Inventory management, merchandising etc. Students need to be aware of Web development tools, OOPS, JAVA etc., Few of them also work in Big Data Analysis and get the opportunity to explore R Programming, Python,Spark,Scala etc. The basic programming skills and willingness to learn new technologies and tools with minimal guidance or support is the need from the industry. If the students have the knowledge of OOPS, JAVA, Python etc. then it's easier for them to quickly gel with the teams they are allotted and get started with the projects.

Student

Name: *Nilesh Sarupriya*

ID No: 2013A7PS124H

Student Write-up

Short Summary of work done during PS-II: Technologies used: Spring Framework, REST services, Integrating REST calls to JAVA APIs, Datastax Cassandra, Apache SOLr, ElasticSearch

Implementations: Using ElasticSearch along with JAVA APIs in order to get Responses from Users using Services and Products. Integrating Datastax Cassandra and Apache SOLr in order to make a database which allows it to do Text Based Queries which would allow instant Searches into the database. It would allow the user to search for anything that the user want to.

Tools used (Development tools - H/w, S/w): H/w: Macbook Pro

S/w: Spring Tools Suite, ElasticSearch, Kibana, Cassandra, SOLr

Objectives of the project: -User Response Collection

Outcomes of the project: Analysis of the Data for Enhancements

Major Learning Outcomes: Good Code Writing, Database Usage, REST services

Brief Description of working environment, expectations from the company: Working Environment is very friendly.

PPO process is very bad and unpredictable.

Name: *Abhinav Gandotra*

ID No: 2012B1A8847P

Student Write-up

Short Summary of work done during PS-II: My work was associated with backend and Middleware. I work on databases Hana and Teradata. For Web Services I worked on JAVA, REST APIs and Spring Framework. I also worked on sentiment Analysis.

Tools used (Development tools - H/w, S/w): Spring, Maven, Hana, Teradata, Hive, Eclipse

Objectives of the project: To make an application for quality managers to make their decision making easy.

Outcomes of the project: The project is in testing phase by business right now.

Major Learning Outcomes: How to handle with business while doing technical work, Learnt the implementation of Agile framework

Brief Description of working environment, expectations from the company:-working environment is good.

-Lots of things to learn.

- don't come to this company with hopes of getting PPO. You won't be getting.

-Manager review doesn't play role in intern conversion process as it's like campus process only.

- good Brand name and gr

Name: Shriya Jain

ID No: 2012B3A8452P

Student Write-up

Short Summary of work done during PS-II: Created REST services for the licensed Walmart Application.

Created Unit Tests for the server end of the same application.

Enhanced the performance of the code.

Tools used (Development tools - H/w, S/w): Node.js

Objectives of the project: -To increase the operational and financial efficiency of the transportation team by logging the work timings of the employees and generating periodic reports for effective resource management.

Outcomes of the project: The API developed will be used as building block for developing the layers of application. Unit testing will help in more streamlined development of code in future. This application will cut short the loss of productive time of workers by enabling them to report their work timings through mobile app. This data can be retrieved afterwards by managers.

Major Learning Outcomes: Learned how to work with node.js, unit testing and performance enhancement of the code.

Brief Description of working environment, expectations from the company: The working environment is fun with lots of opportunities to learn new technologies. The mentors are friendly and gives proper guidance. There are several team outings which included sports and different type of activities. The overall experience is pretty enjoyable. For PPO, pretty good knowledge of DSA and DP is required.

Name: Madhu Vemana

ID No: 2013A3PS152G

Student Write-up

Short Summary of work done during PS-II: I was responsible for the ETL (Extract, Transform, Load) of data from various heterogeneous databases to other databases by applying the required transforms to the data.

Tools used (Development tools - H/w, S/w): Hadoop, Oozie, Crunch, Spark, JAVA, SQL

Objectives of the project: -To help vendors make an informed decision by providing all the data collected at one place.

Outcomes of the project: Successful in migrating the data without loss and setup a framework to do the job every day until triggered off.

Was appreciated by several Directors and the CIO (Chief Information officer of Walmart).

Major Learning Outcomes: I learned how to work with a large team, across several time zone and deliver the product on a strict time line. I learned how to efficiently. Learned several new technologies and how to work on a scale that was earlier unfathomable.

Brief Description of working environment, expectations from the company: The working environment was good. The company expected us to know a few basic concepts of DSA, Databases and be able to comfortably work in a team.

Name: Akshit Goel

ID No: 2012B4A3716P

Student Write-up

Short Summary of work done during PS-II: 1. Created a dynamic web application to search for logs stored in different servers by running grep command and then make the results downloadable using JAVA Servlet.

- a. Various applications run in distributed environment in Wal Mart each generating its own logs in local machines.
 - b. The project connects different machines using Hazel Cast cluster and then run grep command on it.
 - c. The application allows user to access logs using different parameters like Date, Time, CorrelationID etc.
 - d. The application uses multithreading to increase the search speed and maintains a local history to keep track of recent searches.
 - e. A major challenge in the development of the application was to make the search synchronized and fast.
2. The front end of the application was also developed using HTML, CSS and Angularjs.
 3. Created a smoke test for Wal Mart's application Log Collector which was used to check the overall functionality of Log Collector. The test ran using TestNG framework.
 4. A number of unit tests were written to increase the code coverage in sonar. Easy Mock was used to mock the methods and write efficient Junit test cases.

Tools used (Development tools - H/w, S/w): JAVA, Hazelcast, Elasticsearch , Angularjs , EasyMock, TestNG

Objectives of the project: Make debugging of applications easy which are running in distributed environments by accessing logs stored on remote machines.

Outcomes of the project: The web application was completely build during the PS program as well as successful smoke and unit tests were written.

Major Learning Outcomes: 1. Learned how to design and build dynamic web applications.

2. Learned the importance of good unit tests and how to write them.

Brief Description of working environment, expectations from the company:-Walmart, is an American multinational retail corporation that operates a chain of hypermarkets, discount department stores and grocery stores. The Bangalore center of Walmart develops and maintains the various applications running in Walmart stores, distribution centers and e-commerce websites.

The company gives a good opportunity as well as time to learn new technologies being used in major corporations like Walmart.

The expectation from us is to deliver the work assigned to us in the allotted time while following the coding conventions.

Name: Kriti Jain

ID No: 2012B1A8796P

Student Write-up

Short Summary of work done during PS-II: Extraction of data from various sources like Teradata and Mainframe, applying various transformations and push it to Azure cloud. Migration and testing of data movement scripts from one Hadoop cluster to another.

Tools used (Development tools - H/w, S/w): Hadoop, Hive, Teradata, Oozie, Shell Scripting, JAVA

Objectives of the project: -To Extract Data from various sources like Teradata and Mainframe, apply various transformations and push it to the cloud.

Outcomes of the project: The movement of data to the cloud will enable the vendors and Walmart's internals to create micro queries and effectively retrieve the data needed. Cloud will enable easy retrieval, querying, reporting and analysis of data. There will be a common simplified interface for suppliers and merchants.

Major Learning Outcomes:Learnt about various Big data technologies like Hadoop, Hive, Oozie etc.

Brief Description of working environment, expectations from the company:Working environment in the company is good. Very friendly and helpful people. Work may get a little boring. Getting a pre placement offer is a bit difficult. Overall, a nice place to work.

Name: Bhargavi Addagulla

ID No: 2013A7PS007H

Student Write-up

Short Summary of work done during PS-II: We developed a platform for building, deploying and managing Big Data

Analytic applications. It enables quicker application development with its rich set of APIs. I worked on Notification engine service and also wrote unit test cases for the services to the platform and also developed a sample web page to monitor this platform and also fixed few bugs while production process.

Tools used (Development tools - H/w, S/w): Spring Tool Suite, Postman

Objectives of the project: -Do exploratory data analysis for model building exercise. Takes out the complexity of scaling and monitoring of application, so applications can focus only on Business problem.

Outcomes of the project: I am able to send the notification to the users regarding any logs or monitoring status and the necessary information. The unit coverage almost cent percent.

Major Learning Outcomes: JAVA, Junit, Angular JS

Brief Description of working environment, expectations from the company:Team interaction is good and co-operative, I gained a lot by sharing knowledge and new optimistic ways of solving a problem. The work culture was cool. Learned different technologies, interaction with other teams was great for technical help. Got lot of guidance from all. Food and atmosphere was superb.

Name: Antriksh Vijay

ID No: 2013A3PS228G

Student Write-up

Short Summary of work done during PS-II: Project work was initially about making a shipping module application using technologies such as EJB, JPA, HSQL, CDI. Later on, the work was on performance enhancement by reducing JAVA heap size of the application. Finally, the work was on frontend side using AngularJS.

Tools used (Development tools - H/w, S/w): Hibernate, JPA, Restful API, CDI, AngularJS

Objectives of the project: Objective was to learn new technologies and be able enough to write industry level code, develop new services and improve the efficiency of product.

Outcomes of the project: Fixed performance defects in the product which helped the team during a very crucial time of the year. (Black Friday and Cyber Monday)

Major Learning Outcomes: Learnt about new technologies and what are the factors which affect the performance of a product

Brief Description of working environment, expectations from the company:- Walmart labs is the software division of the giant US retail company Walmart. The working environment is really good. People are helpful and provided lot of support to the interns. Interns were treated like team members only and we contributed to the work that full time employees were doing. Company provided to-fro cab services which made travel easier in Bangalore traffic. Free lunch and snacks were a big plus. The only thing wrong about the station is there intern-conversion process. Only 2 out of 13 got PPO.

Name: *Pratik Jain*

ID No: 2013A3PS286P

Student Write-up

Short Summary of work done during PS-II: Understand the existing architecture of "search" backend used in ASDA Groceries website, and implement various refinements for "product search" using the commercial tools (Oracle Endeca), Also, deep understanding of how search actually works and leveraging the tools to enhance its capabilities.

Tools used (Development tools - H/w, S/w): Oracle Endeca, J2EE, Oracle ATG

Objectives of the project: -To add search refinements in ASDA Groceries Website

Outcomes of the project: Worked on the existing projects along with the Walmart team. Got to learn commercial tools used in e-commerce such as Product Catalog (ATG) and Search (Oracle Endeca).

Major Learning Outcomes: Detailed understanding of backend of "Search" in any e-commerce website.

Product Catalog Maintenance and the overall architecture of an e-commerce website.

Brief Description of working environment, expectations from the company: Team is quite friendly and helpful. Free pantry and free cab service.

Very less chances of PPO. every year they hire only a few (2/13 in our case and 1/19 last time). Also, the procedure is similar to campus hiring (coding round, tech interviews, manager round and HR round) and NOT based on your manager feedback. One can get rejected even in the HR round for no reason.

Name: *Utkarsh Singh*

ID No: 2013A7PS185H

Student Write-up

Short Summary of work done during PS-II: The project is about creating a platform that incorporates querying data and cache management, that would make it easier for Data Scientists and other teams in Walmart to implement their solutions in an easier and efficient way. Technologies involved were Hadoop, Alluxio, Spark. Most of technical aspects related to product development are already taken care in the platform. So an application developer can focus on developing their solutions forgetting about the other aspects.

Tools used (Development tools - H/w, S/w): Spring Tool Suite, Hadoop, Spark, Alluxio.

Objectives of the project: -Helping the data science community to get the data faster.

Major Learning Outcomes: Advanced JAVA, Spring boot, Knowledge about Hadoop, Spark, Alluxio.

Brief Description of working environment, expectations from the company: Working environment in Walmart was pretty good. It was a good learning curve for my future endeavors. Flexible timings, team members were approachable for any doubts regarding the implementations. Overall it was a decent learning experience in Walmart labs.

Name: Shubham Sharma

ID No: 2013A7PS110P

Student Write-up

Short Summary of work done during PS-II: Reporting is the collection and presentation of data so that certain processes can be analyzed.

Reports can either be in tabular form or graphs and provides a perspective of the data collected.

Efficient reporting gives an insight on how the business works and helps the management in making strategic decisions.

The web service implements the DAO pattern which is basically separating the high-level rest calls with the low-level API/data transactions.

The web service had 3 main functions which were get list, execute report and custom scheduler to schedule reports.

Other than coding the platform we also had to create certain reports as and when business requirements came in. Report generation mostly consists of writing SQL blocks.

Tools used (Development tools - H/w, S/w): JAVA, Restful Services, CDI, Informix and Exago

Objectives of the project: To create a framework for Reporting.

Outcomes of the project: The team had completed 2 of the 3 major functions and had started incorporating a hazel cast cache.

Major Learning Outcomes: JAVA, Restful Services and CDI.

Brief Description of working environment, expectations from the company:-The work environment was great and there are a lot of smart people around from whom one can learn a lot. The timings were also very relaxed which gives time to pursue other activities. The expectation from us is to deliver the work assigned to us in the allotted time while following the coding conventions.

Name: Vaishal Shah

ID No: 2013A8PS379P

Student Write-up

Short Summary of work done during PS-II: I was assigned to front-end web development team inside Walmart developing Web app to give clearance markdowns (Next Gen Pricing - Markdown). Initial 2 weeks I learned basic HTML, CSS, SASS, JAVAScript and AngularJS. My team followed AGILE principles which involved 10 working days sprint model. I was assigned my first user story in next sprint. It was about restricting user input based on specified regex. Commonly, other sprint stories involved HTML page design, API service integrations and designing custom directives. We used Angular JS 1.4.x version compared to latest Angular 2 launch. 8 days were given in a single sprint for developers and last 2 days for QA team to finish testing. After about 5 sprints, my team's product went to first production. We did a lot of testing from our side and made sure no more critical bugs came later in production. Product worked really smooth in production and was a full success. We were facing a lot of lag issues in scrolling. This problem was solved by using virtual scroll library for AngularJS which doesn't bind unnecessary data to list. Overall I worked in about 10 sprints completing Avg. 30 user stories. I had a pretty good user story delivery record with no spillovers. I really enjoyed working in front-end with the help from really smart people.

Tools used (Development tools - H/w, S/w): Webstorm IDE, Chrome developer tools

Objectives of the project: -Next Gen Pricing - Markdown web application development

Outcomes of the project: Web app went into first successful production release.

Major Learning Outcomes: Learned a lot about front-end web development and technologies like CSS, JavaScript, JQUERY and AngularJS.

Used and developed custom directives, services and filters in Angular.

Brief Description of working environment, expectations from the company: Working culture is really good.

Timings are flexible (Generally 9:30-5:30).

PPO process can be really tough. Don't get your hopes high.

Perks include 7 days stay at 4/5-star hotel, daily to and fro cab service and lunch.

Team members are friendly (manager also)

Workload isn't hectic so you can get a lot of time free to learn new things and can explore new areas.

Domain: Biological Science

PS-II Station: ARM, Bangalore

Student

Name: Nisarg Kanani

ID No: 2013A1PS059P

Student Write-up

Short Summary of work done during PS-II: In the first of the two projects that I worked on, the HbA1c percentage of individual red cells is measured and the red cell events as obtained in a cytometer are re-organized on a scale of percentage HbA1c. In this way, the HbA1c percentage of the different fractions is an independent parameter and can be used for the age calculation of the cells in the fractions. Also, corresponding fractions can be compared between different individuals of whom the red cells have undergone different glucose concentrations. This will further help in differentiating the diabetic patients and monitoring their glycemic history on an approximately per-week basis. For the second project, our main aim was to implement an additional feature in the present system of HemoCue device so that it can give a similar count output for CD4 positive cells in the blood sample, which in turn would provide an indication of HIV and/or an inefficient immune system. The tasks performed for this purpose included developing new formulations with specific reagents which would allow for surface staining in the cells and analyzing the captured images for the samples from the device to give a count of CD4+ cells as an output.

Tools used (Development tools - H/w, S/w): CytoFLEX, NavIOS; S/w: CytExpert, Kaluza Analysis

Objectives of the project: 1. To develop a glycaemia monitoring system/method with the help of HbA1c values obtained from Flow Cytometry.

2. To implement an additional feature in the present system of HemoCue device so that it can give a similar count output for CD4 positive cells in the blood sample, which in turn would provide an indication of HIV infection and/or an inefficient immune system.

Outcomes of the project: 1. The future applications of this project might include a useful tool for doctors to prescribe and/or adjust drug doses for diabetic patients after analyzing the trend of their glucose levels for the past weeks.

2. Being a point of care device, this method of CD4 cell counting would be a very fast, hassle-free and easily accessible indicative measure of the person's immunity conditions.

Major Learning Outcomes: A unique experience to work in an MNC, how exactly an organization works, how to handle multiple projects simultaneously and a general idea about research and development. Flow Cytometry being one of the major learnings, there were other involuntary learnings that came along when I worked in the innovation team and that too in an organization of this stature.

Brief Description of working environment, expectations from the company: Although not exactly my field of expertise, Biotechnology and its applications are highly intriguing to say the least. After coming to pace with the fundamental knowledge required to work for the projects, which were based on Flow Cytometry, it was a thoroughly interesting and enjoyable experience. Beckman Coulter has an excellent work environment; people working here are friendly and helpful and guide you in the best possible manner. It is a great place to gain an experience in research and development and basically to get an idea about how an organization works. I would recommend this practice school station to all those who are willing to learn something new (and obviously have some interest in the field).

PS-II Station: belong.co, Bangalore

Faculty

Name: Rekha.A

Students at Belong.Co are working on projects like Development of a Customer Health Score framework, Business Intelligence automation, Twitter user classification, Analytics for Product providing insights and intelligence to help better products/features/processes, Crunching Big data and making sense out of it and tech tooling.

Student

Name:Amit Gaiki

ID No:2012B1A7660G

Student Write-up

Short Summary of work done during PS-II: Devops and infra management. Rabbitmq cluster setup. Elasticsearch optimization.

Tools used (Development tools - H/w, S/w):Docker, Ansible, AWS, rabbitmq

Objectives of the project: Make a high availability rabbitmq cluster

Outcomes of the project: Made a high availability rabbitmq cluster

Major Learning Outcomes: Learnt clustering and message queueing

Brief Description of working environment, expectations from the company: Very good tech culture. It was a good experience with respect to values and learnings.

Name:Abhinav Agarwal

ID No:2013A7PS124P

Student Write-up

Short Summary of work done during PS-II: The first part of the project is a new Customer Health Score framework. CHS is a very important internal metric assigned by the company to each user of the product to judge how they are using the product. It also has a role in analyzing upsell, churn and judging where intervention from customer success team is needed. The second is two intercompany tools for automating redundant data extractions from the ETL (Extract, Transform & Load) endpoint and analytics tasks. They were a much-needed requirement for the company as it scales and manual intervention becomes both time and manpower costly. It automates two of the basic analytics roles: data extraction and metrics calculation.

Tools used (Development tools - H/w, S/w):R, Python, SQL, Airflow, Hive, Pig

Objectives of the project: To implement a new Customer Health Score framework and automate existing analytics and metric reporting pipelines

Outcomes of the project: Customer Health Score is a very important companywide metric associated with each customer to judge how they are using the product and evaluate them on the churn-upsell scale. This revamp in CHS was critical for the company because the old framework was not able to accommodate the growing use cases as the company scales non-linearly. The second part of the project was essential in that it enables anyone in the company to look up any customer data instantaneously without having to make per the time consuming existing workflow. The impact in man hours saved is considerable. The implementation of open source tool Metabase led to phasing out of earlier used proprietary software bringing more than 5000 USD in annual licensing fee to zero.

Major Learning Outcomes: Learnt practical large scale SQL and ETL pipelines, automation in R and how it can be used to develop a web app, data analytics workflows and thought processes, how a fast-growing startup like belong functions internally and how it drives its vision.

Brief Description of working environment, expectations from the company: Belong is a small 80-member team. The work environment is very open and everybody has access to everything. This philosophy was a primary driver for my project since it involved making all customer data accessible to everyone instantaneously. Belong is very much driven by its vision and goals. Being a startup one notices the impact of their work immediately. Every person in the company, even the CEO, is very approachable and open to questions on anything. It is very inspiring to see the very motivated people at belong work so tirelessly towards a common noble goal. The company expects ownership from the student and wants to see them asking questions and getting involved in things. It is also the student's responsibility to go out of their comfort zone and try to assimilate as much knowledge as possible in the limited time they have here.

PS-II Station: Cerner , Bangalore

Faculty

Name: Akanksha Bharadwaj

Since the company is mostly working on web application or mobile applications, the student should have basic knowledge of JAVA and JavaScript.

Course requirements - JAVA, JavaScript, database

Hardware/software tools - students should be keen to learn new tools and technologies

Soft skills - Team player, good learner, proactive, good communication skills.

Student

Name:Gaurav Bansal

ID No:2013A3PS307P

Student Write-up

Short Summary of work done during PS-II: Cerner is a health-care IT major. As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, SQLite

Objectives of the project: To build a stable app that can be used offline to enter the student details, hence can be used in areas with no internet connection, that will enable students to undergo early diagnosis of any serious conditions, based on the referrals given by the doctors that conduct these tests.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name:Abhishek Varma Alluri

ID No:2012B4A3922H

Student Write-up

Short Summary of work done during PS-II: As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The main purpose of this app is to know beforehand, the symptoms of any major disease likely to affect the student in the future, so early diagnosis can be performed. There is primarily Web development related work involved in building this application. The app was actually designed for government schools at first, but gradually another app is now being built for private schools as well. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, JavaScript, PHP, MySQL

Objectives of the project: To build a stable app that can be used offline to enter the student details, hence can be used in areas with no internet connection, that will enable students to undergo early diagnosis of any serious conditions, based on the referrals given by the doctors that conduct these tests.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name: Rohan Mohammad

ID No: 2013A7PS195H

Student Write-up

Short Summary of work done during PS-II: As part of the Corporate Social Responsibility team, we worked on an app, that collects medical data of students in Karnataka. The app is designed for doctors, nurses, to inspect the student, to enter his/her details like Height, weight, etc. The main purpose of this

app is to know beforehand, the symptoms of any major disease likely to affect the student in the future, so early diagnosis can be performed. There is primarily Web development related work involved in building this application. The app was actually designed for government schools at first, but gradually another app is now being built for private schools as well. The company has a tie-up with an NGO that conducts such drives in schools, where the app is used to store the information, and then uploaded to servers for safekeeping. Overall, it has been a rewarding and wonderful experience, here at Cerner.

Tools used (Development tools - H/w, S/w): HTML, CSS, XAMPP, JS, JQUERY, PHP, TortoiseSvN, Notepad++

Objectives of the project: To build apps that can be used by doctors for easier diagnosis or prognosis of students studying in Private Schools as well as Public School respectively.

Outcomes of the project: The project is successfully being carried out all over Bangalore at the moment, with any glitches being rectified by our team.

Major Learning Outcomes: Major foray into Web development concepts and introduction to Android, along with team work policy, corporate life etc.

Brief Description of working environment, expectations from the company: The working environment here at Cerner is pretty liberal and flexible as long as we stick to the deadlines. Our mentors and the project manager are all very professional, always welcome new ideas and are very helpful.

Name:Gaurav Tamba

ID No:2012B1A7327G

Student Write-up

Short Summary of work done during PS-II: Worked on creating a new Ruby on Rails Engine for a product that leverages the company's Ruby on Rails ecosystem

Tools used (Development tools - H/w, S/w): Ruby Mine for Debugging Rails flow execution

Objectives of the project: To create a Ruby on Rails engine that leverages existing services to help migrate an existing PHP application to the Rails ecosystem.

Outcomes of the project: I was able to code some UI pages using HAML, Ruby, and minor CSS and HTML

Major Learning Outcomes: Learnt the basics of Web Development, Ruby on Rails and the company's software infrastructure and ecosystems

Brief Description of working environment, expectations from the company: The company is relatively flexible, expects 8 hours in a working day but not strict about In-time and out-times as such. Managers communicate well to you and always take your opinion into consideration. Supplied devices are pretty neat, and the cafeteria is sufficiently subsidized. Less scope for research, great scope for working on bleeding edge tech for apps.

PS-II Station: CIPLA Ltd, Goa

Mentor

Name: Jayanth Sridhar

Designation: Global Head & Product development

They are quite satisfied with the BITS students overall. Three of the students who requested for extension did get extension. The student-mentor relation is excellent as mentioned by various department heads under whom the students are working.



Faculty

Name: Raviprasad Aduri

The company is pretty much satisfied with the students for the PS II. They think some kind of prior knowledge of the subject domain will help the students to gel in quickly with the company. They also want to know of an opportunity of them selecting the students for the PS II.

Student

Name: Priyanshu Lilha

ID No: 2012B2A1635G

Student Write-up

Short Summary of work done during PS-II: We worked in the Engineering Department at Cipla Biotec a new venture of Cipla Ltd. There we were involved in the expansion process of the plant which is being scaled up to provide 5kl biologics from the present 2kl. We worked on a heat exchanger project.

Objectives of the project: Validation of the current heat exchanger system and suggesting alternatives.

Outcomes of the project: Heat exchanger was validated and found out to be inefficient and a different system was implemented upon our suggestion.

Major Learning Outcomes: We learned the process that is involved in keeping a biotechnology plant running.

Brief Description of working environment, expectations from the company: Company is still new and is a good place to work at and offers employment chances to willing students.

Name: Khyati Agarwal

ID No: 2011B1A1718H

Student Write-up

Short Summary of work done during PS-II: Main focus of the report was documentation. The regulations and rules associated with documentation, its necessity and correct implementation.

Tools used (Development tools - H/w, S/w): The study material was provided by the station

Objectives of the project: The objective was to highlight the importance of documentation and the reasons for the same

Outcomes of the project: The redundancy observed in documentation system was identified.

Major Learning Outcomes: A familiarity with the several pharmacopeias of the world, the ICH regulations and CRF regulations was generated.

Brief Description of working environment, expectations from the company: The working environment was conducive to learning. The people were friendly, cooperative, helpful and professional

Name: Ankush Paul

ID No: 2012B5A1491G

Student Write-up

Short Summary of work done during PS-II: I worked in the Technology Management Lab. (TM Lab.) which was involved in R&D of products. I was part of the upstream, and we were responsible for running small experimental reactor batches. Experiments to be done were designed & decided by the upper management and our job was to run them, this involved cleaning the reactors, preparing reactor and bottle assemblies & autoclaving them, making media and other feed supplements & charging them, doing daily sampling, keeping a record of the data & at the end of the run harvesting the broth and storing of the supernatant. This was a continuous cycle, beside this we also did literature survey for our project.

Objectives of the project: To understand the effect of process parameters on culture & critical quality attributes.

Outcomes of the project: I studied the effect of various process parameters on VCC, viability & glycosylation first from literature available, then I tried to co-relate this with the findings in our product development experiments, this gave us a better understanding & control over glycosylation by manipulating our process parameters. Glycosylation constitutes one of the critical quality attributes in mAb production that requires thorough analysis as it affects not only their physicochemical properties and thermal stability, but also their reactivity with their receptors and circulating half-life.

Major Learning Outcomes: One of the major learning outcome was to have an experience of working in an industry in particular biotech industry about which I had no prior knowledge. Experiencing their work culture, learning about new developments in the field, handling professional instruments & working

with professionals and some very experienced people are some of the learning outcomes, not to forget the literature survey and all the studies done with regard to my project.

Brief Description of working environment, expectations from the company: Working culture was healthy & positive, people were approachable and always there to help. You are allotted responsibility as per what you demand and can handle.

Name:*Santosh Rananaware*

ID No:2012B5A1469G

Student Write-up

Short Summary of work done during PS-II: Studied and understood the process of development of bIOSimilar drugs

Objectives of the project:To study the impact of various process parameters on final product quality and productivity

Outcomes of the project: Ten parameters having a major impact on cell culture quality and productivity was studied and understood

Major Learning Outcomes: The process of development of bIOSimilar drugs was studied.

Brief Description of working environment, expectations from the company: Cipla is a fantastic place to work and learn about the biopharmaceutical industry. The management is great. The company provides a fun working culture

PS-II Station: Halliburton Technologies, Pune

Student

Name:Manish Ojha

ID No:2013A1PS455G

Student Write-up

Short Summary of work done during PS-II:At Halliburton, I mainly worked on two of these control techniques namely, gravel pack and Resin consolidation. Purpose of the first project or control technique (also known's as Sand treatment) is to optimize and recommend Epoxy resin composition and treatment parameters which can give best consolidation and regain permeability for the formation / produced sand samples. It helps in sand control by binding to the sand grains and increasing their unconfined compressive strength. The second project also known as Aqua linear Gravel pack sand control method is done to optimize different additives in a gel for transporting gravel sand to the reservoir zone and then breaking the gel to flow I back or leak it off.

Tools used (Development tools - H/w, S/w):H/w: Core flow, Viscometer, ISCO Pump, Sand consolidation assembly, Corrosion testing assembly, Compressive strength testing equipment, Swaging tools, Hot roller oven, HPHT viscometer and many more.S/w: E-draw

Objectives of the project:To perform successful gravel packing and Resin consolidation tests.

Outcomes of the project:Performed more than 50 tests and optimized fluids for 7 different oil fields for their usage in the field to control Sand production.

Major Learning Outcomes:Got to learn about Darcy's law and different fluid mechanics concepts. Also learnt about Rheology of polymer fluids and while working on different equipment's used different things learnt in process dynamics and control course.

Brief Description of working environment, expectations from the company: The people were very friendly from the beginning itself. I got to work on interesting projects and was provided with opportunities to work more and more in the laboratory to get hands on experience on most of the equipment present in the laboratory. Being a tech service PSL their guidance and persistence was much required for this project. In last 5 and a half months I've not only worked with the sand control team, but also with Hydraulic fracturing team and Acidizing team, which was very helpful to increase my knowledge about the upstream oil industry. The company expect us to have decent knowledge about our core subjects and also expects us to work hard in different areas. It was a great learning experience!

PS-II Station: Hindalco Innovation Centre - Semifab, Taloja, Navi Mumbai

Mentor

Name:Dr. Gautam Wagle

Designation: GM, Mathematical Modeler

Satisfied with the performance of the students. Interns were able to learn quickly, apply the concepts and arrive at a feasible solution given the amount of time they had.



Faculty

Name: Mukundhan C

Student

Name:*Himanshu Gupta*

ID No:2012B1A4795P

Student Write-up

Short Summary of work done during PS-II: I was working on the product design project related to creating a profile for an aluminum parapet which might be launched as a product under Hindalco high end product brand Eternia. We started with basic solid mechanics but later used FEM to simulate various iterations.

Tools used (Development tools - H/w, S/w):H/w: FEM software Stimula Abaqus CAE

Objectives of the project:To design the profile of an aluminum parapet for extrusion

Outcomes of the project:A profile of an aluminum parapet for extrusion

Major Learning Outcomes:FEM, Solid mechanics, Data analysis, Excel, Working in R&D environment

Brief Description of working environment, expectations from the company:Working environment was calm. Not many people working there. We were the first 6 months' interns. Good lab facilities. It's far from the city so we lived in suburban areas. Company provides transportation facilities. Mentor was helpful and knowledgeable.

Name:*Sri Amarnath*

ID No:2012B5AB581H

Student Write-up

Short Summary of work done during PS-II: tried to do statistical analysis on profile of a flat rolled aluminum sheet and achieved initial results

Tools used (Development tools - H/w, S/w):H/w: Python,SQL,Rolling model

Objectives of the project: To predict the profile of hot rolled sheet from process parameters at hot mill

Outcomes of the project: profile prediction

Major Learning Outcomes: Research is slow. It takes time to produce valuable results. That was a major learning

Brief Description of working environment, expectations from the company: The people at the company are nice. They are helpful, especially our mentor. The company has high expectations from us bits interns.

PS-II Station: National Centre for Biological Sciences , Bangalore

Student

Name: Shubham Pravin Rath

ID No: 2012B1A1673P

Student Write-up

Short Summary of work done during PS-II: The project entitled Enhancing phagocytic uptake of mutant *Drosophila melanogaster* hemocytes was directed to explore the use of small molecules in mediating phagocytic uptake in larval macrophages. For this purpose, screening was done for chemicals that enhanced phagocytosis in wild type blood cells but it was found that they were incapable of recapitulating the same phenomenon when Notch function was perturbed in them. The uptake of latex beads in Notch perturbed and control *Drosophila* larval blood cells was compared by imaging these blood cells using various microscopic tools and techniques.

Tools used (Development tools - H/w, S/w): Hardware - Fly genetics, fly dissections, microscopy techniques - confocal, TIRF, fluorescence

Software - Image Processing tools - ImageJ, Cell Profiler

Objectives of the project: The central motif of my project was to enhance phagocytic uptake in *Drosophila melanogaster* plasmatocytes (macrophages) using specifically synthesized amphipathic chemicals which reportedly alter the biochemical composition of the cell membrane. This study answered the question whether endocytosis is only due to membrane fluidity or was affected by developmental cues like Notch.

Outcomes of the project: Endocytosis in blood cells was captured at a series of time points, which showed that endocytosis increased with increase in time. This assay, standardized for a particular concentration of chemical and fluorescent beads, didn't seem to restore the same amount of uptake in Notch loss of function blood cells as compared to control. This indicated that Notch signaling is crucial for endocytosis and membrane dynamics as well.

Major Learning Outcomes: Through this project, I was trained rigorously in basic fly genetics, larval dissections, immunohistochemistry, microscopy and image processing. I also made myself familiar with developmental cues guiding hematopoiesis and cell specification in *Drosophila*. Subsequently, I

participated in scientific journals and paper discussions which helped me broaden my understanding of the subject.

Brief Description of working environment, expectations from the company: NCBS provides a fantastic environment for research, in terms of technology, resources and people. The labs are open 24x7, so one has the freedom to work at their own pace and time. All the faculties, research scholars and post docs are very approachable, both in terms of academics/non-academics, both inside and outside the lab. The open lab system here helps one interact with members of other labs as well. There are many international conferences and courses held round the year, which provides a great opportunity to learn about other fields and interact with top researchers. Moreover, the awesome sport facilities (again, open 24x7), swimming pool, subsidized food canteen, innumerable library and online resources makes research at NCBS even more fun!

Name: V Soumya

ID No: 2012B1A1782P

Student Write-up

Short Summary of work done during PS-II: My project was to check and validate a developed mathematical model using experimental data. The model was constructed to understand the growth of a cellular population in an antibiotic environment using parameters of ribosomal death and division. Specifically, I was characterizing bacterial growth curves at the antibiotic minimum inhibitory concentration.

Tools used (Development tools - H/w, S/w): R for data analysis

ImageJ for image analysis

Techniques of flow cytometry and fluorescence microscopy

Objectives of the project: To enumerate live and dead cells at antibiotic MIC and to fit it to the theoretical model

Outcomes of the project: At MIC, number of live cells remained constant while total number of cells increased linearly, as predicted by the model. This gave a new interpretation of MIC: that of it being a

point where any particular cell has equal chances of life and death. This critical point hence can be used to study what particular cellular components tip the cell over to life or death.

Major Learning Outcomes: Besides honing my practical laboratory skills, I learnt how biological processes may be developed as mathematical models to derive parameters that cannot be obtained merely by experimentation

Brief Description of working environment, expectations from the company: Work environment is extremely flexible. One is expected to make progress in the project, but the details and planning are left entirely to you. Laboratories and the library is open 24 hrs. every day, and hence one can make good use of these resources. Besides free access to papers and books, conclaves, seminars and paper presentations take place regularly. The air, on a general basis, is thus filled with academic discussion.

*PS-II Station: National Institute of Science and Tech. Dev. Studies
(NISTADS) , New Delhi*

Mentor

Name:Dr. Tabassum Jamal

Designation: Chief Scientist

NISTADS is one of the important research labs in the country. The current project deals with policy making for "Smart City" project initiative for the country. BITS student was put into this project and was expected to do research mainly in the area of transportation and mobility policies for Smart Cities. The BITS intern did an overwhelming work. In general, BITS students are hardworking and sincere in what they do.

Faculty

Name:Ritu Arora

Being one of the eminent research institutes in the field of Science and Technology, NISTADS offers good research projects for those interested to pursue higher levels of research. Projects ranging from the most talked SMART CITIES project to a simple software development project, students did all. Students received immense exposure to vast databases of existing research papers of all domains and were able to filter, gather and organize the required knowledge. As a faculty, I helped students organize the vast collection of research material that they obtained from the subscribed archives. The literature survey was reviewed with proposed creative changes. The software development project was also closely monitored for proposed user interface consistency and implementation.

Student

Name: *Prasna Pinnika*

ID No: 2012B4AA698H

Student Write-up

Short Summary of work done during PS-II: Worked on an android based app called TechNav and did a report on Renewable Energy in BRICS nations.

Tools used (Development tools - H/w, S/w): Dreamweaver, MySQL

Objectives of the project: To create a database of all the technologies present in all the CSIR laboratories

Outcomes of the project: Created login pages for the app

Major Learning Outcomes: learnt how to use php, MySQL and HTML

Brief Description of working environment, expectations from the company: It was a unique experience as a government workplace is very different from the traditional startup or private workplace. This company gives us the opportunity to work on socio-economic topics with scientists.

Name: *Bhanu Prakash Reddy*

ID No: 2013AAPS301H

Student Write-up

Short Summary of work done during PS-II: I have worked Social Network Analysis of Renewable Energy Research in India. I have extracted data of different universities in the country working on Renewable Energy Research and analyzed using tools like UCINET.

Tools used (Development tools - H/w, S/w): UCINET

Objectives of the project: To analyze the growth of PhDs in Renewable Energy Technology. To discuss the contribution of Universities in yielding PhDs in Renewable Energy. To understand different areas of Renewable Energy Technology that have been covered in the PhDs and their Distribution over time. To identify how PhDs are distributed across India. To find the network structure among Researcher, gender, Guide and University. To analyze the participation of women in Renewable energy research in India.

Outcomes of the project: From the analysis done in different fields of Renewable Energy Research it is pretty evident that focus must be shifted to wind energy and Hydro Energy as India has ample potential in these fields. IIT-Delhi itself, comprises of more than 40% of PhDs in Renewable Energy in India which shows the institutions high participation and concern towards Renewable Energy Technology. The comparison of PhDs in all fields and PhDs in renewable Energy Technology, all over India is done and it is found that a significant number of PhDs in Renewable Energy Technology is concentrated in Delhi, Rajasthan, Madhya Pradesh and Tamil Nadu whereas a major proportion of PhDs in all subjects is aggregated in western Uttar Pradesh and Andhra Pradesh. Women are equally encouraged as men in the field of Renewable energy research in the Jai Narnia Vyas University-Jodhpur. This is a welcome step and should be followed in the other universities. But the overall participation of women in Renewable energy research is very poor and it has been improving over the decades as we had seen

Major Learning Outcomes: Learnt how to analyze large data using UCINET and PAJECK.

Brief Description of working environment, expectations from the company: Work environment is very comfortable and work-friendly. Deadlines were flexible and scientists here are very supportive. Our work was very well structured and scientists are very particular about our analysis and output derived.

PS-II Station: Vitacloud, Bangalore

Student

Name: Roshan Kumar

ID No: 2013A5PS595P

Student Write-up

Short Summary of work done during PS-II: Worked on different aspects of software development for the vitCloud API. Integrated Google fit sdk into the vitacloud sdk. Also, worked on the android app for the vitCloud team which is a patient related android app.

Tools used (Development tools - H/w, S/w): Android studio, eclipse, IntelliJ idea for JAVA development.

Objectives of the project: integrating Google fit into the vitacloud API.

Development of Android app for the vitacloud team.

Outcomes of the project: Successfully submitted the android app and also integrated Google fit into the vitacloud sdk.

Major Learning Outcomes: Android App development.

JAVA software development

Working with web APIs

Interaction and working with REST and JSON.

Brief Description of working environment, expectations from the company: Vitacloud is a recently founded started which aims to bring the major digital healthcare products under one platform. These are some really good people with flexible work environment. They mentor us quite well.

Name: Geetanjali Kumar

ID No: 2013B1TS979P

Student Write-up

Short Summary of work done during PS-II: When I joined the company, I was put in an ongoing project, Antibody Expansion Program. The project was already on its third stage of product development. This

involved performing a set of experiments on various antibody-dye conjugates (catalogue products of Beckman Coulter labelled Research-Use-Only) to enable its conversion to CE-IVD for diagnostic purposes. The processed samples are then acquired on a Flow Cytometer NAVIOS (CE-IVD certified Instrument) and the data is compiled for analysis. It is then sent out for reviewing and is finally approved for CE-certification. The need for conversion of the product is because this will allow the reagents to be used for diagnostic purposes in the European market whereas an RUO product can't be used for diagnostic evaluation. Since the experiments had to be performed in the Lab, I was extensively trained in Good Lab practices and Standard operating procedures (SOPs) for all the instruments. I also had to read about Flow Cytometry, the dyes and cell markers used to gain some insight on what I was working with. This project has immensely helped me in improving my existing lab experience and practices. I've also learnt how to use the Flow Cytometer and brushed up my Immunology about markers and their importance in the detection of various cancers and underlying medical conditions.

Tools used (Development tools - H/w, S/w): Hardware- NavIOS (Flow Cytometer), CytoFLEX

Softwares-NavIOS Software, Kaluza Analysis

Objectives of the project: To perform verification and validation studies on single color antibody conjugates to enable its conversion from RUO (Research Use Only) to CE-IVD (In-vitro Diagnostics)

Outcomes of the project: The Program successfully passed all specifications and is now moving onto its final stage of development, CE-Certification and Marking.

Major Learning Outcomes: The main learning from the project was an in depth learning of Flow Cytometry which can assist in the detection of a host of diseases. Apart from that I also learnt Good Lab practices and equipment handling. Various software analysis techniques which helped in converting raw data from flow cytometers into meaningful graphs or plots.

Brief Description of working environment, expectations from the company: The working Environment is very friendly and all the research associates are very helpful. The company carries a progressive culture and appreciates openness and innovation. In terms of Research, you deal with different cell markers on a day-to-day basis, which proves as a challenging task as each cell marker reacts and binds differently. This allows you to learn more about these cell markers and their purpose in diagnostics before performing experiments. The work enhances your knowledge in various fields like cancer biology, immunology and cell biology.

Name: Sanath Shetty

ID No: 2012A3PS216G

Student Write-up

Short Summary of work done during PS-II: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Tools used (Development tools - H/w, S/w): Linux, Angular2, Angular1, Nodejs

Objectives of the project: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Outcomes of the project: Developed API for a digital healthcare platform. We also created a dashboard on android and a webapp for the data visualization

Major Learning Outcomes: Learnt to use Angular2 and Nodejs to create complete micro API services

Brief Description of working environment, expectations from the company: It was a cozy office in an early stage startup with 7 employees. We were given complete control over the product we were working on. It was a great experience with a lot of learning.

Name: Saksham Agrawal

ID No: 2013A2PS501P

Student Write-up

Short Summary of work done during PS-II: The work done by us was solely related to the ongoing projects of the host organisation. We gained insight to the practical applications of the teachings by the professors in college. The work allotted to us was a gateway to learning new software like ETABS, SAFE, RCDC, SAP2000, etc. Overall, it was a great learning experience and 6 months felt too less for it.

Tools used (Development tools - H/w, S/w): ETABS, SAFE, RCDC, StaadPro, SAP2000, AutoCAD, Excel VBA

Objectives of the project: Help the host organisation through working as a design engineer

Outcomes of the project: Helped the organisation by contributing to many ongoing projects.

Major Learning Outcomes: Learnt analysis and design software, preparing schedules, etc.

Brief Description of working environment, expectations from the company: The working Environment is very friendly and all the research associates are very helpful. The company carries a progressive culture and appreciates openness and innovation. In terms of Research, you deal with different cell markers on a day-to-day basis, which proves as a challenging task as each cell marker reacts and binds differently. This allows you to learn more about these cell markers and their purpose in diagnostics before performing experiments. The work enhances your knowledge in various fields like cancer biology , immunology and cell biology.
