INFORMATICS
INSTITUTE OF
TECHNOLOGY

UNIVERSITY OF
WESTMINSTER⌗

INFORMATICS INSTITUTE OF TECHNOLOGY

In collaboration with

UNIVERSITY OF WESTMINSTER

BSc Computer Science

Industrial Placement

Final Report

Shenal Anthony

2018383 | w1742306

In relation to the work carried out at

Daemonlogic Private Limited

14/09/2020 – 13/09/2021

Table of Contents

Acknowledgements

I would like to thank IIT for arranging the Industrial placement programme. I also grateful to Daemonlogic for recruiting me and giving me the chance to gain the much needed industrial experience.

I am really grateful to be supervised and guided by Mr. Hakim Falul CEO of Daemonlogic. His mentorship through this internship was the best experience I had and I am most thankful to him.

I would also like to give my heartful gratitude to my 2 team members, my fellow interns Harithroo and Yasindu who I got to work with during this year as one team in Daemonlogic.

Introduction

The BSc Computer Science degree provided by IIT is one of the best degrees in Sri Lanka to this day. The reason for it the degree is not only focused academic knowledge also on the importance of having the industrial experience with it. The third year of the degree is the Industrial Placement to let the student get the much needed industrial experience.

The Industrial Placement gave me the chance to gain experience needed to start my career. The academic knowledge I gained from first 2 years of my degree programme helped me a lot. I was able to enhance my skills in web development working as Full Stack Web Developer in the company.

Also, my teamwork, communication and presentation skills were improved during the Industrial Placement. More detail explanation are given here in the report regarding the Company Profile, the work I carried out during my internship and my thoughts regarding the Industrial Placement.

1 Placement Background

After applying for the internship, I was fortunate to be a part of Daemonlogic (Pvt) Ltd. I was selected as Full Stack Web Developer intern position . Daemonlogic is mainly focused on helping other startups as consulting them and helping to grow their reputation in the industry.

"As THE IT Management Consultants, Daemonlogic will make you too big to fail – and that's a promise!"

We were working on 3 internal projects of Daemonlogic **Job Katta, Kurulugedara and VroomVroom.** Requirement gathering then designing to implantation to testing were all completed by us. 2 other fellow batch mates were also got selected to Daemonlogic with me.

We mainly used WordPress for development as well as using HTML, CSS, PHP, JS as languages. We used Jira to manage our projects and our daily work and Confluence for documentation and Bit bucket for version control.

We used scrum methodology for each project so we would have daily stand ups to get the updates of the project and weekly demo on Friday we would present the weekly work on the demo and get the feedback of it and work on the feedback the following week.

2 Work carried out

My role in the Daemonlogic was Full Stack Web Developer Intern. The first work we had to do was learn the basic knowledge of project management. How should we do a project in a correct way what methods should we use and how to execute them were first thing we had to learn. So, we started to research about the Software Development Life Cycle(SDLC). The methodologies of SDLC, mainly we researched more about Agile methodology and Waterfall methodology. The pros and cons of each method and what method is best for different projects, we gathered information about them and had to give a presentation about them.

And then the first teamwork we got was to prepare a presentation regarding the stages of the 2 methodologies and I was given the 3 stage of Design, Solution Build and Testing. The differentiation of each stage when it comes to one methodology to another. After we gave another presentation on Continuous Integration, Continuous Deployment(CICD), Test Driven Development(TDD), Acceptance Test Driven Development(ATDD), Behavior Driven Development(BDD). All of these presentation and research were to get the knowledge of which method is better for which project.

Then we started to work on requirement gathering for 3 projects. **Job Katta, Kurulugedara** and **VroomVroom** were the 3 projects we worked. Those projects are internal projects for the Daemonlogic.

4

We were following the Scrum methodology for our project so we would have a Backlog Grooming session to estimate the time that it would take to complete each requirement. Afterwards when we start our Sprint we would have daily stand ups every morning to get the updates of the work, we would tell what we did yesterday and what we are planning to do today and if there are any roadblocks in doing them likewise.

2.1 Project Kurulugedara

Kurulugedara is a real-estate where you can post your property and you can make appointments with the seller.

I was given the Kurulugedara project to gather information of related work and come up with Unique Sales Proposition(USP) for the project. I created the requirements that was needed for the project and some USP's to make the project more unique than the related work. After I created user acceptance story the project. The user acceptance were created to identify why we should need this feature or why we should have this requirement inside the project.

After created a work break down structure for the requirements to help do the implementation. Since we were using WordPress to develop the site I started to study WordPress in order to develop the project. I researched what plugins we should use to fulfill the requirements of the project and which requirements should we hard code to implement without any use of plugins.

All of the documentation were done on Confluence, and the requirements were created as issues in Jira so that we could do the development correctly and efficiently and we added our daily worklog on Jira on the issue we were working on. And we used Bit Bucket for version control so after writing code we would commit the code to the repository in the Bit Bucket.

After all the requirement gathering and identifying the epics in all 3 projects, we started to work on Job Katta project first. After one project is completed then we would move on to the next project.

After completing the Job Katta project we started to work on the project Kurulugedara. I used Invision studio to create a prototype for the Kurulugedara as the main design worked on it according to the requirements we gathered and the feedback of our CEO. After the prototype was completed we started to implement.

Using the ultimate member plugin created the registration and login forms and the profile of the users were created. We created forms to get data from the user(the property details, user's details to make the appointment) store them in the SQL database, get some data(property data) from the database and display in the pages in the site. Creating the users profile letting them keep a track of the property details and buyers who are interested and made appointment so all.

In this project also we used the payment gateway to have the payment of the sellers posting of the ad to the system. We created some gamification for the site to make the web site more unique than the other related sites. After completing all the requirements, I worked on the CSS making the site responsive.

2.2 Project Job Katta

The project Job Katta is a freelancing site. Where you post projects that you want to do and find a freelancer to complete it.

So, start of the project I created the System Architecture diagram and the High Level Architecture diagram. Afterwards we started to implement the system. Install WordPress I started work on the login and registration of the site. In order to do the project, we created the environment in AWS and started to develop the project in the server.

The beginning of the project we were configuring plugins in the site. Like the login and registration plugin and form plugin for the add project. After the plugin configuration I started to work on creating the front page adding a slider with the phasers to go along with it. After we worked on creating pipeline from bitbucket to the Server.

We faced some problems when developing in the live server so we cloned the project into our localhost and started work on the project in localhost. In this project we had to create forms get the data from the user add them in the SQL database, get some data from the database and display in the web site pages. Creating the users(employer, freelancer , organization) profiles keeping track of the project posted current projects and completed projects for the employers side and for the freelancer's and organization the projects they have bid the projects that are currently ongoing and the completed projects. All of these are displayed I their respective profile.

We created templates in the WordPress theme using HTML, PHP, CSS and JavaScript and create a page in the dashboard and select the template and created the site.

At one point in the project, we had to use a payment gateway to make the payment from the employer to the freelancer. For that we used WEB X PAY payment gateway.

After the main requirements were completed we were given some more unique features to be added to the site. Adding the Group function and Posting Jobs and applying for it were created in the site. After all the functions were completed I started to make the web site responsive adding more CSS and Bootstrap.

2.3 Project VroomVroom

The project VroomVroom is web site where you can post vehicle to sell and make appointments with the seller.

Most of the requirements of the project were completed by on of my team member, I worked on the payment gateway of the project getting the payment of the vehicle posting from the seller to the system and bug fixing in the system. There were some bugs in some feature I resolved those issues and worked on the CSS making the site more responsive.

After developing all 3 projects we hosted the 3 projects on live mode using register.lk. We resolved some issues after hosting the projects and bug fixing. We also made user guides for users as well as for future developers for all 3 projects.

3 Skills Developed

- The best skill I developed during this internship was WordPress. Before my internship I have never worked with WordPress during this period I learned how to use WordPress and how to use plugins, themes and how to use templates.

- Project management is another skill I gained from my internship. How a project should be done properly from requirement gathering to testing and production, I had the chance to see and work according to a plan during this time

- My skill on designing were developed. I used Invision Studio for develop a prototype for one of our projects a tool that I have not used before.

- My teamwork skill and communication were much developed during this time period. Communicating with my teammates working together sharing ideas and concepts to use in the project helped me to gain much needed help from them.

- HTML, PHP, CSS, Bootstrap , JavaScript are some skills that I developed during my time period.

4 Challenges

- Adjusting to working area since this is my first experience in working it was hard to adjust to the work after some days I was able to overcome and go with the work perfectly. My supervisor helped me to work properly without putting any unnecessary pressure on me. It took me some time to adjust to the environment.

- WordPress was new for me when we first started to work with it I had some difficulties in the beginning I was able to learn WordPress and complete the projects well. I watched videos on you tube and got help from stack overflow to complete the work.

- During the projects some of the features were challenging but we were able to talk through and complete them. I watched you tube videos to solve those issues.

5 Academic Context

During the first 2 years at IIT I completed the modules like programming, web development, server side web development, Database systems. But for my internship out of many modules I learned Advanced Client Side Development, Server Side Web Development and Database Systems were the modules which helped me the most with my work. Those modules gave me the right foundation and the knowledge to do my work at my internship.

It would have been great if I had the basic knowledge of frameworks for Web Development like React, WordPress, Angular. Mostly WordPress would have been a great framework to learn during the first 2 years of the degree so it would be much easier to go along with the industrial work. And in Server side Web Development module it would have been great if we had learned to develop PHP in OOP. Most of the industry PHP are used with OOP concepts.

6 Future Development and Career

After I started my degree at IIT I was fond of Web Developing, even for my internship I wanted to find a internship that I would get to do Web Development. I was fortunate enough to find a internship for what I was looking for. During this internship I gain more knowledge about Web Development. So as a career for my future I would choose to be a Full Stack Web Developer.

I do have to develop my designing skills. So that it would help me in my career so for that for my final year I would choose Mobile UI/UX module so that I could develop my designing skills. Also, I would like to learn more about server side web development so for that I would choose Advanced Server side Web Development module.

7 Overall placement evaluation

I am really happy with my internship cannot be happier. I was fortunate to have my placement completed at Daemonlogic. My role was what I was looking for as a Full Stack Web Developer. Our CEO Mr. Hakim guided us and taught us what should we do in the industry how should we make good career in the industry. The mentorship of him was truly amazing.

At the beginning of the internship, I wanted to develop my web development skills up to the industry level, I can say that I have developed my skills up to that point. Working with the team communicating with them sharing ideas helping each other's work was truly remarkable experience.

I always wanted to build my career to become a web developer the internship gave me the right foundation and the training for it. I learned the much needed project management. I was lacking that part when it comes to a project the internship taught me well how to manage a project.

8 Conclusion

Overall, I am confident with my internship with the experience I got from it, the new technologies I got to learn, developing my skills teamwork, communication skills and web development. The report contains the work I carried out through the internship the challenges I faced during this time and how I overcame those challenges, skills I developed, the career I wanted to follow in future.