**Internship Weekly Report**

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## BACHELOR OF TECHNOLOGY

IN

## COMPUTER SCIENCE AND ENGINEERING

SUBMITTED BY

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UNDER THE GUIDANCE OF

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**JALANDHAR – 144011, PUNJAB (INDIA)**

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**Weekly Diary**

**18thJan – 21sh Jan:**

All interns had an introduction with the manager and tech leads of the company. We were told about the projects going on in the company and were given some information about the training sessions. We were asked to study about Javascript in detail from all the sources that we can get from. I read about what is JS, browser APIs, JS running order, interpreted vs compiled code, server-side vs client-side JS, dynamic vs static code. JS training sessions started and we were explained about the JS basics in detail. Primitive and non-primitive data types, strings were discussed in detail. Also, variables, hoisting, array, objects, functions, if else statements, operators, loops, scope were explained. I also started reading the book series - You don't know JS. Started reading the 1st book of the series.

**24th Jan – 28th Jan:**

We were taught about thread of execution, call stack in JS, variable environment, immutability, lexical scope, scope chaining, let, const. Completed the 1st book of You don't know JS. Started its second series - Scope and Closures. Read lexical scope in detail and function versus block scope. I started writing some code on my own to get hold of the concepts of JS. We were taught about array, objects, string in detail. Objects and array pass the values by reference in functions were the key learnings from the session. Read hoisting and closures from the book and finished the 2nd book. Started with the 3rd book of the series - this & Object Prototypes. Read about this keyword in detail. Ways to determine this's scope - default binding, implicit binding, explicit binding (using call, bind and apply), binding using new keyword.  Attended session of how VM works? Received an assignment on the learnings so far and completed it. Continued with the 3rd book and read about Objects in detail, their various properties which include enumerable, writable, configurable, [[Get]] and [[Put]] operations, iteration on objects.

**31st Jan – 4th Feb:**

Read on Object prototypes and methods of objects, relationship of methods and objects and how prototype is impacted in various cases. I was given 2 questions as assignment. Solved both of them. Read bout rest and spread operator, behavior delegation in objects, ES6 classes, setTimeout and setInterval functions, callback functions, brief of how API calls work. Completed the 3rd book of the series. Received a new assignment on setTimeout and setInterval functions. I designed a stopwatch and counter reversal using setInterval function. I also implemented setInterval function using setTimeout function. Apart from that, I read the first two chapters of Types and Grammar book wherein I read about the data types, their wrappers, NaN, number ranges, undefined and null in detail. I also learnt about problems associated with some of the data types. Solved question on flattening out an object recursively. Read in detail of event loop and some ideas about asynchronous functions and their working. I continued reading the book and learned about coercion, how various coercions work - Number to string, number to boolean, string to boolean and vice versa. Completed the 4th book of the series You Don't Know JS, studied event loop in detail and started working on the assignment.

**7th Feb – 11th Feb:**

Started with the 5th book of the series - Async and Performance. Updated the assignment to print 1000 tickets simultaneously. Started reading about SQL from w3schools. Our JS training was completed. Our NodeJS and MySQL training started. We were asked to study about MySQL so Studied MySQL and joins, installed NodeJS and started reading about it. Studied about ExpressJS, its documentation, http status codes and created a dummy NodeJS API project. Implemented whatever was taught in previous and today’s session. Watched NodeJS and Express JS crash course, setup the apps in my local computer, read postman's documentation, read about various HTTP methods and status codes. Revisited NodeJS and ExpressJS, also read about idompotency and HTTP methods, and their differences, different API methods, when they are all used. Our training sessions were concluded.

**14th Feb – 18th Feb:**

I created github account using company’s email id and was given access to the company’s backend repository. Cloned the repository on my system and installed other apps which were required. Set up the NodeJS project on my system and started reading the code from it. I was asked to optimize an API and change its coding paradigm from callback functions to promise based functions. Went through the API and understood its functionality in detail. Started changing the API. Continued with changing the API’s coding paradigm. Researched wherever I was stuck while coding. Connected with my fellow interns in case I felt an issue. Started hitting the new API from Postman to check if it was working fine. Solved some bugs when the API was not functioning properly. I was not able to understand some code in the API so tried to understand it. When I was not able to understand it, connected to senior software engineers for it.

**21st Feb – 25th Feb:**

My code was reviewed by tech lead and he asked me to further optimize it. Use constants wherever necessary and use more meaningful variable names. Followed the standard coding approach. Continued the previous day’s changes. Later, was helping a fellow intern in solving his issues when he was stuck. I was asked to compare old and new API responses and check if they are same. I found some keys missing and debugged the code to match the API response. I was asked to help my fellow intern. I gave final touches to my code and helped him. Was given a small training session on git and github. I was asked to put the code on company’s development and staging servers and then test the code and match the responses. Did so, found some bugs, fixed them. Gave my code to QA team, they did the testing and found no bugs in it. I was asked to open a pull request (PR) for the code. My first code was live.

**28th Feb – 4th Mar:**

I was given another 4 APIs to shift by one of the senior Software Engineer. The APIs were quite big and each one was of around 2500 lines of code. Started reading the code of the API. Continued reading the APIs and understanding them as they were quite big. Hit them in postman and checked the responses. Started shifting the code to a new file and simultaneously understanding the API. Took help from senior software engineer where I was stuck. Read the other 3 APIs and got to know they are very much similar. Continued with shifting the API and changing its coding paradigm. Completed 20% shifting of the API and pushed the code to github.

**7th Mar – 11th Mar:**

To get more understanding of the API, I drew the function calling and now the API working was clearer. I continued with shifting the code. Completed shifting the first API by 80%. Pushed the code to github, keeping my tech lead in loop. Completed shifting the first API. Hit it in postman local and seemed fine. Deployed it on dev server and found some bugs. Started solving them. Found some more bugs as the API was quite big, so there were few issues when I was shifting it. Fixed them. Stored number, string and Boolean values in constant file wherever necessary. Cross verified the code and gave it in QA.

**14th Mar – 18th Mar:**

I was asked by my tech lead to change to a different API and optimize it as it would have much greater impact and that was the need of the hour too. He explained me about the API. Started studying the API and also coding it. Continued with optimizing and shifting the API. I had difficulties understanding the old API so I took help from senior software engineer as it was urgent to shift the API. Coordinated with senior software engineer and he helped me in re-designing and optimising the API. We completed crucial functions of the API. Optimised the API by reducing the number of loops and added some more pending functionalities of the API.

**21st Mar – 25th Mar:**

The API was related to cart of the user, listing the products in cart, so completed pre apply offer and MRP total calculation to the API. Matched the new API response with the old one and tried fixing the missing keys. Completed the API redesigning and development and handed it over to my senior who fixed it, tested it for all the possible cases and handed it over in the QA. Shifted back to one of the four APIs that I was redesigning prior to this API. Changed library for API calls, as the older one was deprecated. Gave the code of the first API to QA team. The QA engineer found some bugs and I was debugging and fixing the code. Continued debugging and fixing the code. Found an older bug in the development environment of the repository and tried fixing it.

**28th Mar – 1st Apr:**

I was asked to develop a new API to show lightning deals to user. I created the SQL table in development environment and then started writing the code for the API. Continued developing the API. Had a bit of confusion understanding the flow of the API, so read some of the connected code of the repository. Completed the API and handed it over to the QA engineer for testing. QA engineer was busy with some other tasks, so QA was shifted to the next day. First API of 2500 lines went live today. Redis was used as database in the repository, so read its documentation and learned about it. QA engineer tested the API, he found a bug and asked me to fix it. Fixed the bug and gave it again to QA engineer who was satisfied with the API. I was asked to develop an API for the dashboard panel where the user can copy some data and paste it somewhere else. This time database was MongoDB, so read about the collections in the database and also read about MongoDB’s documentation. Cart API went live for web users.

**4th Apr – 8th Apr:**

Started designing the API, spent my most of the day in coding the API. Meanwhile, there was something wrong on the server, so everyone was busy in fixing it. Found a bug in cart API, solved it and made it live for the users. Designed the API completely and deployed it on development server. Shown it to the Frontend engineer who would be integrating the API. He tested it and asked for some modifications. Modified the API, did its QA and opened PR. Code was live the same day. Lightning deal API was also live. Was given a task by tech lead to show images platform wise (web images to web users and app images to app users) to the users. The API to be changed was quite complex, so spent my day studying the API. Started modifying the code.I was given one more task to create APIs for recording delivery feedback and product feedback on whatsapp. Started developing the APIs. Finished developing the APIs and started testing the APIs. Found a bug, solved it and tested again. APIs were working fine, so handed the code over to QA engineer. He tested it and was satisfied.

**11th Apr – 15th Apr:**

Was asked to develop an API to list all the urls from database to be served to Frontend for them to be able to generate sitemap. Completed developing the API and tested it. Handed over the code to QA engineer. Was asked by backend lead engineer to study about PHP Yii2 framework, as there was a big task lined up to be completed in it. Hence, watched youtube videos on it. Continued learning about Yii2 framework. Backend lead engineer asked me to start writing the code for developing a dashboard panel to insert information about bulk Purchase Orders. Created the tables in the SQL development server and coded one of the parts of bulk PO in Yii2. Was helped by lead engineer wherever I was stuck. My tech lead gave me some small tasks to be done in bulk PO and he asked me to study the code whichever he will write for the bulk PO. Did some modifications in the dashboard panel of bulk PO as guided by the lead engineer. Created a dashboard panel for shipping order and shipping line items (parts of bulk PO). Feedback APIs and platform wise images code went live.

**19th Apr – 23rd Apr:**

Switched to Node repository. I was asked to add redis cache to the API to generate sitemap as the API was slow when the content was extract from MySQL database. Handed over the code to QA and he was satisfied after testing the API. Code went live. Was asked to develop an API to share install link on whatsapp whenever the user clicks on a button from Frontend. Developed the API and gave it to QA engineer. He tested and code went live. Also, resumed coding the bulk PO panel and added some more parts of it. Completed it around 80%. Gave a feature to upload the CSV, spent my time studying about it as it was relatively new to me. Also renamed buttons in the dashboard panel and spent the rest of the day studying the APIs written by others. Handed over the bulk PO code in QA and he asked for some modifications. Did the modifications, and QA engineer was satisfied.

**26th Apr – 29th Apr:**

Bulk PO panel was given for UAT to product team and they asked for some modifications. Did the same and showed it to QA engineer who was satisfied. Code for bulk PO went live. Started working on the cart API to make it live for app users. One of the developers who worked on it earlier was leaving, so took knowledge transfer from him about the API. Added some more features to cart API for app, tested it and was stuck at one point of time. Took help from senior developer, started writing the code again. Code which I added was not working fine and the cart API was also not working properly when I tested it. Removed the code and started writing the code for app users again.

**2nd May – 6th May:**

Completed the cart API for app and informed my tech lead about it. He explained me the new tasks to be done and I started reading the code about them. Gave the cart API for app in QA and the QA engineer gave me a list of bugs. I had some confusion regarding the flow of the code, so asked the backend lead about it. He explained me about the flow and then I understood where the code was wrong. Started modifying the code for cart API for app again according to the bugs. Fixed all the bugs except one which I was not able to debug. However, after a lot of debugging, finally found the bug and fixed it. Unit tested the cart API for app and also checked if something went wrong on cart API for web on staging server. Found some issues, fixed them. Handed over the code to QA engineer.

**9th May – 13th May 2022:**

Was asked to do some changes in the bulk PO as asked by the product team. Did the changes and handed over the code in QA. QA engineer asked for some more changes, did the changes and showed it to him again. He was satisfied with the changes. Was given a small task to give a text field to add a limit to the use of coupon in the dashboard panel. Did the modifications. Also, was asked to add some more fields in another page in the dashboard panel. Finished doing the changes. Gave the 2nd task in QA, which was tested and satisfied. Code went live.

**16th May – 20th May:**

Found a bug that was running in older cart API for app. Fixed it in old cart API and new cart API both. Gave the code to QA engineer, who gave some more bugs. Fixed the bugs. Coupon limit code went live. Cart API for app code went live. Cart API for app ran into some errors, along with cart API for web on live code. Debugged the code, fixed the bugs and made it live again on an urgent basis. An old bug was coming in cart API repetitively, fixed it. QA engineer did sanity for the code and code went live. There was a bug in coupon limit reduction when ordered. Fixed the bug, gave it in QA. Coupon reduction bug was tested and code went live. Coupon limit for dashboard panel was also tested and code went live. Was given a new repository access which is also used for developing API in Nest. Read Nest’s documentation. Was asked to show some data only to certain users, did the modifications in Nest code.

**23rd May – 27th May:**

Coordinated with Frontend member in testing the code of Nest. Was given two more tasks to be completed in Nest JS, started working on the same. Finished completed the tasks as were given previous day in Nest and informed the frontend developer about completion of the tasks. He integrated the code and was satisfied. Was given one more task to be completed in Nest JS. Finished writing the code and gave it to Frontend member. He integrated the changes and was satisfied with the code. Was asked to do some of the modifications in Nest code which I coded earlier. Did the changes, Frontend tested it, QA engineer tested it and code went live. There was a bug on live server in the first API which I developed. Fixed the bug, got tested it by QA and code went live. Was asked to add a feature in dashboard panel that if no policy is selected, select default policy. Coded the same.

**30th May – 3rd June:**

Default policy was given in QA. Was tested by QA engineer and code went live. Was given some offer bugs on cart API page which occurred on live. Started debugging the same. Started fixing the offer bugs. Was unable to replicate one bug, so asked QA engineer to help me replicate it. Fixed it also. Gave it in QA and QA engineer was satified. One API was giving error, so debugged it and gave it in QA. Also, in the new cart API for app, new users were not getting credited with coins. So, fixed the bug and made it live. Offer bugs code also went live.