

**CS1410: Java Programming Development**

**Personal Report**

**Level 1**

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Initially we all read through the project brief to get a greater understanding of the task at hand and what it may involve. Hannah created a very helpful document where she split up the project document into a list of tasks that we had to achieve which helped us by giving us a more overall view of what needed to be done. We discussed in the group to figure out each other’s areas of skill and what sections of the project everyone felt they were most comfortable with. I identified the areas of the projects involving coding skills or writing skills and decided that my skills would be more suitable for the coding areas of the project however I still helped others with the writing sections when necessary.

We allocated a class for each of us to create a CRC card on a physical piece of card. We had discussed and created a list of what methods we had expected to use on a shared document for each class, this helped us when creating the CRC cards as we only had to look at the document or add any extra methods that we had thought of.

After creating all the CRC cards we placed them on the ground as a physical representation of the UML diagram, we used this to check with the *helpers* to question whether we had all the classes we needed and that we connected them correctly.

I decided that the group would benefit from setting up a code and document sharing and collaboration system for everyone to use. In one of the group meetings I created the project and uploaded it to the GitHub repository that I created and then helped set everyone’s login to the website and everyone’s laptop to be connected to the online files. The advantage of this means that everyone has immediate access to an up to date version of the project which they can use to reference, update files or create new files.

In the next meeting, we connected to the online resource and added in the method outlines that we had defined in the CRC cards which would make it easier for the coders to know what to add also it helped people not working on the code to understand what each class needed to do.

I was designated the role to create the main functions of the simulator with Becky helping me create some sections I didn’t understand. Initially I created a simulator class without a station class but after some consulting with the team we decided to add a station class. This was done so if in the future multiple stations want to be simulated this would be much easier to add.

Afterwards I created most of the station class which controls scanning the pumps and tills to tell each vehicle to perform actions and moving vehicles around the station when they’re ready.

I created the main section inside of the vehicle class which it uses to decide what to do at the current tick value based on where it is and where it has been for how long.

Deciding on how the algorithms to control the vehicles and perform actions on each tick was very difficult. I consulted with the group numerous times to check I was creating the algorithm in an efficient way. I also had to check with the specification many times to confirm I was implementing the timing and various functions in the correct way.

I had created the till and pump classes early on into the development process but after an evaluation I decided they were very similar and I was repeating code so I decided to move all the repeated code into a parent class called queueable and the code that was in the queue class. This means a significant reduction in code repetition and also the merging of the queue class to remove it.

I also created a modified version of the final project that runs the simulation, changing the values of p, q, pump number, till number and truck Boolean on each run to calculate the average over all combinations of the simulation.

This project has been very challenging. I’ve learnt how important it is to create efficient code which is easy for others to read understand and be able to modify if needs be. I’ve also learnt how to divert tasks and roles to other people where I feel they may be more suitable for the tasks or for something I would struggle with. I hope to use these skills I have learnt in future tasks that I will take part in.