

Coursework Submission Cover Sheet

Please use Adobe Reader to complete this form. Other applications may cause incompatibility issues.

Student Number

Module Code

Submission Date

Hours spent on this exercise

Special Provision

(Please place an x in the box above if you have provided appropriate evidence of need to the Disability & Dyslexia Service and have requested this adjustment).

Group Submission

For group submissions, *each member of the group must submit a copy of the coversheet*. Please include the student number of the group member tasked with submitting the assignment.

Student number of submitting group member

By submitting this cover sheet you are confirming that the submission has been checked, and that the submitted files are final and complete.

Declaration

By submitting this cover sheet you are accepting the terms of the following declaration.

I hereby declare that the attached submission (or my contribution to it in the case of group submissions) is all my own work, that it has not previously been submitted for assessment and that I have not knowingly allowed it to be copied by another student. I understand that deceiving or attempting to deceive examiners by passing off the work of another writer, as one's own is plagiarism. I also understand that plagiarising another's work or knowingly allowing another student to plagiarise from my work is against the University regulations and that doing so will result in loss of marks and possible disciplinary proceedings.

CM2305 – Group Project

Individual Report

Euan Morgan – c1826905 – Group 07

Introduction

I was a member of group 7, we were given a brief which entailed developing an application to help minimise crime which occurs when people are walking home late at night. During the first week, we had our initial client meeting. I contributed questions and joined the discussion, with the goal of gaining a better understanding of the brief. From here, we began weekly sprints in which each group member was given a task they would try to complete before the next sprint.

Requirements Presentation

Our attention was first focused on the content needed for the requirements presentation. We split the group into sub-teams, and I joined the sub-team tasked with creating use case descriptions. However, after some revision on the topic, I learned that the requirements are a pre-cursor to the use cases. I messaged the group Facebook chat and brought this to the attention of the other members who all agreed. I helped to write some basic functional requirements and then created a use case description for 'divergence from the chosen path'. At this stage, the requirements were all in the 'must' category, which are features the program must contain to fulfil its purpose.

The group was then split into four sub-teams, each responsible for tackling one key part of the presentation. I was on the functional and non-functional requirements team along with Aaron, and spent the following meetings collaborating with him, and then further refining our work at home. Aaron and I split the work evenly between us and managed to devise over 25 different requirements. We discovered that our work slightly overlapped with the acceptance criteria sub-team. They realised that the acceptance criteria are based on functional requirements, so began writing their own. This turned out to be beneficial as we then merged the two functional requirements documents together and further refined them until both sub teams were happy with the list. Outside of meeting hours, I also read through the documents and highlighted and added comments with any feedback I had, as did the rest of the group. Each sub-team then presented their section to the rest of the group during a meeting, in which everyone offered feedback.

Our job now, was to create the slides for the Requirements Presentation. The sub-teams remained the same during this. Aaron and I also continued to work collaboratively with the acceptance criteria sub-team. The requirements didn't always lend themselves to a presentation scenario, as they were in a list format. Therefore, we rephrased many of them and wrote additional speaker notes which contained more in-depth explanations.

Once we were finished, the functional requirements totalled 34 slides. We divided the workload up between us as evenly as we could, I presented slides 56 to 64. Aaron and I realised that we had spent too much time on the Functional Requirements and had neglected the Non-Functional Requirements. I offered to rewrite these into a more digestible format and to present them, as Aaron was also working on the Risk Assessment.

Each functional requirement had an individual slide of the presentation. I decided that the Non-Functional should be presented slightly differently since there is not enough to say about each of them as they are what the system needs to be, instead of what it needs to do. I therefore reordered them and listed as many as I could per slide, without making it overcrowded. Once finished, I had 15 non-functional requirements across 5 slides. I then spent time practising my section of the presentation and, along with the other group members offered feedback where necessary.

UI Prototype and Interim Report

After the Requirements presentation, the focus turned back to implementation. We were still yet to finalise the programming language to use. After some discussion, we decided to discard our two original options of Python and Java. We concluded that it would be useful to develop the software using a language or framework which is used industry. We wanted to gain valuable knowledge for not only this project, but also our future careers. We decided to use React Native, as we understood that it was a well-established framework and is sought-after in industry. No group member had any prior experience with it, so agreed to attempt to learn the basics by the next meeting.

I read the React Native documentation and became very interested in the framework after learning the basics. I have had previous experience developing a large web app for a company and I'm planning on creating a mobile app version of it in the summer. Therefore, I used this time to gain knowledge for both the group project and my own personal work. I enrolled in an online course in React Native and watched through around 10 hours of it during the week and spent a further 6 hours putting what I had learned into practice. By the end of the week, I had learned enough to begin working on a Prototype UI for the Group Project.

I discovered that some of the other group members had difficulties getting React Native set up. Therefore, during the next meeting I helped those who were struggling with the installation process and explained what I had learned. A group GitLab was created and I pushed a blank template project with all the necessary dependencies to the master branch, so everyone could begin from the same blank template.

I continued working on the prototype in my spare time and by our Monday meeting, I had a basic 'Log in' and 'Create Account' screen which I presented to the group. During this meeting, we began planning the interim report and allocated each member to write certain sections of it. We split the report up based on the Criteria for Assessment in the assignment instructions document. I opted for 'Evidence that the work has been implemented as a team showing efforts of how to integrate the components'. The group also decided that I should continue to work on the prototype alongside writing the report.

The initial draft of my section of the report totalled at around 1600 words, this was too much, as the report limit was only 10,000 words. I worked towards streamlining parts of it and aimed for a clear and concise section, which only displayed necessary information, instead going in depth into all the minutiae for the sake of reaching the word limit. I also read through the rest of the report document and highlighted and made comments on certain areas with feedback, as did the rest of the group.

During the meetings in week 11, the group read through the entire report together and each offered constructive criticism as we had done with all work previously. We agreed that a subsection of my part of the report, which presented screenshots of the UI and explanations of the features would be moved to the 'implementation' section.

By this point, I had made significant progress with the UI Prototype. The most important addition was the Navigation Screen. This screen would:

1. Retrieve the user's current location
2. Use the Google Maps API to locate an entered destination
3. Display this as a route on an interactive map.

More work is required on this screen, we are aiming to implement our own algorithm to calculate routes and recommend them based on their safety. Additionally, the location is only updated once; so if the user was to attempt to follow the route, it wouldn't change to reflect their movement. However, I feel that this screen was a good milestone in the progress of the project and is an excellent foundation to build upon in future development.

Conclusion

The group project so far has been an excellent experience for me and has allowed me to expand my skills in many ways. Constantly collaborating with each member of the group has increased my communication and teamworking skills exponentially. Presenting the requirements presentation gave me an opportunity to enhance my public speaking skills. This has never been my strongest attribute, but I believe that I was able to present my section confidently and coherently, and ultimately aid the team in achieving our mark of 100%. This has also been a great opportunity for me to revise certain topics from last year, particularly use cases and requirements. Additionally, I have made good progress towards learning React Native which is going to be extremely useful for both the group project, and my own professional development.