IM3080 Design and Innovation Project (AY2021/22 Semester 1)
Individual Report

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Group No: <u>6</u>

Project Title: <u>CoHab Application</u>

Contributions to the Project (1-2 page)

At the start of the project, all of us contributed to analysing our chosen application 1.0, and determining ways in which we would improve on the existing features, based on our target audience. Subsequently, amongst a few others, I drafted a UI concept design, which eventually formed the basis on which we visualized the final design, adopting elements from the others' designs as well.

We decided to make a Figma prototype and I was given the home screen to design, as I was one of the proponents of the gamification idea. Once we had the pictures and the layout, I used Figma's prototyping feature to visualize the user flow and information architecture. As we continued discussing the design, minor changes were also added afterwards.

I was then assigned to the 3D team as it was an area unfamiliar to all of us and required picking up an entirely new skill. Eventually I had familiarized myself with the controls and settings and handled the importing of blender assets into the application. While I assisted in making models such as the dog avatar, plants, table, door, grassy background and the dog and cloud animations, most other models were handled by my groupmates while I would be sent the file to manage the rendering of the scene. I would then work closely with another groupmate to ensure the assets were able to be used correctly with the code. For this purpose, I would resolve problems with the models' vertices, correct the UV mapping of textures and materials, and define the ideal render settings regarding light ray properties and the output file properties.

As part of the job to design the home screen, I had to create and experiment with the front-end code in order to understand clearly the limitations of the existing react native libraries we had chosen to use, in order to obtain the correct assets and figure out the best way to achieve the intended design effects.

Finally, as CoHab was completed, I worked with a few others on the video. The few of us discussed together what to include in each shot, how to frame the shot, what effects to use, how long each shot will be, and how we intended to take the shots. Eventually we managed to draw out a draft of the video sequence. I provided the tripod stand and assisted in determining shot angles and in the filming. We had to make changes on the go as we realized certain shots were not feasible or did not have the effect we desired.

Reflection on Learning Outcome Attainment

Point 1: Communication / Project Management

When working in a team of any size, communication is essential to make sure everything is coherent and consistent, and to facilitate the development. While planning for the project is important on its own, a plan cannot be executed properly if it is not communicated to the rest of the team clearly. I believe this is one point of our project that could have been done better. We split up into various smaller teams at different points of the project to work on different tasks, but due to the lack of communication, most of us are unfamiliar with the parts we did not work on, which hindered our ability to see the project development in its entirety and understand why certain things were done the way they had been done. Fortunately for us, when we would clarify afterwards, the objections and different opinions were not too difficult to remedy, and we ultimately managed to create the application in a way which we all agreed on. Through this project, I now understand more clearly the importance and usefulness of using diagrams, to ensure that plans are clearly defined and communicated with the rest of the team, to ensure that we are all working towards the same end goal.

In addition to communicating plans, during our project, some members felt troubled and found difficulty working with the team. It was brave of them, and incredibly lucky for us that they voiced their concerns early. I am also very proud of the team for handling the situation and tense emotions with great maturity and empathy. We managed to quickly solve the conflicts and get back on track. From this experience, I believe I have become more prepared to handle conflicts and tense situations that arise in future projects, and better understand the importance of communicating early.

Point 2: Modern Tool Usage / Lifelong Learning

This project has been very eye opening as to the variety of software that is required to create one application. We used various software to create graphics, work on front end code, manage packages, display the application, organize the back-end code, store the databases, run the server, edit the video, create design drafts and mockups, and model 3D assets. Nowadays, choosing the right software tools to use to create the product is a very important step in the project, and knowing the specific limits and capabilities of each software is the only way to be able to determine which software tools would be necessary or more efficient to use for the sake of achieving the project objective. For example, our choice of using Blender meant we were limited by Blender's rendering system and output quality. Our choice of using React Native also led us to face challenges in implementing certain functions for which we could not find the right libraries for, and in implementing the 3D graphics.

Through this project, I had also got the opportunity to learn GitHub, Blender, and Figma through practical experience. Hence, I feel more well equipped with tools to use in future projects. Learning more software and broadening our toolset will be an incredibly crucial skill as companies constantly seek to improve their technology, and render our existing skillset outdated and relatively inefficient.