

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

Individual Report

Name: Chen Jian Liang

Group No: 5

Project Title: myHealth

Contributions to the Project (1-2 page)

I was mainly involved in helping with the technical development of the myHealth Android application (the coding/programming aspect), and am responsible for sourcing the video-calling and text chat APIs developed by Vonage, which were eventually successfully adopted for use in our application. Together with Liu Xiao, I researched on and designed the initial user flow for our app's E-Consultation feature, and created our group's first E-Consultation Figma prototype with him. Then, I did the initial implementation of the video-calling feature in our Android app to allow two parties to video-call each other successfully from different ends. Along the way, I assisted Jun Hong and Shawn in integrating the text chat feature into our app, linking them to online resources and answering their queries when needed.

Additionally, I implemented the "Snake" game within our app's E-Consultation feature, and wrote the code providing the user with the choice to select their preferred game from multiple options. I also helped refactor our entire app into clearly organised categories (main App() stack, BarStack(), ApptsStack(), HomeStack()) to ease development, and implemented the Logout function in our app's sidebar menu for easier navigation.

On the whole, I was tasked with being responsible for the overall front-end of our app, such as ensuring that it runs stably with minimal to no bugs, and that the functions work properly in the Android emulator.

On the design side, I provided input such as suggesting the use of the font "Quicksand" as one of our app's typefaces as I felt it matched the app's theme well. The font was eventually implemented. Also, I collaborated with my groupmates who were responsible for the app's design, such as Bao Li and Nabilah, to create our app's circular icon (./icon/icon.jpeg) and the colour palette, by sharing my feedback and thoughts. During the implementation of our app's design, I helped to fix formatting issues and improved the layout of the UI, in particular for the main app pages (e.g. HealthRecords.js, Appointments.js, DietTracking2.js, Caregiver.js). Issues fixed include parts of the mascot being cut off and text formatting problems. I also gave suggestions to improve the navigation tab bar along the bottom of the screen, which was subsequently implemented and simplified the user experience.

For our group's presentations, I helped with creating the slides, writing up a template on what content to include, and presenting on some weeks, as well as doing the demo for our app, which includes demonstrating the video-call function.

Over the weeks, I wrote text documentation for the group to standardise and clarify our workflow, and created a flowchart for the structure of our app, so as to allow all of us to be on the same page as much as possible. This includes step-by-step guides teaching how to use GitHub with Android Studio, React Native, the command line, and other tools in conjunction with one another, in the context of our project. I also contributed to writing up the README.md file on GitHub.

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to at least two of the points below:

- (a) Engineering knowledge
- (b) Problem Analysis
- (c) Investigation
- (d) Design/development of Solutions
- (e) Modern Tool Usage
- (f) The Engineer and Society
- (g) Environment and Sustainability
- (h) Ethics
- (i) Individual and Team Work
- (j) Communication
- (k) Project Management and Finance
- (l) Lifelong Learning

Point 1: (d) State the area: Design/Development of Solutions

I realised that in order to design and develop good solutions that genuinely improve on things rather than simply modify them, a lot of research has to be done. For instance, when developing the E-Consultation feature, there were aspects we initially came up with and thought were innovative and new, only to find out after further research that those things have already been done. In addition, we did substantial research and trial-and-error before settling on our software development tools, trying a development platform called OutSystems initially, then eventually settling on React Native and Android Studio as we felt those tools would best suit our needs. Hence, I have learnt that research is an important step in developing good solutions.

Another lesson I gained is that while coming up with solutions, we must keep adapting it to our problem, as the obstacles and solutions provided elsewhere may not fit into the particular scenario we are facing. Thus, being adaptive is an important quality.

Also, I realised that collaboration and teamwork leads to better solutions, because when many minds are put together, we can address each other's blind spots and weaknesses. Diversity is an advantage.

By applying these learning points, I was able to successfully develop the video-calling feature and "Snake" game.

Point 2: (j) State the area: Communication

Another learning point for me is the importance of communication. I have always been a reserved person. However, this project experience has taught me to speak out and be more participative in discussions. I realised that it is difficult for me to contribute during project meetings if I stay quiet, and furthermore, voicing your thoughts may lead to better ideas, outcomes and solutions. Therefore, I have learnt that being willing to express your thoughts is an important attribute.