

IM3080 Design and Innovation Project (AY2023/24 Semester 1)

Individual Report

Name: Leong Hong Wei

Group No: 7

Project Title: DUELingo

Contributions to the Project (1 page)

1. Secretary to the Group

- Understand the group's progress week by week and upload it into JIRA
- Before common presentations, extract the features that are ready and organize them into the presentation.
- Setting up of timelines for research and Figma creation, ensuring team could finish by allocated time.
- Answering of Admin questions posted by Prof Chua and updating our supervisor from time to time.
- Led and finished the background research for both the original application (Comfare) and Duelingo
- Approached companies to ask for their API for the first project.
- Noted minutes for every group meeting.

2. Question Bank

- Creation of the original JSON file that contains the original pool of questions (20 Chinese Questions and 20 Malay Questions)
- Added the storyline feature, and curated Modules, topics, questions and teaching materials for 2 Modules (6 Topics per Module, 8 Questions per Topic)
- Increased the question pool for multiplayer to 60 Questions total (20 Easy, 20 Medium and 20 Hard)
- Ultimately, merged and rewrote all questions for the new format for easier integration with application inside firestore
- When application was ready, fixed all bugs that are related to the question bank.

3. Original Splash Screen and Cover Art



- Created the Original Splash Screen and Logo with the Adobe Illustrator

4. Text-to-Speech (TTS) Assistance

- Assisted Shental with the text to speech.
- Wrote and tried for Google's TTS
- Ultimately worked and used React Native's own TTS.

5. Haptic Feedback

- Read papers and documentations to understand how it works.
- Wrote the code and tested Haptic Feedback for buttons pressed using React Native's TTS
- Experimented with the different types of

6. Report Writing

- Coordinated with Jeremy and Shental first for the initial writing of the final report.
- Ensured the team could input their opinions and contributions to the report with reasonable time.
- Written the Background, Motivation, Use case and Relevance of the Project.
- Question Bank details
- Future works Idea Generation and Input

7. Slides

- Curate slides for all common presentation
 - o Include assigning of presenters, and providing them with a script and rough overview about the content covered
- Developed the slides for the final presentation.
 - o Wrote scripts for all the presenters.

8. Bug Tester

- Tested the application during the initial stages.
- Identified, fixed bugs if pertaining to Question Bank and its new format.
- Notify the relevant teams regarding any bugs found and potential ways to solve them.

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: Communication

One of the biggest challenges of being in a project with many team members is communication. It was a crucial element throughout the entire project. Being part of a 10-member team for the DIP project was a new experience for me, necessitating swift adaptation on my part to ensure effective communication. The active participation of team members in every meeting maximized our group productivity.

I assumed the role of a secretary to the leader, facilitating clear communication of deadlines, coordinating presentations, and ensuring that the group remained aligned. Though in the first few weeks of the project, there was a lack of initiative and communication when we have online group discussions or inside the lab, I decided to split our group and chat groups into smaller teams, where workloads could be discussed and delegated more efficiently. The mini groups have also changed its members with the completion of each new feature, and hence allowed everyone to work with someone new. The smaller groups also had a better sense of what their immediate goal is and how to better deliver.

In conclusion, although at times we could work more on our communication as a team, I felt that this project gives us an insight about how we would be expected to work as for our future works or jobs.

Point 2: Individual and Teamwork

Working in a group of 10 was a challenge, while keeping everyone on the same page and understanding the different aspects of the project proved to be a bigger challenge for me. Individually, I decided to research and read up more in terms of YouTube videos and documentations to make sure that I am knowledgeable and helpful in terms of Firebase and React Native. I also curated and written the question bank and the storyline feature for the application, and constantly looking out for better ways to store the data to be retrieved more efficiently.

When we work together as a team, it is important to have regular group update meetings, while also checking in with one another on whether they would require additional assistance. Working with reliable group members has enabled the success of the application as with clear communication and proper delegation of tasks, we could put together the application together in a more timely and efficient manner. Ultimately, without teamwork, the application and all the deliverables would be a near impossible task for one person to complete.

Through being the secretary role, I could also learn how to talk to people and also work with their strengths. This would allow workload to be delegated better and for a more efficient workflow.