

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

Name: LI MIN KEAT

Group No: G6

Project Title: ARvatar

Contributions to the Project (1 page)

- Helped in writing backend scripts for CRUD operations on user profile, avatar customization, conversation and message data stored in Firebase database.
- Creating functionalities such as login, register, email verification, and password reset to enhance the application's user authentication system
- Worked on storing users' personalized profiles in the Firestore database, including details like username, status, and 3D avatar
- Contributed to the implementation of messaging features, including the incorporation of message timestamps, creation and update of conversation data.
- Implemented the backend script responsible for 3D avatar customization and saving function, ensuring users could easily save their selected features/accessories.
- Wrote the script for conversation management to prevent unnecessary page refreshing, enhancing the overall user experience.
- Worked on mapping of the accessories of the 3D avatars
- Worked on the implementation of emoji mapping to animation of the application so as for animation to be played when emoji is sent as a text message
- Contributed to scaling and spawning 3D avatar features, ensuring a visually appealing and customizable user interface
- Identifying and resolving bugs within the application. Suggesting improvements for the chat system to be implemented
- Report writing.

Reflection on Learning Outcome Attainment

Point 1: Problem Analysis

Creating a chat app with 3D characters and animations was a bit out of my comfort zone, especially since I did not have much prior knowledge or experience in creating an application. My main role was more backend oriented, which included implementing functions for features such as contacts, messaging, and avatar customization. With the help of my team, we made these functions happen using new tools we learnt as we progressed throughout this semester. I learnt to debug and fix problems present in the code. Our app uses Unity Engine for the 3D avatars, so I had to get better at using Unity. I also learned about backend technologies like Firebase for storing data, and I figured out how to work with GitHub to collaborate with my team. Overall, this experience pushed me in dealing with technologies I hadn't used before.

Point 2: Individual and Team Work

Joining a large team was an unfamiliar terrain that demanded a shift in how I collaborated with others in a project work. Though the initial stages felt a bit chaotic, we collectively explored our strengths and weaknesses, strategically allocating responsibilities for the development of our chat application. Recognizing that I didn't need to master every aspect of app design, I focused on what I felt more confident in, which was to program the backend features for the project. This collaborative synergy allowed team members with expertise in design, 3D modeling, and animations to contribute their strengths. Embracing tools like GitHub for collaboration and Trello for task planning and scheduling became integral to our workflow. Enhancing my communication skills, I actively listened to my teammates who were doing the backend part of the project so as to implement the corresponding features efficiently and without any conflicts. The experience illuminated the power of specialization within a team and highlighted the importance of effective communication and collaboration.

Point 3: Lifelong Learning

As I had little prior knowledge, I encountered a steep learning curve that underscored the essence of lifelong learning. Delving into software engineering with a substantial team was uncharted territory for me, having primarily collaborated with smaller groups in the past. The project's complexity, featuring 3D character customization and animations in a chat application, prompted me to acquire new skills and knowledge continually. This project has shown that learning never stops, especially in the fast-paced world of technology. It emphasized the importance of being flexible and resilient, ready to adapt to new challenges and learn new skills for personal and team success.