

# IM3080 Design and Innovation Project (AY2023/24 Semester 2)

## Individual Report

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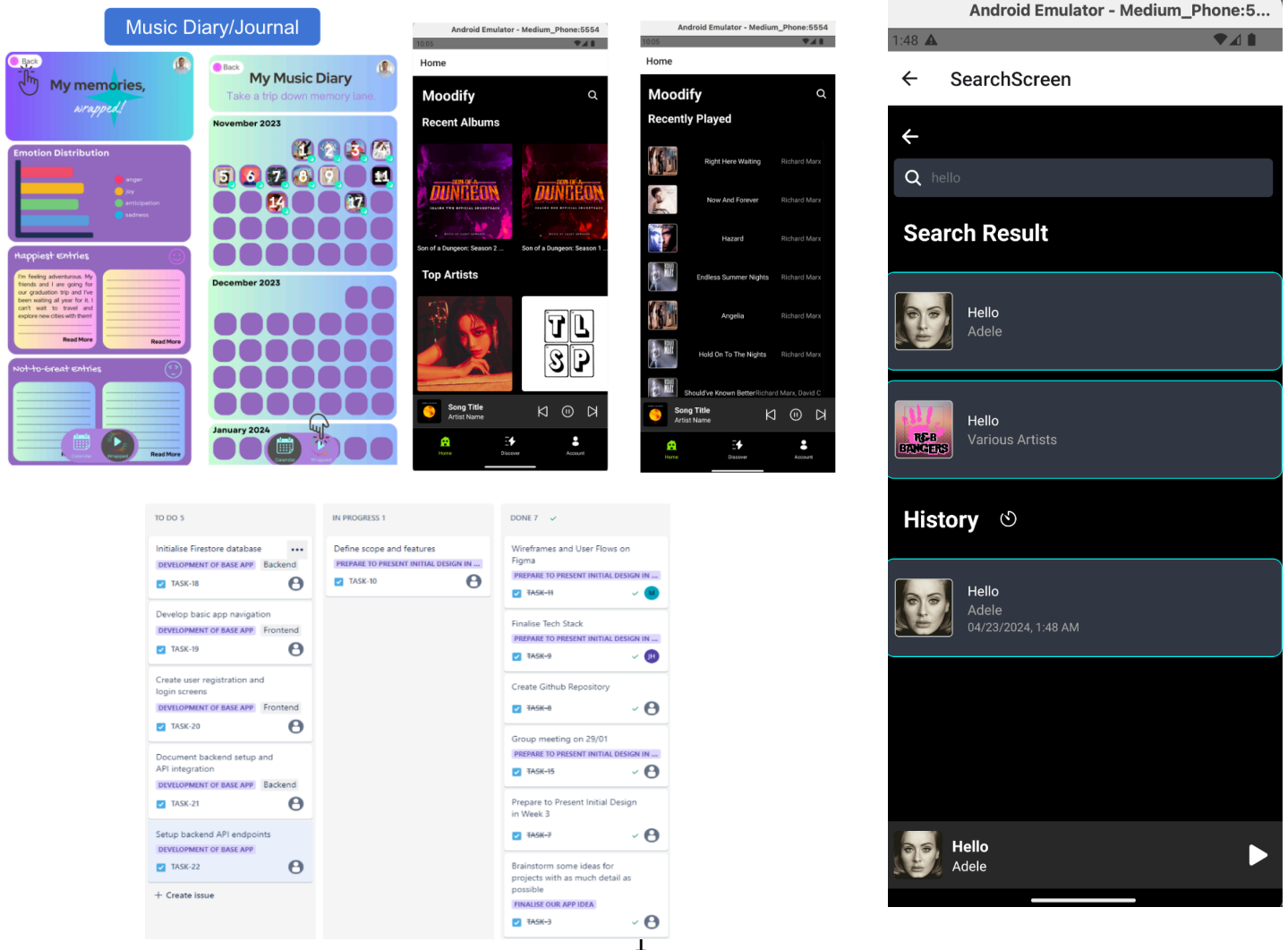
Group No:

Project Title: Moodify (Music Streaming App)

### Contributions to the Project (1 page)

#### FrontEnd

1. FrontEnd: UI/UX for Home Screen, Search Screen, Album Details Screen
2. Colour theme for light mode
3. Navigation handling (bottom navigation bar and stack navigation)
4. Implementing Spotify API and OAuth calls and functions for all screens
5. Virtual Reality environment development research
6. Project management



## 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: **Design/development of Solutions**

My commitment towards the design and development of solutions was reflected throughout the period. Working in frontend, I ensured that the design features implemented had correctly addressed the issues identified by existing music users. Specifically, I pitched the idea of the music diary and calendar feature to enhance the user's personalised experience. This feature, amongst many other design features that I implemented such as the music player bar, album and artist card, had added improved the user-friendliness of the app. In addition, many of the challenges in frontend was implementing certain animations, trackers and user interactive systems. By deepening my knowledge on React Native's existing JavaScript libraries, I was able to achieve these issues, while also increasingly gaining experience with this type of frontend framework. Some of these existing packages include react-native-calendar, react-native-context, react-native-animated that were used in the calendar, navigation, and music player screen respectively. Others involved time delays and debounced search using react-native-lodash that was implemented in the Search screen.

### Point 2: **Modern Tool Usage**

I felt that React Native, being highly popular amongst mobile app developers, was important to learn during the execution of our project. It offers a single codebase for iOS and Android, blending native development with React for near-native performance and a rich ecosystem of libraries and tools, reducing development time and resources. Leveraging on its benefits, I was motivated to pursue this framework and learnt many highly favoured concepts boosted my knowledge as a developer, considering the short time span. I heavily relied on several packages and functions for developing the user interface and seamless user interaction of our app. In addition, the use of ChatGPT 3.5 was unanimously agreed upon to be the AI model of choice due to its highly attractive generative capabilities. Understanding how an NLP model is built and trained to analyse song lyrics and music genres was a critical step towards being able to build a chatbot model for any specific purpose in the future, now that AI chatbots have started gaining popularity in every business today. I am proud to say that I have gained sufficient familiarity and expertise in these modern fields. In addition I pitched the idea of a dynamic synthesiser that can act as a visualiser for the songs and conducted research on existing 2D/3D models that demonstrated this. I looked into modern tools such as TouchDesigner though this had been quite complex as it involved tracking the song's signal waveform and frequency. In the end our group settled for Skybox AI which simplified the creation of unique worlds through text prompts. This ultimately shows how selective we were with the use of our modern tools to be able to work efficiently on our project.

### **Point 3: Individual and Team Work**

Communication was our strongest asset while working as a team. We had to continuously update on each other's progress to avoid repetition of work, merge each other's code, integrate each other's work on different platforms and warn each other on potential bugs. To be able to carry out these tasks efficiently, as project management lead, I effectively utilised Jira to ensure our tasks/motifs were aligned and our progress was monitored from time to time. Furthermore, I initiated group discussions and offered to step in and help others when there were issues with coding, merging certain screens, and API integration to name a few. My team mates were ready to support me at times I needed help. I stepped up and picked up where other team members left off during times where the pace of the development were slowing down. My individual commitment included the contributions listed on the first page, as well as mitigating any and all bugs along the way. I also utilised team meetings thoroughly, by gathering my doubts and clarifications that I had before every meeting so that they were addressed during discussion in a timely fashion.

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