

# IM3080 Design and Innovation Project (AY2022/23 Semester 1)

## Individual Report

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Group No: \_\_\_02\_\_\_\_\_

Project Title: \_Kung Food Hippo\_\_\_\_\_

### **Contributions to the Project (1 page)**

#### ***Phase 1 (Preparation and Initial Build):***

- App research: competitor analysis; market analysis; strength and weakness
- App wireframe design using Figma
- Develop the order tracking page (Map) for the app: geolocation; markers; redirections

#### ***Phase 2 (Fine-tuning and Integration):***

- Provide delivery and self-pick-up options in the payment page
- Implement new features to the tracking page: map markers with floating windows showcasing the store page; routes between the restaurant and user location; progress bar and estimated arrival time
- Connect database to the map page to display real-time rendered map markers
- Apply google map API to convert postal code to latitude and longitude data (to make it easier to plot restaurants in the database to the map)

#### ***Phase 3 (Navigation and Innovation):***

- Build up page navigations (one button leads to another page)
- Develop the bundle delivery innovation: users can order from multiple restaurants and one route will be calculated and connecting all stores together
- Personalize the delivery notification page: username + your order is on the way!
- Create a close loop of the delivery app: the app will display “your order is delivered, thanks for shopping with us” -> this loop redirects user to the home page for continued shopping
- Final group report writes up: objectives; background and motivation; map design and consideration

#### **Overall:**

- Project management with google sheet: input and record individual tasks and timelines; state the main objectives phase by phase; help remind team members about project progress; provide task breakdown to our team supervisor

## 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: \_\_\_\_\_Engineering Knowledge\_\_\_\_\_

In the early phase of the project, our team was deciding on what kind of software are we going to use to develop the application. There were two options ahead of us: Android Studio and React Native. I suggested the team adopt React Native for development as it is being used widely in the industry: eCommerce, Tech companies. It would benefit all of us beyond the project. Although RN was a whole new language to me, it was great fun learning all the components. I got to experience what a front-end programmer would be like: every time there was a bug popping up or an issue pending to be resolved, I went online for solutions: Stack Overflow and all kinds of tutorials. If the issue was too specific or beyond my ability, I would use GitHub to push my subbranch to the origin, asking my teammate for assistance. I would say the greatest achievement for myself during this project was the ability to realize everything in my mind: if I am thinking about developing a map that renders restaurant geolocations into markers, what are some necessary steps I can implement? I would need to first resolve the issue in the Database: to convert postal code data into lat and long data. Then it's all about applying the React Native network issue. This project allows me to think as an engineer: start with something in mind, break that goal into multiple tasks, realize it with effort, and debug along the way, seeking help from the team.

Point 2: \_\_\_\_\_Design/Development of Solutions\_\_\_\_\_

Another achievement I have throughout the whole project is the ability to solve pain points. From the beginning of the project where I did competitor analysis and dive into the advantages and disadvantages of the current delivery apps; several pain points were identified. The next question was: how to resolve those "unhappy moments" of user experience? As the one who was mainly in charge of the map function, besides focusing on realizing the full functionalities of the map, I also took a deeper look at how this feature would benefit the users. Later, I implemented the bundle delivery option to the map function, resolving the issue that users cannot order food from multiple restaurants in one delivery. What is more, a floating panel for each restaurant was also created to satisfy the demand of "dragging around the map but cannot see restaurant details." Although some problems like "inconsistent UI" seem to be too general to fix, it turns out that each small improvement or a new feature could be the solution to that problem.

Point 3: \_\_\_\_\_Project Management\_\_\_\_\_

Besides being a developer in the team, I am also in charge of project management. For each week, I keep a record of both the individual and group tasks. This is for supervisor updates and also the biweekly presentation. Writing down all the tasks and individual responsibilities has great benefits

for our project. Firstly, if one team member identified a logic or operational bug while testing the app, the member would know who to look for to identify the cause or solve the error. Secondly, project management allows us not only to “look back” but also to “look forward.” In other words, knowing what we have done so far allows the team to arrange future tasks so we will not lose direction or spend too much time working on a few tasks. Lastly, the project management chart serves as a time check for me to see the current progress of the team. For example, during the last few weeks, I suggested to the team that we should do a holistic review of the app itself to see what to improve on and start wrapping things up. Luckily, we were able to finish the app as scheduled and shift our focus to the report and poster.