IM3180 Design and Innovation Project (AY2023/24 Semester 1)
Individual Report

Name: Ewan How Yi Xiang

Group No: Group 1

Project Title: NTU MART

Contributions to the Project (1 page)

1) **Backend**
   a. Product API
      i. Create API
      ii. Read API
      iii. Update API
      iv. Delete API
   b. Mapping/Directory of Product Images
   c. User Category of Interest API

2) **Linking Of Frontend with Backend**
   a. User Category of Interest
   b. Browse Page
      i. Displaying product based off user selected category.

3) **Pre-Planning**
   a. Entity Relationship Diagram
   b. Database Relationship Diagram

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to <u>at least two</u> 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: <u>Lifelong Learning</u>

<u>Working on this project opened my eyes to new skills, like designing user interfaces with Figma, backend development with Java Spring Boot, and frontend development with Flutter. It was a great opportunity for me to get exposed to such platform as it can benefit me in the future. After discovering what Figma can do, I feel it's a game-changer. It let us see our prototype even before we started coding, which made a huge difference in how we approached the whole development process as we can save lots of time. As I was appointed to do backend from the beginning, I would say that figuring out Java Spring Boot was tough. The way it's coded is like a whole new language to what I have learned before. But after much research and help from my groupmates, I slowly got the hang of it and managed to create APIs that can benefit the project in the long run. I have gained so much through this experience; it has given me the confidence that the skills I have learnt will be super handy in the future. At the same time, being exposed to flutter has allowed me to better understand how front end works and how frontend coding connects with the backend coding which I was very unsure about previously. In conclusion, this project has broadened my skill set and deepened my understanding in software development. The exposure to Figma, Java Spring Boot, and Flutter has been a steppingstone for personal and professional growth. With that, I am ready to get additional knowledge about the many tools that are available to software developers.</u>

Point 2: Communication

Working on this project has afforded me valuable insights into how things operate in the industrial sector, especially regarding communication between the backend and front-end teams. Even within the individual teams, communication challenges were apparent, increasing the risk of potential delays. The lack of communication could pose a significant threat, with team members unintentionally duplicating efforts on the same features. The issue originated from the lack of communication practices prior to the project. We eventually realized the importance of communication as it can help in preventing these kinds of inefficiencies. As the project progressed, we put stronger communication plans into place, which enhanced our team effort. With that our workflow significantly improved. Personally, through this project, I have gained a lot of experience and realized how communication plays a vital role in an industrial context. In the future, I will be more conscious of how important communication is to foster productivity and avert needless setbacks in industrial undertakings.