**IM3080 Design and Innovation Project (AY2021/22 Semester 1)**

**Individual Report**

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Group No: 7

Project Title: joiNTU

**Contributions to the Project** (1-2 page)

Mostly on the app development

* Work Station
  + Upload PDF and image

First, I tried to implement the function to upload images and view them in the app. Thus, I searched online about the tutorial to link Android Studio to Firebase and try to follow them. After following the tutorial, I can upload the images from the emulator and update them to the Firebase Realtime Database. Then, I used Firebase Recycler View to display all the uploaded images.

With that, I realized the upload and retrieve for PDF files could be similar to the image. After researching, I found that we need to assign an URL for each of the uploaded PDF files to store them in the database and storage. Thus, this needs the aid of the Uri class of Java in Android Studio.

* Avatar

The biggest challenge for the avatar is to save the selected one into the database. At first, I tried to assign a URL every time a user choose a new avatar. But in the end, this approach failed as all our available avatars were stored in the Android Studio, under the drawable folder.

Therefore, I change the uploading part of the avatar. First, I find out the unique ID for each avatar, then I upload it to the database. Then the app just needs to retrieve the unique ID for those selected avatars and display them in the app.

**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:**

1. Engineering knowledge
2. Problem Analysis
3. Investigation
4. Design/development of Solutions
5. Modern Tool Usage
6. The Engineer and Society
7. Environment and Sustainability
8. Ethics
9. Individual and Team Work
10. Communication
11. Project Management and Finance
12. Lifelong Learning

**Point 1: Individual and Team Work**

As this is a team project, thus there must be individual and teamwork. Throughout the semester, we first brainstormed together to get our app idea. At the beginning of our project, we had several meetings to have our base idea for this project. After we had finalized our idea, we split into 3 teams, which is the design team and two coding teams.

I’m in charge of one of the coding team which focus on the workspace function. My team first listed out all the functions that needed to be coded. Then we split the work together and work on ourselves. Therefore, most of the time we were working individually, sometimes in pairs. After we finished certain progress, we checked with each other whether any of us needed some help.

The biggest challenge for this project is that we did our project on our own and need to pass around the codes. This is because at first, we were not familiar with the usage of GitHub thus we just put it aside first and continue our development. This problem became bigger along with our app development’s progress, the app consists of more and more functions and it's hard to combine and pass around. Thus, we need to learn from here that how powerful GitHub is and we definitely will have it set up for future projects.

**Point 2: Communication**

As above stated, we split our members into 3 different teams that worked on different functions. Thus, we all worked at our own pace. And this result in some sort of communication problem as we did not know what other teams’ progress was and the problem they faced.

At the first stage of our project, we need to finalize the design of the app. As most of us were unfamiliar with this kind of working style, especially me. Thus, we didn’t manage to give enough feedback for the design and in the end, we found that the approach wasn’t that great as we thought. This result in letting the design team modify and come out with a new design over and over again. Thus, it’s very inefficient and added workload for them.

In conclusion, we need to be familiar with this sort of working style for the project as mostly our future project won't be in individual. Thus, what I have learnt from this project is to have everyone involved in every process, at least let others know what you are doing and the progress now. Besides, it is very important to have everyone’s information on the same page, make sure no one is behind to prevent miscommunication.