



iMMe
Individual Report

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1. Contribution to requirement formulation and refinement
 - a. We have three use cases. User to user, user to device and user to web.
 - b. Apart from these features, we also have account verification, image uploading.
 - c. In all of the above, I did the front-end part and http contact with server.
2. Contribution to the design
 - a. Before finalizing our system, I designed the secure system and came up with the idea of building our system by user cases.
 - b. In our final system, I designed the user to user, user to device use cases.
 - c. I also came up with several solutions to secure matters, including time-based OTP, using NFC to ensure physical contact and so on.
3. Contribution to the implementation
 - a. User to user use case front-end
 - i. User to user mode provides a platform for two strangers to identify with each other.
 - ii. The sender takes a selfie and the receiver's NRIC and send to the server. The server will verify the selfie and if succeed, server will send back an OTP. The sender passes the OTP to the receiver via NFC. After receiver has the OTP, he will send this OTP and his selfie to the server. After server successfully verify the selfie and OTP, it will send back true.
 - iii. I implement the front-end feature which includes app UI and other necessary functions, including Http handler, Camera instance and so on.
 - b. User to device use case front-end
 - i. In this feature, I also implement all the front-end features except NFC.
 - ii. I designed the UI and other necessary functions.
 - iii. To test this mode, I also develop an app to simulate devices.
 - iv. This feature also need to allow verified user to add device to firebase. And I also implement this function.
 - c. User to web use case front-end
 - i. In this feature, user is required to submit a selfie and web ID to server.
 - ii. It basically has the same functions which are required to be implemented as the last use case. It also includes UI design

and other functions, including Http handler and Camera instance.

- d. Upload photo front-end
 - i. The app need to allow verified user to upload their selfies to the server so that the server can do the facial recognition.
 - ii. I implement these functions.
 - e. Account verification front-end
 - i. Verification part is the basic part of the whole process. Without verification, the user is not allowed use any mode of the app.
 - ii. In this part, I implemented UI and OCR.
 - f. Design a fake device app
 - i. This app is for user to device feature. It fakes device 11 and generates a time-based OTP for verification.
4. Contribution to testing
- a. I implement part of UI testing using Espresso.
 - b. I implement Unit testing for front end, including branch coverage, condition coverage and path coverage.
 - c. I implement monkey testing for front end. I restricted the input within a certain scope so that it will not enter another app or other errors which are not related to the app itself.
5. Peer review
- a. Hoong Tian Lerk
 - i. Tian Lerk is a good leader and a good teammate. He did all the back-end coding. Also, he helped to design the logic of our system. His work is important to our team.
 - b. Soong Cun Yuan
 - i. Cun Yuan is a good teammate. He was doing the account verification part. He put OCR in the verification and implement dlib in his part. His work is also important to our project by increasing the security level.
 - c. Jiang Jinjing
 - i. Jinjing is a good teammate. She helped with the front-end coding. Also, she implemented NFC into our app. It is also important to our project because NFC is our way to make sure users are physically in contact and it also make it easier for users to use the app.