# Team 13 Bi-Weekly Report 1

IBM AR Business Card

11 November - 22 November 2019

What we have done during the two weeks

After finish our HCI Report, general UI prototype and the prevision work, we have started building the front-end app using flutter and the 3D AR interface using Unity. The general user interfaces designed from the HCI prototype has been implemented on the flutter application.
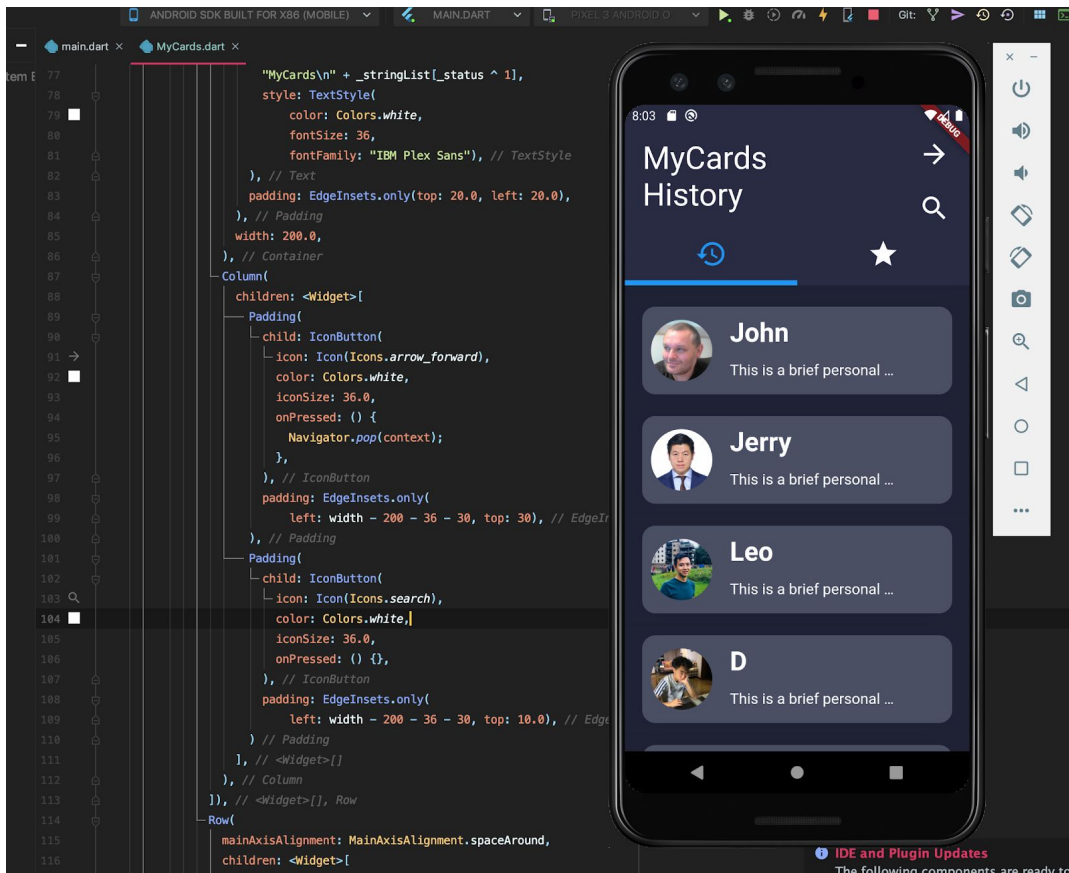

For the flutter front-end application, three main interfaces have been built based on the design, dummy history data can be loaded, and ready to integrate with the unity 3D view.
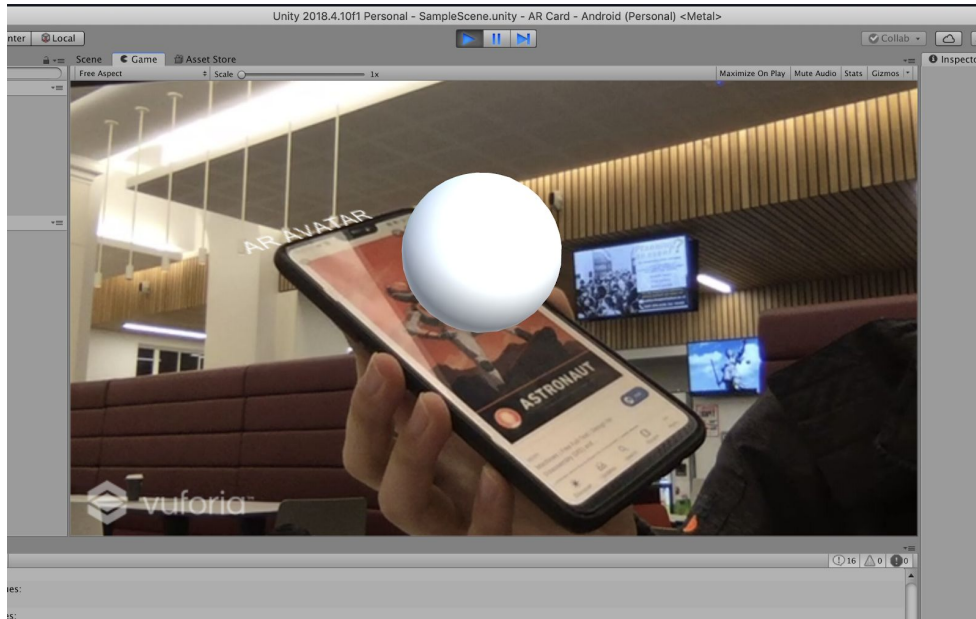
For the unity app, we have successfully built a working AR prototype using AR platform Vuforia for unity, which can recognize preset images and overlay 3D object directly on to the camera view.

## Estimation of whether the project is running on time

Currently, the project progress is on the right track. During the past two weeks, we are building the foundation of the whole system, and we are ready to move on to start to build the core features.
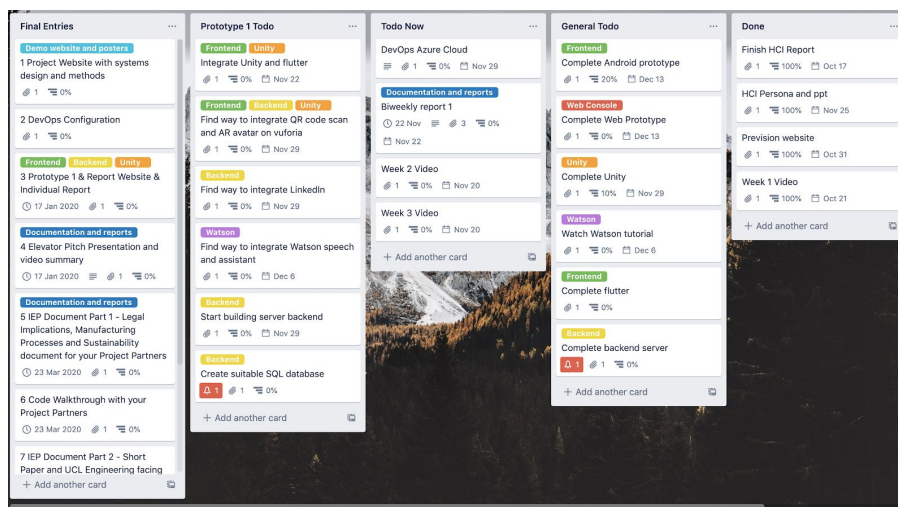
We have planned our tasks on the Trello board and are designing a Gantt chart with specific time frame for each task. We will build the core functions first and then add additional features to make sure we will deliver the final product on time.

Problems that need to be resolved before the next report

The main problem is how should we integrate the front-end and the unity AR App. Our initial idea is to design a specific business card pattern with a QR code, then use unity to scan the QR code and request server for the corresponding user's 3D avatar and profile for text to speech (or to display). However, this will be an issue for the Vuforia platform, as the card image pattern needs to be pre-analyzed on their server.

possible solution for identifying User Avatar
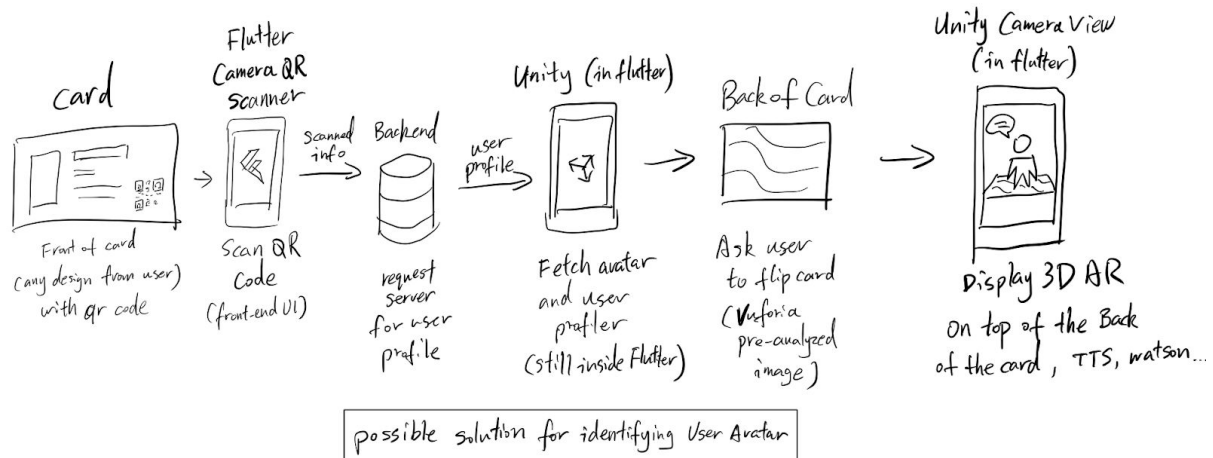
After some research, we have decided to first use flutter to scan the QR code, and after flutter frontend requested and received the user profile, we will then pass the information into unity and load the unity app within flutter. One solution to the Vuforia problem is that the pre-analyzed image would be printed on the back of the card. We would ask the user to flip the card to use the AR feature after scanning the code. We will discuss this further and find the best solution to this problem.

Besides this, for frontend, the animation of switching between History List and Favorite List need to be optimized and improved in MyCards screen. Compatibility with different types of mobile should also be improved.

Plans for the next two weeks

For the upcoming weeks, there are several goals we plan to achieve.

For the frontend, we will finish flutter UI and improve mobile application performance for the three main screens.

For the unity app, we will find a way to integrate more 3D avatars and images, and Waston assistant. We will integrate the unity and flutter app and try to find a way to solve the QR code scan problem.

For the backend, we have decided to use Koa and node.js. We will start building the backend server and design our SQL database structure.

Report Summary

What we have done during the two weeks

- Finished mobile application UI designed
- Finished setup flutter main screens
- Figure out how to integrate unity with flutter
- Setup SQL server
- Setup Koa server

Problems that need to be resolved before the next report

- Integration of the front-end and the unity AR App
- Recognition of QR code printed on the business card
- Animation of the mobile application when change status
- Compatibility with different types of mobile

Plans for the next two weeks

- Finished main screen UI of mobile application
- Improve mobile application performance
- Improve user experience
- Built web user dashboard (HTML only)