

UCL COMP0016 Team 12 - Lilly Neubauer, Dillon Lim, Oliver Vickers  
Bi-Weekly Report: Period ending in 9th March 2020

## Overview: What we've done

The pressure is increasing on our project as we headed into the final month of development. First of all, we all took part in a two day hackathon to develop a product using the FHIR health record data standard, so that took a bit of time away from this project.

Lilly wrote a conversation structure for introducing other types of organisation into our chatbot. We decided to aim for three basic demo receptionists: 1) For IBM / other business 2) for a library/museum, including functionality to look for a book 3) For a GP surgery, allowing someone to check in for an appointment or check a prescription. This gave Oliver a lot of work to do on the backend. He focused on creating a new table that would be used in all three chatbots to provide Organisational Information to answer questions such as "How many staff members do you have?" Or "can you tell me more about ORGANISATION?". He then started working on creating additional tables and queryTypes for the new functionality, such as a Books table for the library and a Prescriptions table for the GP surgery.

We also discussed trying to add a new type of query, for the GP receptionist, that would allow us to write data to a table rather than just reading it. This would allow us to add functionality for a patient to make a new appointment. We drew a data map of how this would work in theory, and realised there were two main potential pain points: How would we ask the patient for multiple bits of information (name, DOB, appt time, appt date) and store these in a sensible way to pass to the webhook? And, how would we search the database for a Dr's available appointments? We have not yet solved these questions, and are not sure whether we will have time to implement this functionality in the next two weeks.

Lilly pushed forward with the front end of the app, drawing final UI mockups in Adobe Illustrator and exporting these assets for use in Unity. She then started creating the UI panel logic and started implementing these, so now we have a UI menu, a help panel, and a text input panel. There are still some issues that need to be solved here - the menu currently doesn't hide itself so you can't get it to go away, and the text input panel can appear on top of the help panel which looks messy.

Lilly started to implement a new 'onboarding' process showing a message to a user when they start the app that prompts them to find the floor trigger image in order to show the avatar. She also started to implement error messages to tell the user that they are too close or far away from the chatbot. This was tricky because it required navigating the difference between relative space (the coordinates of an object in relation to the device) and actual space (the coordinates of the device relative to where it started). She solved this problem using the Unity `Transform.distanceBetween` function. However there are still issues that even though in the console we can print a message showing that the user is too close, the message doesn't show up in the app.

Lilly also ran into a number of issues when trying to integrate the new AR functionality with the Watson logic. It seems that the complexity of tracking the floor trigger image which also tracking

the animation of the avatar is overloading the device and causing a crash report to be sent, but at the moment we can't work out exactly what the crash is being caused by.

### Tasks completed:

- Started implementing on boarding process
- Started implementing user error messages
- Started trying to combine all functionality into one final app
- Designed functionality for different organisations
- Made new database tables and queries
- Drew up final UI design
- Made UI elements
- Implemented UI menu logic
- Implemented UI panel logic
- FHIRWorks Hackathon
- Looking into the legal issues of our app for an assignment and thinking about what licence we want to use

### Are we on track?

We have a huge amount to do before our deadline in two weeks, and it's probably unlikely we will finish it all exactly how we want to. However, we know that the point of the project was to make a good start and demonstrate what is possible with the time we had. Therefore if we work hard in the next two weeks we should have something solid to present and to show what we have learned.

### Problems to be resolved → Steps we intend to take

- Implementing the functionality to allow a user to make an appointment → Oliver to think about how to return available appointments
- Implementing our "library" receptionist → Write dialog and make tables for this
- Implementing our "GP" receptionist → Write dialog and make tables for this
- UI menu not showing properly → Lilly and Dillon to clean up UI and work out how to reference an instantiated Button from a prefab object
- Back Away user prompt still not showing → Debug this
- App crashing and not launching Watson Logic in new version → Try on a different device; try to see crash report and look at stack trace; try a simpler version of the app

### Plan for the next two weeks

#### Week one goals:

- Finish our UI and user on boarding process, as well as error messages
- Finish the Watson chatbot dialog so that it is neat and provides clear answers and error recovery to all questions
- Fix our crashing issue
- Finish our FHIRworks projects

#### Week two goals:

- User testing
- Write ups for our website
- Project documentation and READMEs
- Reports, Video and articles
- Get our code ready for demonstration