**Project Title: Public Transport Chatbot**

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***(A third team member is exceptional and requires detailed justification.)***

**Staff Member Consulted: Gareth Jones**

**Project Description (1-2 pages):**

Our project idea is a web based smart chatbot that would interact with multiple API’s to relay relevant information back to users based on their public transport needs.

We believe that there are three main aspects of our chatbot; Entity Recognition, User Satisfaction and the GUI. Our approach is to tackle the backend of the program first. This involves working with the different API’s and formulating the most efficient way to access and retrieve the necessary information. Once we have achieved this functionality we will begin to work on the Entity Recognition. Entity Recognition involves interpreting what the user requests and matching it to the result of our backend functionality. We plan on implementing Entity Recognition by setting some user cases, which will be comprised of different queries a user may input, i.e. What bus can I get O’Connell Street? As we progress with our program will we update our user cases with different sentence structures, i.e. Tell me how to get to O’Connell Street? Our chatbot should be able to recognise that even though the two example stated above are structured differently, one being a question and one being a demand, that they are both asking for the same information. We hope that as we progress we will be able tailor the information towards user specific requirements., for example the cost, reliability and how quick they need to get somewhere. Our other responsibility is to have a fully functioning and very accessible user interface. The GUI is tasked with interacting with the users, getting their queries and relaying the results back to the. We plan on having the design of our application follow the material design trends of apps such as Android messages but adapted for web browsers. We want our design to remain consistent throughout the app.

Our main goal of the project is to have a fully functioning chatbot which can assist people with commuting day-to-day.

**Programming Language(s):**

The app will mainly be written in Python as we are most comfortable with that and it also contains various modules which will help achieve our goal. It will incorporate APIs from the likes of Google as well in order to fulfil the needs of the user.

We will also use HTML, CSS and JavaScript to design the GUI.

**Programming Tool(s):**

We will use both IDLE Python 3.6 and PyCharm,

**Learning Challenges:**

We will need to learn how to use APIs such as Google’s location API and integrate it into the code which will be written mainly in python as most APIs can be run in that language fairly easily

We will also have to decide what we want our GUI to look like and have it be user friendly and intuitive as not to lose the user's attention

**Hardware/Software Platform:**

We plan to get our app set up as a web based app meaning it can be used on PCs and then once we have it working, we then plan to optimize it to work on Mobile Devices as well such as phones and tablets.

**Special Hardware/Software Requirements:**

Our project doesn’t require any special hardware or software requirements.