ECS763 NLP Lab 0, part 1: Dialogflow Student Query Bot

In this exercise, you will make a simple chatbot which will respond to typed user input and will be capable of a simple dialogue.[1]

The aim is to build a chatbot that would have a dialogue that will answer questions about Queen Mary. Desirable behaviour might be like the below:

> **John:** Hi.
>
> **QueryBot:** Hello, what can I help you with?
>
> **John:** How do I connect to Wi-Fi at Queen Mary?
>
> **QueryBot:** You can connect to the Eduroam Wi-Fi service. You can follow the steps as I tell you about them below…
>
> Select eduroam from the list of Wi-Fi networks
>
> Enter your QMUL username in the format username@qmul.ac.uk (eg ab16543@qmul.ac.uk)
>
> Enter your password
>
> Check with IT if you're not sure of your username.
>
> More information on eduroam Wi-Fi is available on the IT Services website.

This information in the long response was taken from a link on the FAQs page for QM students https://www.qmul.ac.uk/newstudents/faqs/. You can use this information (and other sources you can find) as the basis for the chatbot's knowledge.

Steps:

1. We will be using the ES version of Google DialogFlow for this exercise. Go to https://cloud.google.com/dialogflow/es/docs and click 'GO TO THE GOOGLE DIALOGFLOW ES CONSOLE'. You need a Google account to access this (e.g. a gmail account)- if you don't have one, you will have to create one for this exercise. You will have to sign in using your Google username and password. You should then enter the Dialogflow console.
2. In the top of the left-hand menu, press the 'Create Agent' button, and enter a name such as 'QueryBot' for the agent. Press 'Create' and wait a few seconds for the agent to be created.
3. The basis for understanding the user's meaning in Dialogflow are called 'intents'. An intent here is roughly an equivalent set of user inputs such that a consistent response can be given by the bot when one of those inputs is recognized. Read https://dialogflow.com/docs/intents for details.
4. Create your first intent. Think of a common thing that a student might ask, e.g. 'What is the address of the Mile End campus?'. Call the intent an appropriate name (e.g. 'AskForMileEndAddress') and add an example form of the question by clicking on 'add

[1] (incidental, non-serious note) Note the spelling of 'dialogue' here as opposed to Google's 'dialog'- we prefer the first one, though won't mark down if you use the second.

training phrases' under the 'Training Phrases' sub-section. You can add several paraphrases (variations) of the first phrase you think of (e.g. 'Give me the address of the Mile End campus.', 'Where is Queen Mary's Mile End campus?' etc.). Once you've added at least 2 training phrases, add a text response in the 'Responses' subsection of the intent menu (e.g. 'The Mile End campus address is: Mile End Rd, London E1 4NS.'). Don't worry about the 'Contexts', 'Events' and 'Actions and Parameters' tabs for now. Once you've added a response, make sure you click the 'Save' button to save the intent.

5. Test the current state of your chatbot using the 'Try it now' text-field in the top-right corner. Type in one of the training phrases you entered and see if the response is what you expect. You can also test the chatbot as it would be experienced by users by clicking on the 'Integrations' button in the left-hand menu and clicking 'Web Demo'. A URL will be generated which will consists of 'https://bot.dialogflow.com/' followed by a number. This is where the bot will be deployed to. Navigate to that URL and interact with your bot.
6. Repeat steps 4 and 5 several times to create a number of sensible input(s)->output mappings that make sense for this application.
7. As you develop the agent, write down what is difficult to deal with. What kind of variation can your chatbot deal with in its input? How many training phrases do you need to add for a given intent to be recognized by phrases other than those you explicitly added?
8. Feel free to work through the more advanced features as described here: https://cloud.google.com/dialogflow/es/docs