Individual report
Group 2
For our AI course work-developing a chatbot, we have three group members in our group: Alvin, Joe and me. There are 7 main tasks: GUI, NLP, Reasoning engine, Prediction model, Contingency management, knowledge acquisition and Database. I choose NLP, Database and part of prediction model for my work at first. Since Alvin had experience on AI and he know what most efficient function can be used for the coursework, we think NLP and Prediction model are quite important. Therefore , after we discussion, we decide to finish NLP and Prediction model together.

 For NLP : Natural language processing (NLP) is a crucial part of a chatbot as it functions as the connection between natural language conversation to the background functionalities.I did part of NLP such as sentence processing which are lowercase, remove punctuation, replace abbreviation,tokenization, pos_tag, get_word_pos, lemmatizing and remove stopwords. For vectorizer, I used N-gram (unigram,bigrm and TF_IDF).

A predictive model provides forecast of certain outcomes.About delay prediction task, I add some function in it which are NB_mulinomial,NB_gaussian, NB_Bernoulli,logistic regression, dession tree, suppot vector machine and MLP

Finally, about the demonstration, I used quick time player to record the chatbot and final cut pro to edit our video including our main features in chatbot:

**Features to show**

| Feature | Description |
|---|---|
| Chatbot engine | • Agent based which allows input of required information at different pace until completion<br>    ○ Inputting values one by one<br>    ○ Inputting all values at once<br>• Exiting current task<br>• Handling spelling mistakes for stations<br>• Training for uncertain sentences<br>• Clock at the corner of the chat window |
| Train booking | • Booking different ticket types<br>• Link to page -- Trainline |
| Delay prediction | • Predicts delays |
| Contingencies | • Retrieves contingencies |
| Weather | • Gets weather for a given location |
| Help | • Returns list features |
| Conversations | • General conversations supported |

After our discussion about the contribution: yuting :30%, Alvin :40%, Joe:30%.