SDLC MODLE CHOSE: WATERFALL

**Rationale：**

1. **Requirement Analysis:**
   1. Definition of chatbot

* Define the chatbot role
* Define area or topic the chatbot will answer
  1. Define technique
* Choose programming language
* Come up with an algorithm (initially dialog flow then changes to file read)
* Choose a workspace platform (must be GitHub)
  1. Choose a software development life cycle
* Give rationale

1. **System Design**
   1. Documentation

* Create WBS draft
* Create Gantt draft
* Create SDLC draft
  1. Logic design
* Define how the chat bot will read the question key and response from the data file
* Figure out how to calculate similarity between user input and data question key word to find category
* Weight system
  1. Data file format design
* Design a format of data file for chat bot to read the file correctly
* Support the Weight system. Add a number at end of question key words to define the weight of relation to the category. If a key word value in a category is very high, the final response will be from this category when the input has this word.

1. **Implementation**
   1. Coding chatbot

* Code a method to read the data file
* Do more coding to handle special case
  1. Data creation
* List all category for question
* Write all key word for each category
* List responses and put them into a category
  1. Build essential function (weight system)

1. **Testing**
   1. Sample question run

* Testing with common question
* Testing with no sense question
* Testing out of range topic
  1. Data edition
* Adding more category response
* Restructure response
* Reduce confliction with key words
  1. Debugging
* Error fix
* Handle exception

1. **Deployment**
   1. Finalize documentation

* Finalize WBS
* Finalize Gantt
* Finalize SDLC
* Update readme
  1. Presentation
* Presenting 30 turns of sample run
* Presenting algorithm
* Provide information about how to run and compile the chatbot
* PPT creation

5.3 Submission

1. **Maintenance**
   1. Change the encoding of data file for python environment
   2. It is not required in this assignment

6.3 We will do maintenance in Asignment3