SDLC MODLE CHOSE: WATERFALL

**Rationale：**

As the project topic is pre-defined in the course assignment, we can clearly understand the requirement and it is indeed fix. Thus, we can make our document of requirements very well. In addition, the product is type must be chatbot and we defined its role as Dr Seuss. Therefore, the product definition is fixed. The theology is file read and if else statement, which is basic and easily understand. Also, the project is about a month, hence it is a short project. According to those features, the best SDLC model to implement is waterfall. It makes every group member to understand and use. And it is easy for our project manager to manage.

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