COSC310 SOFTWARE ENGINEERING

Assignment 3 - Automated Unit Testing Report

Group 17

Anamica Sunderaswara [80600851]

Andrew Dunn [73838070]

Qingyan Hu [64356884]

Rahman Ganiyu [23769748]

Segundo Parra Jurado [44934693]

Ryan Soon Han Lu [82078023]

Tasks

Design test cases using Junit
Have three test cases for major functions
Design a document for summarizing the test cases

Objectives

The objective for this part of the assignment is to test the output of the chatbot by examining the responses generated from different major functions. There are 26 major methods available for testing in our chatbot and we have chosen three key features to test.

Methodology

Our group implemented the dialogue agent using the JAVA programming language. In correspondence, we have chosen Junit 5 Jupiter unit testing framework to deploy and test the features of our chatbot.

Subjects Under Test

We have chosen three major features of our conversational agent to perform the unit testing. Each of the three methods will be tested with one test case. The subjects under test are:

1. Discuss Feeling feature (src/Bot.class/discussFeeling)
2. Discuss Location feature (src/Bot.class/discussLocation)
3. Ability to generate responses relevant to hobbies (src/Bot.class/hobbyResponse)

Test Cases

testDiscussFeeling()

This test method checks the display output of discussFeeling method in the Bot.java class. Ideal responses from this method are in which the method will be able to detect the user's current emotions based on the keywords of his/her input. For our test case, we have chosen a situation where the user inputs "Not so good". The chatbot will be able to respond with phrases like, "I'm sorry to hear that. I hope chatting with me will make you feel better.".

Test case: "Not so good"

Output: "I'm sorry to hear that. I hope chatting with me will make you feel better."

Chatbot output status: Success!

testDiscussLocation()

This test method checks the display output of discussLocation method in the Bot.java class. Ideal responses from this method are in which the method will be able to detect the user's location based on the keywords of his/her input. For our test case, we have chosen a situation where the user inputs "I live in Ontario". The chatbot will be able to recognize that Ontario is a location based on locationNER function and respond with a phrase like, "Oh! We live in the same country!".

Test case: "I live in Ontario"

Output: "Oh! We live in the same country!".

Chatbot output status: Success!

testHobbyResponse()

This test method checks the display output of hobbyResponse method in the Bot.java class. Ideal responses from this method are in which the method will be able to detect the user's hobby and the topic his/her would like to discuss based on the keywords of his/her input. For our test case, we have chosen a situation where the user inputs "Which movie do you like the most?". The chatbot will be able to recognize that the user is asking a question about the chatbot's favorite movie and generate a reply such as "My favorite movie is 'The Godfather'. Which movie do you like the most?"

Test case: "Which movie do you like the most?"

1 of 3 Outputs:

Chatbot: "My favorite movie is 'The Godfather'. Which movie do you like the most?"

Chatbot: "I like 'The Godfather'. Which movie do you like the most?"

Chatbot: "I really like 'The Godfather'. Which movie do you like the most?"

Chatbot output status: Success!

Summary

In this unit testing session, we have examined and tested the display outputs of three major functions included in our dialogue agent. These functions are: discussFeeling, discussLocation and hobbyResponse. Each of the subject were assigned with one test case in which it has to succeed. In our case, these three methods in our chatbot source file were able to produce the desired output and successfully passed all sections of the unit testing.