COSC 310 - Assignment 2
Project Plan

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Project Description:
We have decided to make a conversational agent that assists with sports questions. The agent takes input from the user regarding any questions related to basketball, hockey and basketball. The user can also engage in some small talk with the bot. In this case, the users will be taking on the role of a newcomer to sports, and will ask questions that are related to sports that they might not have known too much about previously. Answers to the questions will be provided in a concise and precise manner as possible.

GitHub Repository:
https://github.com/310-Group2/convo_agent

Presentation
https://drive.google.com/file/d/1k4ffH1J_dpsmd3Otl44_4wp4JYhgaAdP/view?usp=sharing

SDLC and Rationale:
We are using an Agile Incremental Development Process Model/SDLC as we understand that there may be changes we decide to implement in our project as we progress and we do not want to limit ourselves to our initial ideas. This allows us to develop our conversational agent in terms of versions where each new version adds to the one before.

Phases of SDLC

1. Planning and Requirement Analysis
    1.1. Define the purpose of the application
    1.2. Evaluate the terms of the project

1.2.1. Get input from stakeholders

1.2.2. Create a timetable with goals

1.3. Gather requirements

1.3.1. Expectation from the application

1.3.2. Creating a detailed plan

1.3.3. Documentation

1.3.4. Defining the resources required

2. Design and prototyping

2.1. Architecture

2.1.1. Specifies programming language

2.1.2. Specify industry practices and overall design

2.2. User Interface

2.2.1. Defines the way users interact with the software

2.2.2. Defines the way software responds to input

2.3. Create a prototype

3. Software Development

3.1. Divide tasks

3.1.1. Assign various tasks separately

3.1.2. Write code using the programming language selected

3.2. Find and fix errors

3.3. Documentation

3.3.1. Make comments in the code explaining it

3.3.2. Tour of the application’s basic features

4. Testing

4.1. Perform tests for quality assurance

4.1.1. Unit testing

4.1.2. Test each function individually as well as the whole program together

4.2. Bugs in the software

4.2.1. Identify and report bugs or errors

4.2.2. Fix the bugs and re-test

4.3. Verify or validate the software

5. Deployment

5.1. The software is to be deployed into a production environment

5.1.1. The deployment can be automated

5.1.2. Provisioning within a cloud provider

5.2. Share the software with the client

5.2.1. Check whether the client is satisfied

5.2.2. Deliver the changes to the client

5.3. The customers would start using the software

6. Operations and Maintenance

6.1. Dealing with bugs

6.1.1. Users find bugs that were previously not found in the testing and deployment phases

6.1.2. Resolve these bugs

6.2. Upgrade

6.2.1. Upgrade the versions with the bugs resolved

6.2.2. Add new features to the existing the software

6.3. Review and monitor network settings and performance of the application

Work Breakdown Structure (WBS)

The Work Breakdown Structure is broken down into several levels and allows for the project to be broken down into smaller, more manageable tasks. In this case, there are three levels in the WBS, with each consecutive level having more specific and detailed tasks than the previous one. One can find out which team member contributed to which task in Level 3. Additionally, the expected number of hours worked along with the actual hours worked can also be found. On the top-right corner, a key can be found which maps a letter with a team member's name. These initials are used in the nodes to represent who contributed to a particular task.

It can be found by going to Documentation -> WBS.jpg within the repository.

Gantt Chart

The Gantt Chart is a horizontal bar chart that illustrates the project schedule. It is used to represent the scheduling of project tasks. The horizontal axis represents the time it took to complete each task and the vertical axis represents the labels of each of the tasks. The Gantt Chart is divided into categories and sub-groups as per the Software Development Life Cycle. Each bar in the chart illustrates the number of hours it took to complete the task, as well as the dates the task had been started and finished.

It can be found by going to Documentation -> Gantt Chart.pdf within the repository.

Project Limitations

There are a few limitations with this chatbot, the biggest one is that it does not account for spelling mistakes. If the user misspells something, the bot is not trained for that, therefore it will give a random response. This will be a new feature added eventually, in that the bot will also account for spelling errors. Adding more to that, another limitation that the bot has is that it can't handle similar wording. For example if instead of saying "how are you", the user says "how are you doing", the bot will give a different and random response then the correct one it should be giving to that prompt. This will also be a new feature.

Tasks

As a group we met up to discuss our roles and responsibilities on a few occasions. Sheel and Mitchell were tasked with primarily dealing with the coding aspect and some aspects of the documentation and presentation, respectively. Nishant was tasked with assisting on some parts of the coding,the documentation, and the organizatio. Ishita and Depar took up responsibility for the greater part of the documentation process.

Sample Output

```
Hi, how can I help?

Hi!
Bot:  how is it going?
Not so good
Bot:  It's ok, your day will get better!.
What's your name?
Bot:  I'm SportsBot. Ask me a sports question!
Fun fact about basketball
Bot:  Basketball was invented in 1891!
Who is your favourite team?
Bot:  I like Golden State
Do you play basketball
Bot:  I cannot because I am a bot, silly goose!
What do you think of hockey?
Bot:  Hockey is a great sport, who's your favourite team?
I like the flames
Bot:  The flames are doing very well this year! Who is your favourite player?
Conor McDavid
Bot:  That's cool! He's a really good player.
What is an icing?
Bot:  An icing is when a team dumps the puck into the offensive end from behind the red line
What is an offside?
Bot:  An offside is when the offensive team is bringing the puck into the other team's zone and a player without the puck crosses before the player with the puck.
What was the fastest slapshot of all time
Bot:  Bobby Hull holds the slapshot record at 118mph
How do I get an assist?
Bot:  An assist is given simply by being one of the two last people touching the puck before a teammate scores!
Can I use my hands?
Bot:  You can use your hand to knock the puck back down to your feet and stick. However, you cannot pass or score with your hand
Can I use my skate to score?
Bot:  You can pass with your skate, but you cannot kick a puck into the net
Who has the most Stanley Cups?
Bot:  The NHL team to hold the most Stanley Cups is Montreal Canadiens with 23 titles
Who invented the zamboni?
Bot:  Frank Zamboni invented the first self-propelled ice-clearing machine, in 1949.
What's your thoughts on baseball?
Bot:  Baseball is very fun, but can be a bit slow at times. What is your favorite team?
The blue jays
Bot:  I think Guerrero and Semien did really well last seaon.
What is a home-run?
Bot:  A home-run is when a player goes around the diamond and makes it past the home base safely.
How many playes can play baseball
Bot:  At any given time, there are 9 players from the defense team and 1 player up for batting to make a total of 10 players
What is a strike?
Bot:  A strike is when a batter swings and misses the ball in the strike zone
Goodbye
Bot:  Goodbye! How did you find my services today?
It was fantastic
Bot:  *Standing ovation to I*, thank you!
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What is the fastest pitch ever?
Bot:  the fastest pitch ever is 105.1 mph
Who won the 2021 world series
Bot:  The Atlanta Braves won the 2021 world series
What is a foul?
Bot:  Simply put, a foul is when the ball goes out of bounds or was not pitched properly
What kind of equipment do baseball players need when batting?
Bot:  When batting, players need to wear a helmet, and use a baseball bat to hit the ball
Where is the hockey hall of fame located?
Bot:  The hockey hall of fame is located in Toronto Canada
How is it going?
Bot:  I'm doing amazing, and you?
I feel awesome
Bot:  excellent, glad to hear that.
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CA board

MH SP IG NS Epic

TO DO	IN PROGRESS	DONE 9 ISSUES
+ Create issue		Create a WBS CA-1 IG
		List and explain limitations of the chatBot. CA-8 SP
		Documentation CA-10 NS
		Convo Agent Code CA-6 SP
		Update the README file to add proper instructions. CA-9 SP
		Create a Gantt Chart CA-2 IG
		Convo Agent Code CA-3 NS
		Sample output in the form of video CA-5 MH
		Create Video CA-11 MH