COSC 310 - Assignment 3
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.
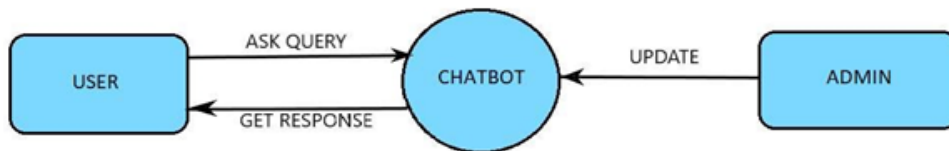
Presentation:
https://drive.google.com/file/d/1qVZhTZz886_pbxAWoOWrAm30uNI-E5uh/view?usp=sharing
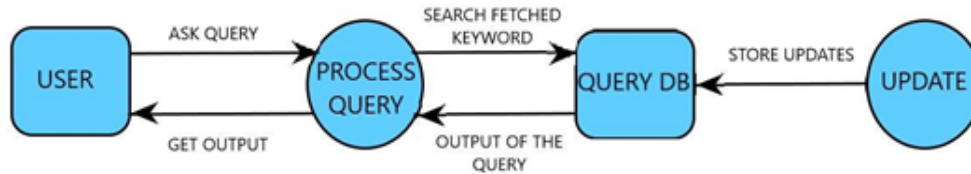
GitHub Repository:
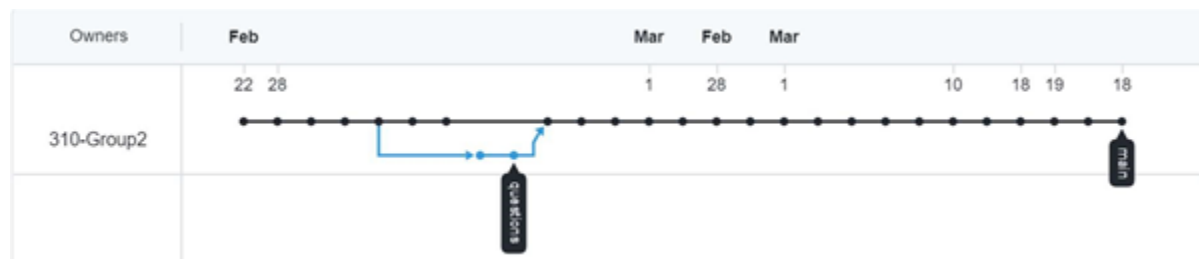https://github.com/310-Group2/convo_agent

Level 0 DFD Diagram:

Level 1 DFD Diagram:

Network Graph:

This network graph shows the commits made to our repository throughout A2 and A3. Most of these commits were simply made on the main branch.

<u>Features</u>

1. POS Tagging: The chatbot uses parts of speech feature by breaking up conversation into sentences. The sentence is then broken into individual words of the original sentence.

2. Name Entity Recognition: The chatbot breaks apart a sentence like POS tagging and recognize which are actually named entity that people recognize such as the name of a football player.

3. Sentiment Analysis: The sentiment analysis identifies the words of the user inputting and recognize if it is positive or not depending on the number it is outputting.

We have also added extra topics for our agent's repertoire and our agent can give at least 5 different responses when the user enters something outside of the given topics.

List of 5 Extractable Features:

- Our pre-defined responses to general sports questions can be used by others as an API.

- We can extract POS tagging from our bot for an API. Others can use this and process their text.

- We can also extract our Sentiment Analysis feature and users can make use of this to process text and analyze user sentiment and the bot would respond appropriately.

- Our Named Entity Recognition can be extracted too for an API. This feature would help the bot analyze which parts of a text are named entities which increases efficiency.

- The whole SportsBot can be extracted as an API and used for sports trivia purposes.

Sample Output

What is an offside?｜ | Send

{
Hello : Is tackling allowed in football?} {

Tell me about basketball : Basketball was invented in 1891!} {

How many teams are there : I like Golden State} {

Nice! : i'm fine} {

How do you win in basketball? : Basketball was invented in 1891!} {

How does football work? : Where is the hockey hall of fame located?} {

How do you score points in Baseball? : Usually players wear protective gear such as helmets and shoulder pads} {

How do players stay protected in hockey? : Hockey is a great sport, who's your favourite team?} {

Flames : The flames are doing very well this year! Who is your favourite player?} {

Gaurdeau : That's cool! He's a really good player.} {

What about you? : What gear do hockey players wear?} {

what is the fastest pitch ever? : Bobby Hull holds the slapshot record at 118mph} {

What is a strike? : It was fantastic} {

who won the 2021 world series? : Do you play basketball?} {

Who invented the zamboni? : Frank Zamboni invented the first self-propelled ice-clearing machine, in 1949.} {

What is an offside? : 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.}

Who is the current NHL champ?｜ | Send

{
What is your role? : My role is to assist you with any questions you may have about hockey,baseball,basketball, and football!} {

How are you today? : It was fantastic} {

What is your favorite sport? : Where is the hockey hall of fame located?} {

Who is the current NHL champ? : Usually yes, football is a contact sport and most leagues allow tackling as long as it's within bounds}