Harmandeep Mangat 6021109
Owen Bryan 6800502
Peter Hrynuik 6041073
Nimish Mahajan 6840870
Waqas Qurban 6244438
Hossam Ibrahim 6519839
Ridwaan Toure 6556138
Muditaa Annauth 6334965

Final Report

1- Write the name of the group and the list of your group members.
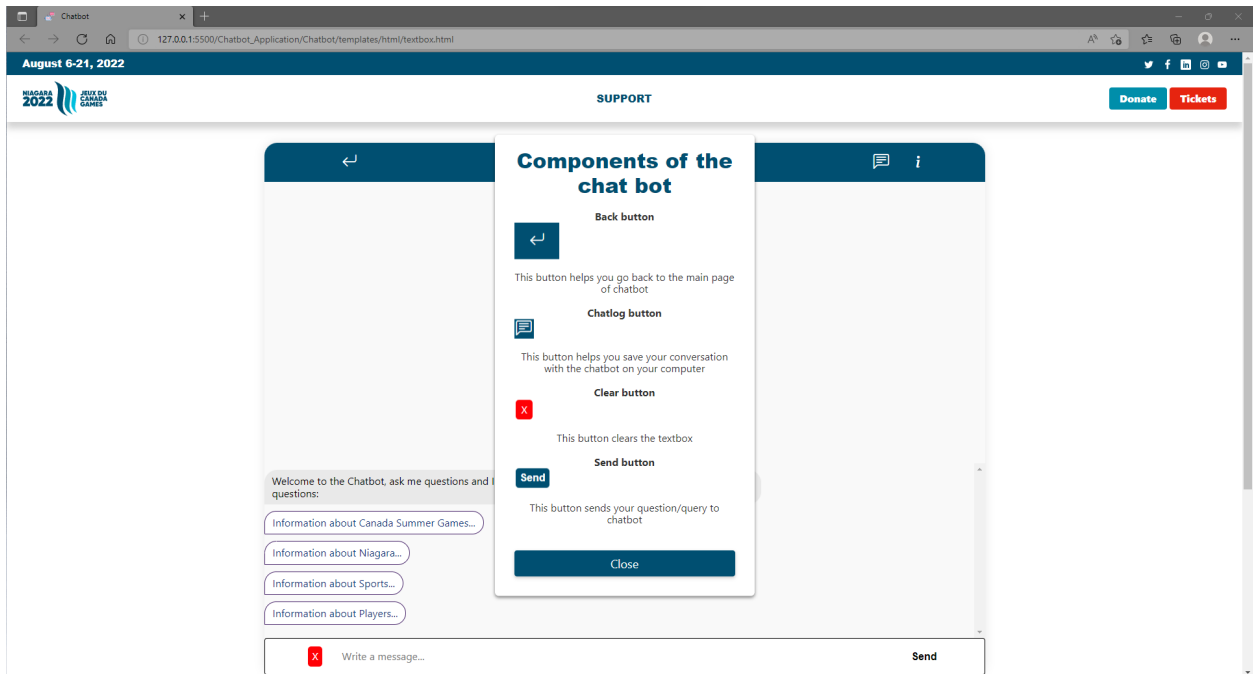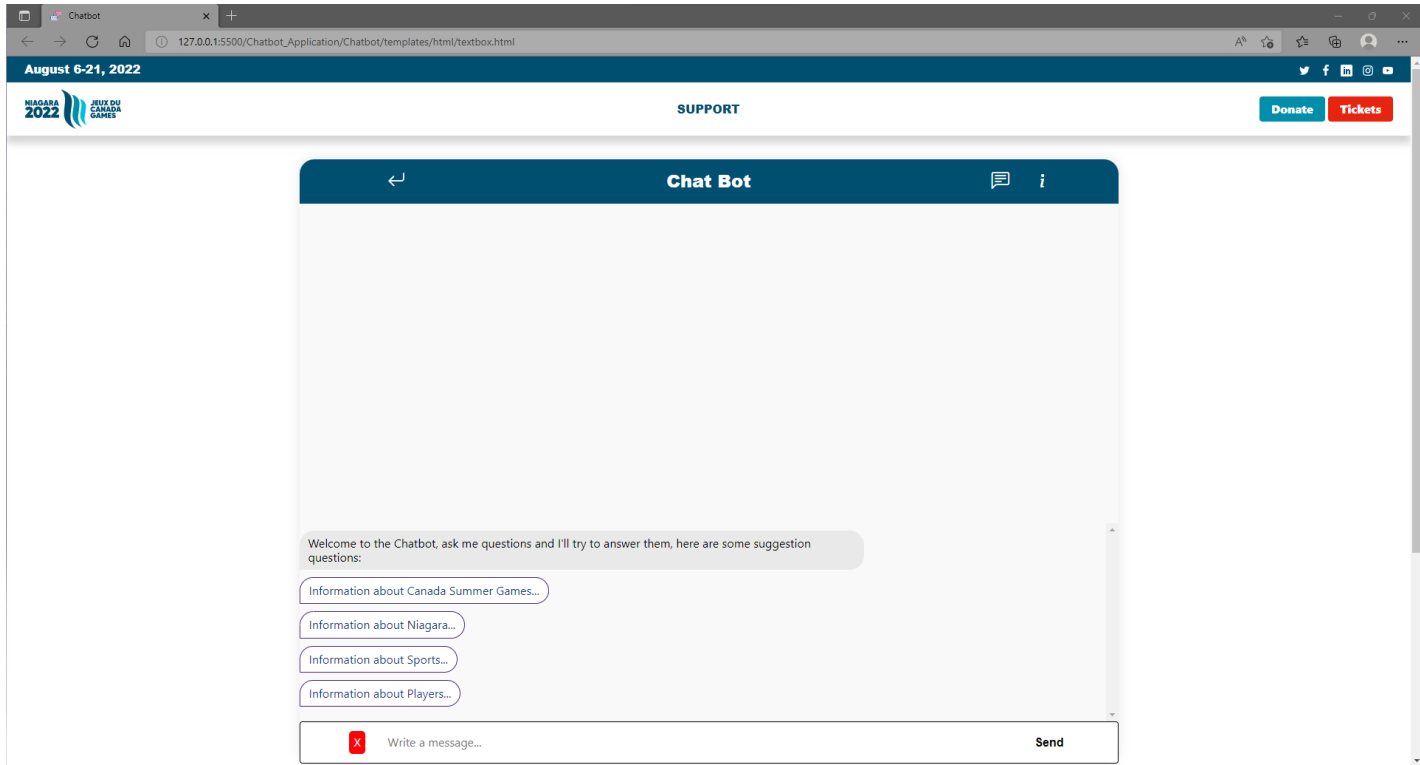
Group Name: Bluesprint.

Group Members: Harmandeep Mangat, Owen Bryan, Hossam Ibrahim, Muditaa Annauth, Nimish Mahajan, Ridwaan Toure, Peter Hrynuik and Waqas Qurban.
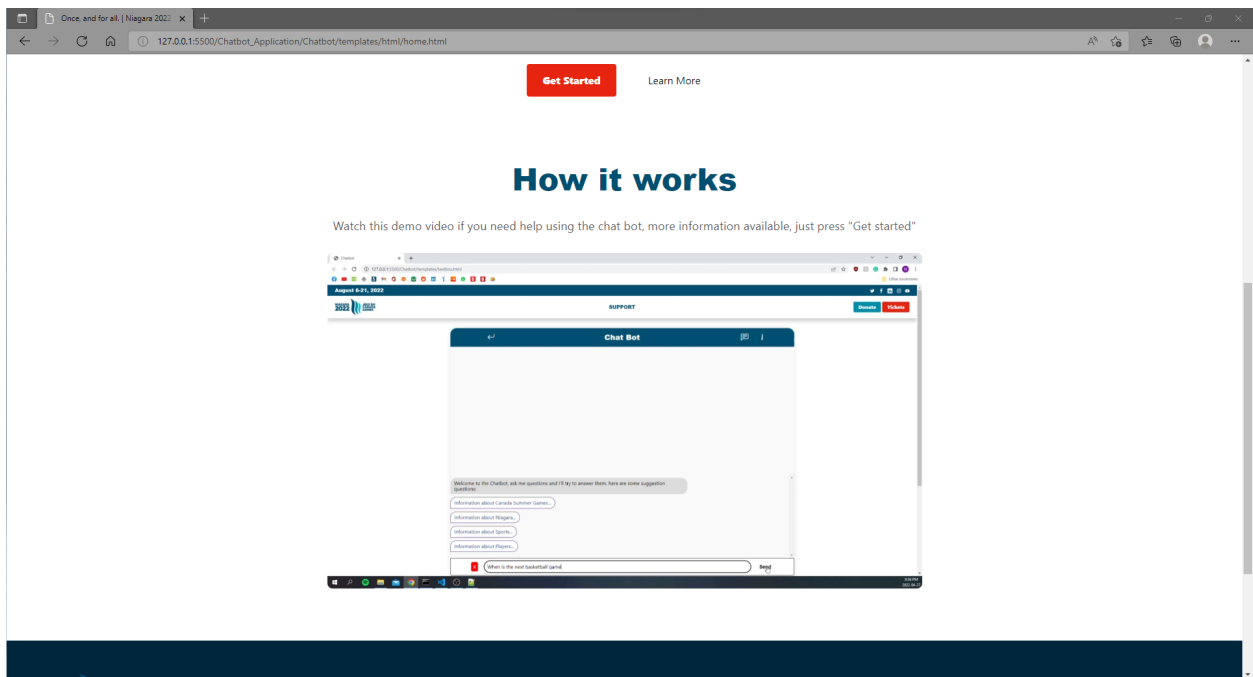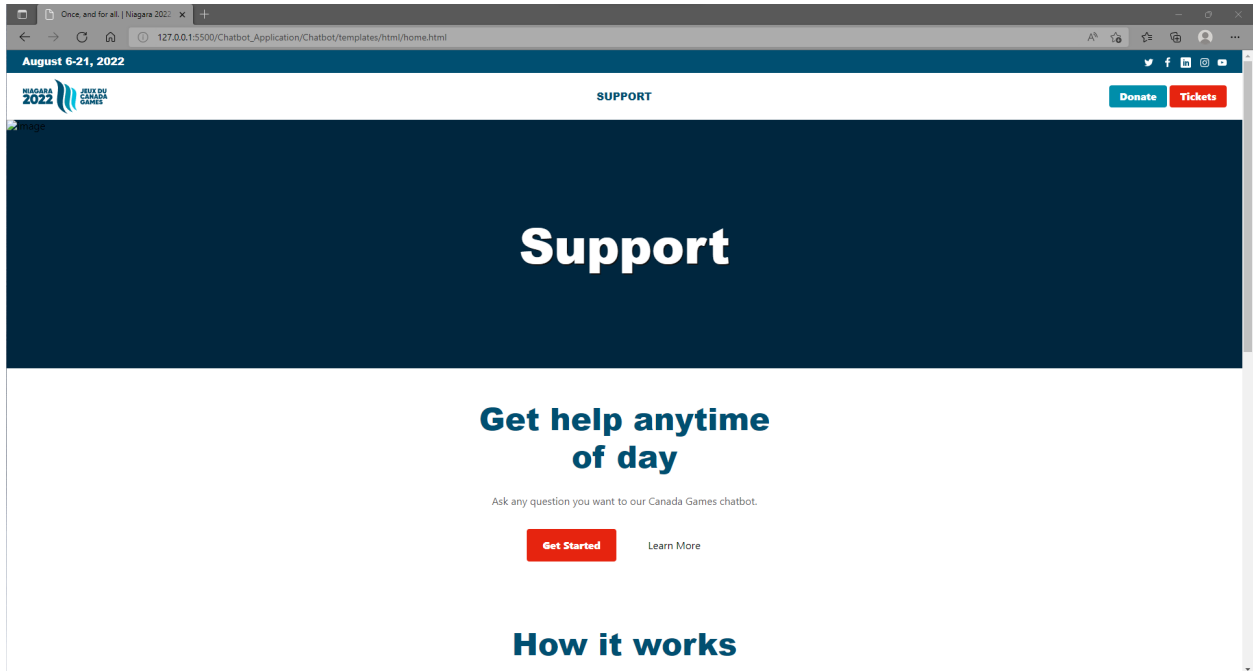
2- Include a brief list/description of the features (subsystems) you planned to implement in each sprint and whether or not you accomplished them.

Sprint 6:
- Implement chatlog button. **Finished**
- Create a help page. **Finished**
- Improve readability of the response being displayed for the user. **Finished**
- Finetune the chatbot AI's ability to recognize the user's queries. **Finished**
- Update the medals in the database **Finished**
- Create tasks for when the database should be updated. **Finished**
- Make the URLs hyperlinks. **Finished**
- Create a popup icon containing instructions on what the features in the chatbot are meant for. **Finished**

4- Include screenshots if you have a working version of the system.

Once, and for all. | Niagara 2022
127.0.0.1:5500/Chatbot_Application/Chatbot/templates/html/home.html
August 6-21, 2022

SUPPORT

Donate   Tickets

Support

Get help anytime of day

Ask any question you want to our Canada Games chatbot.

Get Started   Learn More

How it works

Get Started   Learn More

How it works

Watch this demo video if you need help using the chat bot, more information available, just press "Get started"

TestCases (19)	10.1 sec
TestCases (19)	10.1 sec
Test (19)	10.1 sec
✅ CheckIntroMessages	7.4 sec
✅ FrontEndDisplayed	2.7 sec
Question01CanadaGamesWebs...	
Question02CanadaGamesTransit	
Question03CanadaGamesBusSy...	
Question04NiagaraActivities	
Question05NiagaraAccomodati	

5- Mention any issues you encountered.

- When trying to create test cases Seleniums get text feature fails to pull text in bolded tags consistently, this ends up requiring using textContent to get text.

- Break lines are translated to /r/n when trying to get data from selenium; this could be awkward in the parsing phase.

- The website holding information on the amount of medals a contingent has was locked behind a password, so we had to use 2019 information as a stand in

- We had to use 2019 player information as there was none for 2022

6- Describe the contributions and achievements of each member of the group.

- Peter
  - Originally assigned to creating page for Brock chatbot
  - Assisted in the creation and design of the page that holds the chatbot
  - Debugged, and manually tested the chatbot and passed test cases to be created for the automation of the chatbot.
- Harmandeep
  - Worked on scheduling tasks
  - Improved chatbot responses
  - Improved learning algorithm
  - Improved training data
  - Tested chatbot responses
- Nimish

- ○ Worked on different iterations of UI for the main page, chatbot, and help page.
- ○ Created a help video as a visual aid for users on how to use the chat bot.
- ○ Help design the "Support" page and added an information button with Hossam which allowed for more info without leaving the page with the help of HTML, CSS and Javascript
- ○ Helped in testing the database and SQL queries with Ridwaan which helped make the chatbot response better and also helped with edge cases that the database might miss.
- ○ Helped in testing AI of the chatbot and adjusting batch size and epoch for optimal performance.
- ○ Tested the chatbot with help the automation to make sure that the output passed all test cases.
- Hossam
  - ○ Created the github repository as well as initialize early stage proposals
  - ○ Designed The navigation bar, footer and "Support" page (home.html)
  - ○ Made the css with the chatbot, and the main page consistent with the Canada Games website. I made sure to have the site be fully responsive whether using mobile, tablet, or desktop..
  - ○ Designed and implemented the "info" pop up button on the chatbot with Nimish using some javascript, html and css
- Owen
  - ○ Worked on the chatbot front end, as well as fixing issues with css or javascript.
  - ○ Implemented Linkify into the front end to produce links in responses from the backend.
  - ○ Helped with formatting output from the backend.
  - ○ Helped with the help page, implementing it into the overall project and helping fix css.
  - ○ Created pyunit test cases for the chatbot itself.
  - ○ Helped manage the Github and helped group members with issues surrounding the Github.

- Waqas
  - ○ Revamped chatbot output to give it a cleaner more elegant look e.g. emphasizing columns and using python methods to allow for a more user friendly output.
  - ○ Worked on automation testing with ridwaan, by finding elements to use for the automation testing.
- Ridwaan Toure
  - ○ Created a scraper using python selenium which has functions to navigate through the schedules page, the players page, and the medals page to retrieve data.
  - ○ Created a SQLite database with a diagram showing all the constraints in the database which allows our queries to return accurate results.
  - ○ Worked on the methods for the bot which linked that chatbot to the SQL databases through the SQL methods.

- ○ Helped improve chatbot response.
  - ○ Part of the team that created test cases for the chatbot.
  - ○ Experimented with the chatbot and determined that we could remove unnecessary intents which don't relate to our chatbot and made it harder for the chatbot to put text in the right slots. Improved the intents by having the patterns actually correlate to if a name was present. Lastly set epoch to 300, batch size to 16, and error threshold to 80%, which seems to accurately place questions in the right spot and more or less reject questions of the wrong form.
- ● Muditaa
  - ○ Created the animation for the user queries in the chatbot
  - ○ Helped in the design of the chatbot, including the final placement of the return button (with its functionality) and the chatlog button
  - ○ Created the chatlog function (a text file is downloaded) and incorporated it with the implemented suggestions feature
    - ■ Worked on the chatbot suggestions feature with Ridwaan where we were able to add pre-determined questions that were clickable and allowed for the user to see all possible questions without knowing what questions the chatbot can answer in hindsight.
    - ■ Readjusted the chat log function in the javascript file to allow for a saving of the log that was intuitive to what the user requested and what the user got.
  - ○ Assisted in the manual testing of the chatbot

7- And anything else you would like to add.

Harmandeep - No

Waqas - No

Hossam - No

Owen - No

Peter - No

Muditaa - No

Nimish - No

Ridwaan - A lot of the completed tasks had a lot of overlap between each member, it was less of person A completed task 1, and more of a collaboration on each section between different team members.

8- Initial Backlog

- Chatbot: A chatbot system was built which, before being connected to the database, can handle simple interactions with the user.
- Text box: This will be where the user can type his questions. The text box will have 'Write a message…' written so the user knows its function.
- Clear button: This button will erase any text present in the text box and will be placed next to the text box.
- Spinning effect: A spinning circle will appear when a query has been submitted, to indicate to the user that the chatbot is working on providing a response.
- Main page: A main page is created with a help video and the link to the chatbot page, along with social media buttons for Niagara Games 2022.
- Conversation display: All of the questions and responses displayed can be scrolled through by the user.
- Chatbot page: The chatbot page which the user will use to send queries will be built. It will contain the text box, the send button, clear button, the help button, the chatlog button and the return button.
- Scraper: To retrieve the required data from the Niagara Games webpages, selenium was used instead of the original python scraper along with XPATH's.
- Send button: This button will be used to send the questions typed/chosen by the user and will be placed next to the text box.
- Merge the frontend components: The design, which will include the frontend components, is created.
- Database/Scraper: A database about the Niagara Games (with the main relations such as players, games, locations and how they are connected to one another) is to be created. The scraper will fill up the database based on what is needed.
- Chatbot/Scraper/Database: The chatbot and the database/scraper is to be connected for the responses to be related to questions about Niagara Games.
- Chatbot/Website: JSON communication will be used to connect the chatbot and the website so that the chatbot does not have to work through the console.
- Multiple platform usage: A user should be able to interact with the chatbot on any browser/device.

- Chatlog button: This button will download the conversation between the user and the chatbot in a text file onto the user's device.
- Help page: This incorporated the button (on the chatbot page) and included the features of the chatbot (what they are meant for). A help video also was added to help the users use the chatbot.
- Improve chatbot display: The responses given to the user's queries are to be displayed in a way that makes it easy for the user to read it (different parts of the response assigned a new line or given a title, time in responses is assigned AM or PM).
- Work on chatbot AI: The queries made by the user will not always directly relate to the answer the user is looking for. The AI needs to recognize different questions and interpret it correctly.
- Update medals for database: As the games start, the database with the medals data needs to be changed to reflect the correct numbers.
- Schedule tasks for updating the database: Methods are to be created to update the database for relations whose data will change. A schedule is also set up for when these methods are to be run.
- Make URLs hyperlinks: When a response from the bot contains a URL, it should be clickable by the user (a new tab should be opened).
- Popup instructions: A button should be created that contains the buttons on the chatbot page and what they can be used for.

9 - How you divided and developed during the sprints
- We would create our sprint backlogs and let people choose what catered to their strengths. For the tasks that we left over, they were assigned to people who had less amount of work to do when compared to others.

10 - User manuals

Buttons on the main page

- Get Started - Leads to the chatbot
- Learn More - Directs you to the help video

Buttons on chatbot

- Textbox - The placeholder for the question/query for the textbox
- Back Button - Leads you to main page
- Chatlog Button - Saves the chat on your computer
- Clear Button - Clears the text in the textbox
- Send Button - Sends the question/query to the chatbot

- Information Button - Opens a popup explaining the functionality of each button on the chatbot

11 - Deployment documents

Setting up the Database

Database Schema

CREATE TABLE "ContingentGames" (

    "gamename"   VARCHAR(70),

    "contingent"   VARCHAR(30),

    "sport" VARCHAR(50),

    CONSTRAINT "PK_ContingentGames" PRIMARY KEY("gamename","contingent","sport"),

    FOREIGN KEY("contingent") REFERENCES "Contingents",

    FOREIGN KEY("gamename") REFERENCES "Games"("gamename")

)

CREATE TABLE "Contingents" (

    "ContingentAbbreviation"   VARCHAR(2),

    "ContingentName"   VARCHAR(30) UNIQUE,

    "goldMedals"   integer, silverMedals INTEGER, bronzeMedals INTEGER, totalMedals INTEGER,

    PRIMARY KEY("ContingentAbbreviation")

)

CREATE TABLE "Games" (GameName VARCHAR(70) PRIMARY KEY, SportName VARCHAR(70), Location VARCHAR(70), Event VARCHAR(70), GameDate VARCHAR(25), GameTime VARCHAR(6), Dates date, Times time)

CREATE TABLE "Locations" (Location VARCHAR(70) PRIMARY KEY)

CREATE TABLE "Persons" (

    "personID"   INTEGER UNIQUE,

```sql
        "Contingent"    TEXT NOT NULL,

        "sportName"    TEXT,

        "personName" TEXT NOT NULL,

        "URL"   TEXT UNIQUE,

        "Hometown"    TEXT,

        "Type"  TEXT,

        "Age"   INTEGER,

        "Height"        NUMERIC,

        "Weight"        NUMERIC,

        "Club"  TEXT,

        "Coach"                TEXT,

        "Position"      TEXT,

        "goals_for_games"      TEXT,

        "personal_best_result" TEXT,

        "Award"         TEXT,

        "personal_role_model" TEXT,

        "other_info"     TEXT,

        FOREIGN KEY("Contingent") REFERENCES "Contingents"("ContingentName"),

        PRIMARY KEY("personID" AUTOINCREMENT)
)
CREATE TABLE "SportLocations" (

        "SportName"    varchar(20),

        "Location"      VARCHAR(20),

        FOREIGN KEY("sportname") REFERENCES "Sports"("sportname"),

        FOREIGN KEY("Location") REFERENCES "Locations"("Location"),
```

CONSTRAINT "PK_SportLocation" PRIMARY KEY("sportname","Location")

)

CREATE TABLE "Sports" (SportName VARCHAR(20) PRIMARY KEY)

How to input Data into the database.

The database is setup by initially using the scraper. Within the chatbot application, in the chatbot_backend >Selenium scraper folder. You have your scraper methods in the 'views.py' file. You can create another python file which uses these methods independently or you can use Django by navigating to the selenium scraper folder. Typing in python manage.py runserver in the folder, and then navigating to the link. This will run whichever methods are called in the view_name() method. You should put what you need to call in these methods by accessing the database by path at the top of the file.

· Get_players: Gets the first name, last name, sport and url of player and adds it to the database.

· getGameSchedule: gets the schedule of all the games and adds it to the database.

· Fill_player_data: Needs to run after get_players, and will update the player info by using the url from the player in the database.

· Get_contingent_games: this will assign the games in the games table to a contingent so we can search the games by contingent.

· Update_medals: Runs after the Contingent names are in the database and will update the medal counts for the contingents.

Using SQL Methods

· SQL methods can be found in both places, this isn't an optimal situation but IT can be found in the autoscraper which is used for updating and it can be found in the seleniumscraper which is used for building the database. Each method has documentation attached so all information on the methods is in the file.

Things to keep in mind

· Unfortunately the database has duplications which need to be kept in mind when it comes to games. GameDate was saved as an actual string; it would've been better off to save GameDate as an actual date and remove that column altogether. GameTime is also saved as a string. When the games are updated with times, then we have a column with the type time.

· Testing wasn't done on if the date was during the games so that still needs proper testing.

· The database file string is hard coded so if you want to change the location of the database the files using that database need to change the string in the code.

·   Automation testing sees if the right entry is successful, not if the wrong entry is unsuccessful.

Setting up Responses and Personalizing the Bot

The intents.json file is the training data for the bot and is one of the places where the answers are stored. The intents are an array of objects with each index storing a tag, patterns, and response. The tag holds a name defining what type of questions are stored. The patterns hold an array of strings, where the string is a question rephrased in different ways. The responses hold an array to answers to said questions. To add more responses to the bot and personalize it to a specific product, one needs to add to the intents file the relevant questions and answers before training the bot by running the train.py file.

Requirements

Django==4.0.3
Flask==2.0.3
Flask_APScheduler==1.12.3
Flask_Cors==3.0.10
nltk==3.7
numpy==1.22.3
selenium==4.1.3
tensorflow==2.8.0
tflearn==0.5.0
webdriver_manager==3.5.4

To install these all at once use the provided requirements.txt file with the command line command

pip install -r requirements.txt

To batch install.

12 - Database models

Sports

PK	SportName

ContingentGames

PK,FK1	GameName
PK,FK2	Contingent
PK,FK3	Sport

Locations

PK	Location

PersonGames

PK,FK1	PlayerID
PK,FK2	GameName

sportLocations

PK,FK1	SportName
PK,FK2	Location

Games

PK	GameName
PK,FK1	SportName
FK	Location
	Event
	GameDate
	Times
	Dates

Contingents

PK	ContingentAbbreviation
	Contingent
	goldMedals
	silverMedals

Persons

PK	PersonID
FK	Contingent
FK	SportName
	personName
	URL
	Hometown
	Type
	Age
	Height (cm)
	Weight (kg)
	Club_or_Team
	Coach
	Position
	goals_for_games
	personal_best_result
	Award
	personal_role_model
	other_info

Sometimes we get an event name sometimes we get just the sex e.g. Female/Male

13 - Test documents

ID	Scenario	Test Steps	Test Data	Expected Results	Pass/Fail
resp1	Check to see if bot returns website for CSG	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What is the Canada Game website	Returns link to CSG website	Fail
resp1.1	Check to see if bot returns website for CSG	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What is the Canada Game website	Returns link to CSG website	Pass
resp2	Checks to see if the bot returns transit info	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What transportation options are available	Return website for niagara transit	Fail
resp2.1	Checks to see if the bot returns transit info	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What transportation options are available	Return website for niagara transit	Pass
resp3	Check to see if the bot	1. Go to wordtun.com	Is there an app for the	Returns link to both the ios	Fail

	returns links to bus app for ios and android	2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	buses	and android app	
resp3.1	Check to see if the bot returns links to bus app for ios and android	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Is there an app for the buses	Returns link to both the ios and android app	Pass
resp4	Check to see if the bot returns the website for niagara tourism	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What can you do in the Niagara region	Returns the link to niagara tourism	Fail
resp4.1	Check to see if the bot returns the website for niagara tourism	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What can you do in the Niagara region	Returns the link to niagara tourism	Pass
resp5	Check to see if the bot returns the website for niagara tourism	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Where can you stay in the Niagara region	Returns the link to niagara tourism	Fail

resp5.1	Check to see if the bot returns the website for niagara tourism	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Where can you stay in the Niagara region	Returns the link to niagara tourism	Pass
resp6	Check to see if the bot returns the link to the website where covid-19 info can be found	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	"What are the COVID-19 restrictions like in Niagara	Returns the link to the website where covid-19 info can be found	Fail
resp6.1	Check to see if the bot returns the link to the website where covid-19 info can be found	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	"What are the COVID-19 restrictions like in Niagara	Returns the link to the website where covid-19 info can be found	Pass
resp7	Check to see if the bot returns the start date	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	How long until Canada Games starts	Return the start date for CSG	Fail
resp7.1	Check to see if the bot returns the start date	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to	How long until Canada Games starts	Return the start date for CSG	Pass

		message bot 4. Click send or hit enter			
resp8	Checks to see if the bot returns link to CSG news	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What's new with the Canada Games	Returns link to CSG news	Fail
resp8.1	Checks to see if the bot returns link to CSG news	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What's new with the Canada Games	Returns link to CSG news	Pass
resp9	Checks to see of the bot returns the link that displays where CSG will be taking place	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Where is the Canada Games	returns the link that displays where CSG will be taking place	Fail
resp9.1	Checks to see of the bot returns the link that displays where CSG will be taking place	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Where is the Canada Games	returns the link that displays where CSG will be taking place	Pass
resp10	Checks to see if bot returns info on players	1. Go to wordtun.com 2. Enter tests data 3. Use	Tell me about erica cluff	Returns info on erica cluff	Fail

		rephrased test data to message bot 4. Click send or hit enter			
resp10.1	Checks to see if bot returns info on players	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Tell me about erica cluff	Returns info on erica cluff	Pass
resp10.2	Checks to see if bot returns cannot find player if the player doesn't exist	1. Enter tests data in chatbot 2. Click send or hit enter	Tell me about efrca	Returns could not find player, try full name	Pass
resp11	Checks to see if the bot returns the name of a sport a player plays	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What sport does Jason play	Returns the name of the sport Jason plays	Fail
resp11.1	Checks to see if the bot returns the name of a sport a player plays	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What sport does Jason play	Returns the name of the sport Jason plays	Pass
resp11.2	Checks to see if the bot returns cannot find player if player doesn't exists	1. Enter tests data in chatbot 2. Click send or hit enter	What sport does ecfra play	Returns could not find player, try full name	Pass

resp12	Checks to see if the bot returns the number of medals a contingent has	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	How many medals does ontario have	Returns the amount of medals ontario has	Fail
resp12.1	Checks to see if the bot returns the number of medals a contingent has	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	How many medals does ontario have	Returns the amount of medals ontario has	Pass
resp12.2	Checks to see if the bot returns contingent not found if contingent doesn't exists	1. Enter tests data in chatbot 2. Click send or hit enter	How many medals does onta have	Returns cannot find province or territory by that name	Pass
resp13	Checks to see if the bot returns the date of the next game by sport name	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	When is the next basketball game	Returns the date of the next basketball game	Fail
resp13.1	Checks to see if the bot returns the date of the next game by sport name	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	When is the next basketball game	Returns the date of the next basketball game	Pass
resp13.2	Checks to see	1. Go to	When is the	Returns the	Pass

	if the bot returns the date of the next game by contingent name	wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Ontario's next game	date of Ontario's next game	
resp13.3	Checks to see if the bot returns the date of the next game by contingent and sport name	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	When is the Ontario's next basketball game	Returns the date of Ontario's next basketball game	Pass
resp13.4	Checks to see if the bot returns cannot find info if contingent doesn't exists	1. Enter tests data in chatbot 2. Click send or hit enter	When is the Onta's next game	Returns I could not find any information on that. Try adding the province/territory name	Pass
resp13.5	Checks to see if the bot returns cannot find info if sport doesn't exists	1. Enter tests data in chatbot 2. Click send or hit enter	When is the next hockey game	Returns I could not find any information on that. Try adding the province/territory name	Pass
resp14	Checks to see if the bot returns the link for ticket info	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	Where can I buy tickets	Returns link to CSG tickets website	Fail
resp14.1	Checks to see if the bot returns the	1. Go to wordtun.com 2. Enter tests	Where can I buy tickets	Returns link to CSG tickets website	Pass

		data 3. Use rephrased test data to message bot 4. Click send or hit enter			
resp15	Checks to see if the bot returns the list of sports being played in CSG	1. Go to wordtun.com 2. Enter tests data 3. Use rephrased test data to message bot 4. Click send or hit enter	What sports are in the tournament	Returns a list of sport names being played	Pass
sendbu-1	Checks to see if send button is not clickable when no message is typed	1. Click send	N/A	Nothing happens	Pass
sendbu-2	Check to see if user message gets retrieved	.1. Type data into text box 2. Click send/enter	Hi	Js retrieves the message	Pass
DisplayMessa	Check to see if user message is displayed on the screen	1. Type data into text field 2. Click send/enter	Hi	User message is displayed on the text field	Pass
MesToBack	Check to see if the user message is retrieved by the bot in the backend	1. Type data into text field 2. Click send/enter	Hi	The bot retrieves the message	Pass
DisplayResp	Check to see if the bots response is displayed to the screen	1. Type data into text field 2. Click send/enter	Hi	The bot's response is displayed in the text field	pass
Animation	Check to see if their is an	1. Type data into text field	Hi	A spinning circle is	Pass

		2. Click send/enter		displayed on the screen before the bot responds	
	animation before the bot responds				
Clearbu	Checks to see if by clicking the clear button it clears the textbox	1. Write a message into the textbox 2. Click the clear button	Hi	The message in the textbox gets deleted	Pass
Infobu	Checks to see if a pop message displays on the screen when click the info button	1. Click the info button on the top right that looks like a 'i'	N/A	Popup displays all the functions on the page	Pass
Backbu	Checks to see if the back buttons redirects the user to the support page	1. Click the back button on the top left that looks like a arrow point left	N/A	Redirects the user to the support page	Pass
SchedTask	Checks to see if scheduled task are working	1. Run app.py 2. Wait 30 mins	N/A	Updates the database	Pass

Chatbot unit tests

Question 1 (Canada games website)

test	Input	Expected Output	Passed
1.a	What is the Canada games website	A response with the url	Pass

1.b	The Canada games web	A response with the url	Pass
1.c	Any random response	Invalid input	Pass
1.d	Canada games spelled wrong	Invalid input	failed

Question 2 (transit)

test	Input	Expected Output	Passed
2.1	What transport options are available	Niagara transit url	Passed
2.b	How can I get there	Niagara transit url	Failed
2.c	What car do I drive.	Invalid input	failed

2.d	Trainsport options	Invalid input	pass

Question 3 (transit apps)

test	Input	Expected Output	Passed
3.a	Is there an app for buses?	Url to transit app	Pass
3.b	Bus app	Url to transit app	Pass
3.c	Random input	Invalid input	Pass
3.d	Bis apy	Invalid input	Pass

Question 4 (tourism)

test	Input	Expected Output	Passed

4.a	What can you do in Niagara region?	Niagara Falls tourism url	Pass
4.b	Niagara region	Niagara Falls tourism url	fail
4.c	Random input	Invalid input	Pass
4.d	Turism nia ragion.	Invalid input	pass

Question 5 (hotels)

test	Input	Expected Output	Passed
5.a	Where can you stay in Niagara Region?	Niagara Falls tourism url	Pass
5.b	Hotels	Niagara Falls tourism url	Fail
5.c	Random input	Invalid input	Pass

5.d	ware kan u sty in Nagra Rejin	Invalid input	Pass

Question 6 (covid19)

test	Input	Expected Output	Passed
6.a	What are the COVID-19 restrictions like in Niagara	Url to Niagara region health	Pass
6.b	Covid-19	url to Niagara region health	pass
6.c	Sick	Invalid input	fail

Question 7 (start date)

test	Input	Expected Output	Passed
7.a	How long until Canada games starts?	Canada games start date	Pass
7.b	start	Invalid input	pass

Question 8 (news)

test	Input	Expected Output	Passed
8.a	What's new with the Canada games?	Url to Canada games news page	Pass
8.b	New Canada games?	Url to Canada games news page	Pass

8.c	News	Url to Canada games news page	pass

Question 9 (location)

test	Input	Expected Output	Passed
9.a	Where is the Canada games?	Message containing url to Canada games sports page	Pass
9.b	Where	Invalid input	Pass
9.c	ware Kanade gaems?	Invalid input	pass

Question 10 (athlete info)

test	Input	Expected Output	Passed

10.a	Tell me about Kelsey Ayers	Information about Kelsey Ayers	Pass
10.b	Tell me about (any person not in the games).	Invalid input	pass
10.c	Is Kelsey Ayers participating	Information about Kelsey Ayers	fail

Question 11 (sport info)

test	Input	Expected Output	Passed
11.a	What sport does Kelsey Ayers play	Information about what they play	Pass
11.b	What sport does (athletes that share the same name)	Information about what they play	fail

11.c	Ask about athlete that doesn't exist	Invalid input	pass

Question 12 (medal info)

test	Input	Expected Output	Passed
12.a	How many medals does Ontario have?	Medal count	Pass
12.b	How many medals does North Dakota have	Invalid input	Fail
12.c	How many madels does Ontario have	Invalid input	pass

Question 13 (event times)

test	Input	Expected Output	Passed
13.a	Input a province and a sport	The times that contingent plays that sport and times	pass
13.b	Input just a province	The times that contingent is playing in any event and times	pass
13.c	Input just a sport	All times and locations that sport is being played.	pass

Question 14 (ticket info)

test	Input	Expected Output	Passed

14.a	Ask for the ticket information	A string containing the ticket url	Pass
14.b	Ask for the ticket information but misspelled	A response asking to try again	pass

14 - References

- Open source code taken from here, katanaml/katana-assistant: Text based assistant powered by Machine Learning and NLP (github.com), was used to help build the ai for the chatbot
- Linkify found at https://linkify.js.org/ github is available, https://github.com/Hypercontext/linkifyjs. Used under the MIT License.
- FileSaver found at https://cdnjs.com/libraries/FileSaver.js/2.0.0. Github is available, https://github.com/eligrey/FileSaver.js/. Used under the MIT License.