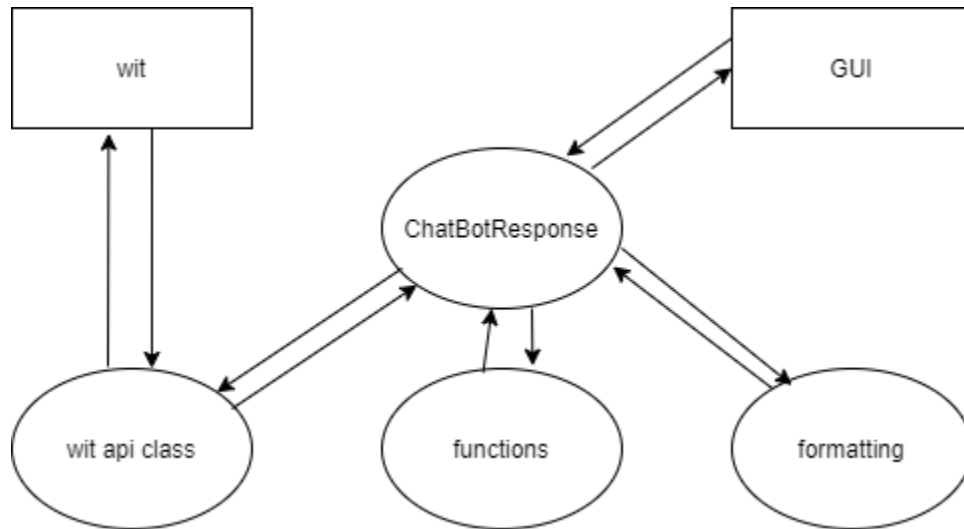


ASSIGNMENT 3 DOCUMENTATION

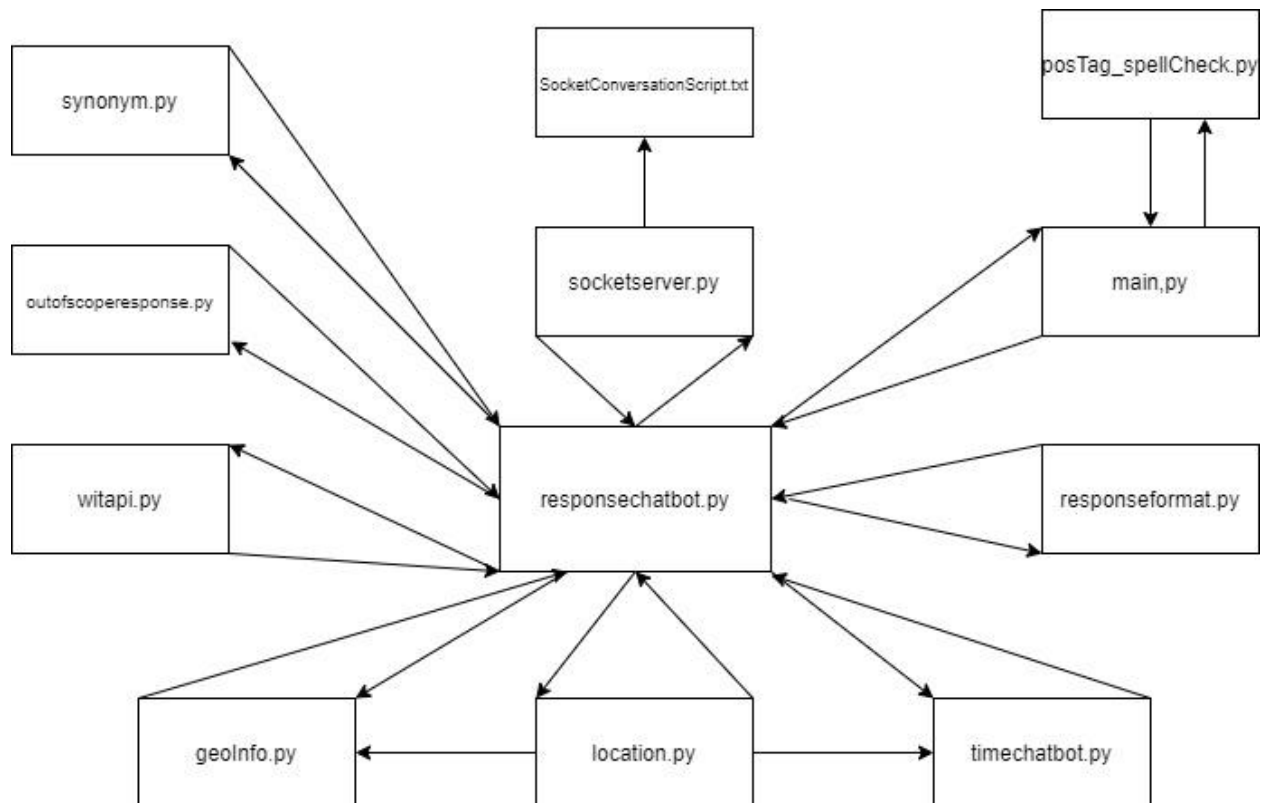
Level 0 DFD



The diagram above shows the data flow between the 0 level components of our program. The DFD displays a simplified representation of how data flows between the user GUI, the third party AI API and the inhouse main and formatting functions.

Once the user prompts a question from the frontend GUI, the response is sent to the ChatBotResponse page. The response is queried sent to the wit api class which forwards it to the wit AI to identify the traits and entities. The traits and entities are sent to ChatBotResponse and into the functions and formatting to use the respective APIs and produce the output. This output is sent via ChatBotResponse and into the GUI to display the output

Level 1 DFD



- The diagram above shows the data flow between the level 1 components of our program. The DFD displays a detailed representation of how data flows between the user GUI (main.py), the responsechatbot.py and all of the components and python pages it communicates with to produce the output for the user.
- Once a user prompts a question from the frontend GUI via main.py, the question is sent to responsebot.py page. Over here the responsechatbot.py sends the questions to outofscoperesponse.py and synonym.py to immediately check for out of scope questions and to identify synonyms, the response form this is sent back to reposnsechatbot.py
- The responsechatboout.py can send the out of scope responses via the main to be displayed to the user. This is also sent to socketserver.py to communicate with a different groups bot, which the output for can be accessed via SocketConversationScript.txt
- If the question does not trigger the out of scope response then the question is sent to waitapi.py to identify traits and entities which is sent back to responsechatbot.py

- The traits and entities are then sent to geoinfo.py, location.py and timechat.py to communicate with the respective APIs and receive relevant output data for user questions. This data is then sent back to reposnsechatbot.py
- This data is sent to responseformat.py to format the output that will be produced and is this output response is sent back to responsechatbot.py
- Finally responsechatbot.py forwards this output response to main.py to display the output to the user on the GUI. (The output is also forwarded socketserver.py to communicate with external bots and the logs for those are saved on SocketConversation.txt)

GitHub Documentation <https://github.com/310LabGroup28/chat-bot>

- Commits Insights:

Excluding merges, **3 authors** have pushed **11 commits** to main and **11 commits** to all branches. On main, **17 files** have changed and there have been **238 additions** and **18 deletions**.



- Commits Graph:



● Commits:

Commits on Mar 24, 2021		
added posTag_spellCheck class, also modified mian.py for postag and s...	1acf29	
changed main to let spellcheck return the corrected sentence	9dbd598	
make the spellcheck display corrected sentence in the chatbox	1a386a5	
Commits on Mar 25, 2021		
Connected chatbot to another group's bot through sockets, uploaded th...	75c03df	
Commits on Mar 27, 2021		
Updated requirements.txt	4692d52	
Changed spellcheck to happen in responsechatbot rather than main. Cle...	b31e81c	
Added comments to socketserver.py	f116a46	
Changed posTag_spellCheck.py to match class structure of the rest of ...	9628cdb	
Deleted old lines of code that were commented out. Removed spell chec...	dc03f1c	
Slightly restructured display of who sent a message (user vs chatbot).	04fccd4	
Commits on Mar 28, 2021		
main	6ad176d	

● Additions and deletions:

Showing 17 changed files with 238 additions and 18 deletions.		Unified	Split
> 48	chat-bot/SocketConversationScript.txt		...
> BIN -13 Bytes (99%)	chat-bot/__pycache__/geoInfo.cpython-39.pyc		...
> BIN -13 Bytes (99%)	chat-bot/__pycache__/location.cpython-39.pyc		...
> BIN -13 Bytes (99%)	chat-bot/__pycache__/outofscoperesponse.cpython-39.pyc		...
> BIN +2.2 KB	chat-bot/__pycache__/posTag_spellCheck.cpython-39.pyc		...
> BIN +69 Bytes (100%)	chat-bot/__pycache__/responsechatbot.cpython-39.pyc		...
> BIN -13 Bytes (100%)	chat-bot/__pycache__/responseformat.cpython-39.pyc		...
> BIN +646 Bytes	chat-bot/__pycache__/socketserver.cpython-39.pyc		...
> BIN -13 Bytes (98%)	chat-bot/__pycache__/synonym.cpython-39.pyc		...
> BIN -13 Bytes (99%)	chat-bot/__pycache__/timechatbot.cpython-39.pyc		...
> BIN -13 Bytes (99%)	chat-bot/__pycache__/witapi.cpython-39.pyc		...
> 55	chat-bot/main.py		...
> 104	chat-bot/posTag_spellCheck.py		...
> 11	chat-bot/requirements.txt	<> 📄	...
> 7	chat-bot/responsechatbot.py		...
> 29	chat-bot/socketserver.py		...
> 2	chat-bot/synonym.py		...

ChatBot sample output

Output shows the user and ChatBot having a feasible conversation while using the new features added to the bot. The conversation also shows the limitations of the bots and how it replies to an out of scope question

Say something to Chatbot below then press 'Send'

Send

=====Chat Log=====

User: Hello Chatbot!

Chatbot: Hello! I can help with things related to geographic data.
Try asking me how far two places are from each other, or ask me about the weather somewhere.
If you want to know more about what I can do, try asking for help.

User: Could you please give me some help?

Chatbot: I have a few things I can help you with.
I can get the temperature at multiple locations, the weather forecast, and points of interest nearby.
I can also tell you what the local time is for any location, and help calculate time differences between locations.
Lastly, I can measure distances between two locations in kilometers.

User: What is the distance between Kelowna and Vancouver?

Chatbot: The distance between Kelowna and Vancouver is 270.78km.

User: What is the distance between Kelowna and Vancouver?

Chatbot: The distance between Kelowna and Vancouver is 270.78km.

User:

What is the temperature in Kelowna?

Designed by UBCO COSC 310 Group 28

POS tagging

Say something to Chatbot below then press 'Send'

Send

User:

What is the temperature in Kelowna?

Chatbot: The temperature in Kelowna is -1.6 degrees celcius.

User: What is the weather in Seoul?

Chatbot: The weather in Soul is clear sky.

User: What is the conditions in Seoul?

Chatbot: The weather in Soul is clear sky.

User: What are some points of interest in Kamloops?

Chatbot: The POIs in Kamloops are Kamloops Museum & Archives, Art We Are, Kamloops Art Gallery, Kamloops Heritage Railway, Legends Indoor Golf.

User: What is the next train out to Vancouver?

Chatbot: I'm sorry, I didn't quite understand that.
Try asking for help to see the scope of my functionality, or try asking another question.

User:

Chatbot: I didn't catch that. If you believe I should have understood your question, try rephrasing it!

Designed by UBCO COSC 310 Group 28

POS tagging

Say something to Chatbot below then press 'Send'

Send

User:

Chatbot: I didn't catch that. If you believe I should have understood your question, try rephrasing it!

User: What is the next train out to Vancouver?

Chatbot: I didn't catch that. If you believe I should have understood your question, try rephrasing it!

User: What is the next train out to Vancouver?

Chatbot: It appears your question is out of scope, please try asking something else.

User: How far away is Vancouver?

Chatbot: The distance to Vancouver is 268.1km.

User: What timezone is Kelowna in?

Chatbot: The time zone at Kelowna is America/Vancouver.

User: What tim is it in Kelowna?

Chatbot: It appears your question is out of scope, please try asking something else.

User: Wht time is it in Kelowna?

Designed by UBCO COSC 310 Group 28

POS tagging

Say something to Chatbot below then press 'Send'

User: How far away is Vancouver?

Chatbot: The distance to Vancouver is 268.1km.

User: What timezone is Kelowna in?

Chatbot: The time zone at Kelowna is America/Vancouver.

User: What tim is it in Kelowna?

Chatbot: It appears your question is out of scope, please try asking something else.

User: Wht time is it in Kelowna?

Chatbot: The time in Kelowna is 2021-03-29 22:54:07.899084-07:00.

User:

Chatbot: It appears your question is out of scope, please try asking something else.

User: What time is it in Australia?

Chatbot: The time in Australia is 2021-03-30 15:24:21.534616+09:30.

Designed by UBCO COSC 310 Group 28

POS tagging

API Features

- 1) Get location coordinates defined by string
 Users can utilize the ChatBot API to query a certain location and get the coordinates for the location back as a string
- 2) Get timezone information form coordinates
 Users can utilize the API to get the respective time zone a coordinate is in. This can be used with the location API as well to get the time zone.
- 3) Get weather data from coordinates
 Users can utilize the API to get the respective weather conditions currently at a given coordinate. This can used with the location API as well to get the weather
- 4) Get distance between two places defined by strings
 Users can utilize the API to get the distance between two places they enter as a string.
- 5) Get points of interest for a location defined by a string
 Users can utilize the API to get the POIs of a certain location they define by a string. The output will be given to them as a string in the language that is respective to that location.