

Brock University Chatbot

Report 2

Marmik Bhatt 5939780 mb15nf@brocku.ca [**Leader**]

Tom Wallace 6482558 tw18dw@brocku.ca

Jakob Shortell 6280275 js17ya@brocku.ca

Aedel Panicker 6480297 ap18pu@brocku.ca

Hyejin Kim 6823116 hk19xt@brocku.ca

Liam Mckissock 4447751 lm09sr@brocku.ca

Lucas Kumara 6235295 lk16ce@brocku.ca

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2. Planned Systems of past sprints

Sprint 1 and 2 are the same as Progress Report 1

Sprint 1: Sprint One revolved around getting a skeleton front end done that is usable on all major modern web browsers. This was done by creating a very basic skeleton front end which included the ability to chat with the bot via text so that the user can get some information. There was also a very basic aspect of scraping that needed to be done, just as a proof of concept. This was accomplished by allowing the user to find information on the clubs. We were very successful in regards to this sprint as we were able to cover all the needed tasks.

Sprint 2: Sprint Two was the more major sprint with regards to the development of the chatbot. This included a major revamp of the front end so that it takes more space on the page, along with being user-friendly. We also worked on the scraping and NLTK aspects of the chatbot so that we can work on a more robust version of the product. Overall things such as clubs and department contact info were able to be scraped as well as much more, so this sprint was very successful as well.

Sprint 3: Sprint Three's main role was getting down the major scraping systems that needed to be done. In this regard, Sprint 3 was one of the last major sprints regarding required functionality when using the chatbot. We had a multitude of important tasks to get done, such as the creation and implementation of the exam scraper and general information about Brock news, which was accomplished using the Brock RSS feed. The implementation of a modal so that the user knows the ins and outs of the system. The implementation of the course and program scrapers along with a direction system so that the user can find their way to Brock university. The implementation of these scraping systems allowed for our chatbot to better understand and guide users when it came to answering their questions. Since all the data that the chatbot would use came from the scraped data, we needed to be very thorough in that regard.

Sprint 4: Sprint Four was very much a transitional sprint, which focused much on the quality of life features rather than important application critical features. Although, we did implement or adjust a few more scrapers in this sprint such as the course scraper along with the Niagara region for news and events. Most of this sprint consisted of implementing things such as a help button so that users know how to use the chatbot. The implementation of the enter button so users can input text by hitting "Enter". Users can also do things like request a building code at Brock so that they can determine the location of each building. We also made a couple of tweaks to the Natural language processing so that the chatbot can understand the user with minor typos as well.

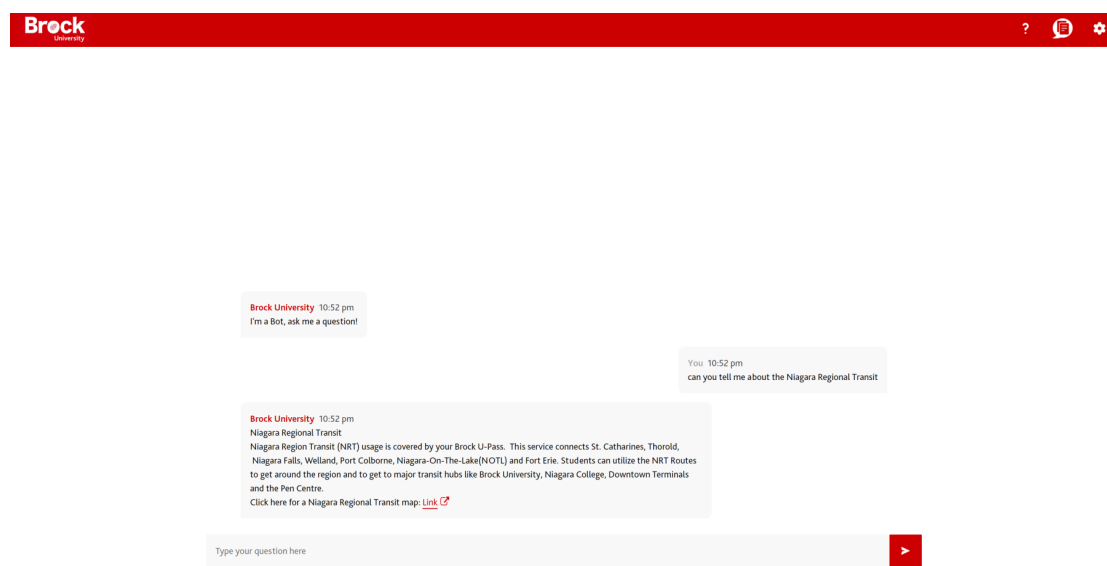
Overall Progress of Sprints 3 and 4: The overall completion of all the major scraping subsystems along with the quality of life back-end and front-end changes. We also focused on getting the natural language processing into a fairly completed order, so that at this moment it is a largely usable product.

3. Planned Features for future sprints




The features that will be implemented in Sprint 5 are as follows: The implementation of some sort of system so that the user knows the chatbot is working. This is just so that the user knows the chatbot has not crashed. The ability to change settings within the settings menu. The ability to exit the conversation along with the functionality to retrieve the chat log. Along with adding some form of modularity so that the capability of adding other languages is present. If there is time we would also like to add some scraping regarding contact information from Brock through the contact page.

The features that will be implemented for Sprint 6 are as follows: This list is tentative, so it may grow as the sprint goes on. The hosting of the chatbot so that it can be publicly available on the internet. The updating of the format so that the information is more readable for the user, and if the chatbot cannot help a certain user, it should be able to redirect them to a page that can.

4. Screenshots



Example of the NLTK version of the chatbot system telling the user about Niagara Regional Transit


?  


Brock University 10:53 pm

I'm a Bot, ask me a question!

You 10:54 pm

what building is WC-C

Brock University 10:54 pm

WC-C code stands for Walker Complex – Storage Bldg. (at Ball Diamonds)
Click the link to learn more: [Link](#) 

You 10:54 pm


what time is starbucks open

Brock University 10:54 pm




Starbucks:
Located in the lower level of the Schmon Tower, this location is a full service Starbucks offering a complete selection of coffees, teas and pastries. It also offers a great selection of Starbucks Sandwiches, Fruit Cups, Yogurt Parfaits and Protein Boxes. A great place to quickly refuel throughout your day.

Monday to Thursday
8:00 a.m. to 10:00 p.m.
Friday
8:00 a.m. to 8:00 p.m.
Saturday & Sunday
10:00 a.m. to 8:00 p.m.

Type your question here




Example of the chatbot system telling the user about specific restaurant information i.e Starbucks.


?  

You 10:55 pm

Where is brock university

Brock University 10:55 pm












Click the link for directions to Brock University: [Link](#) 

You 10:55 pm


whats up at brock

Brock University 10:55 pm

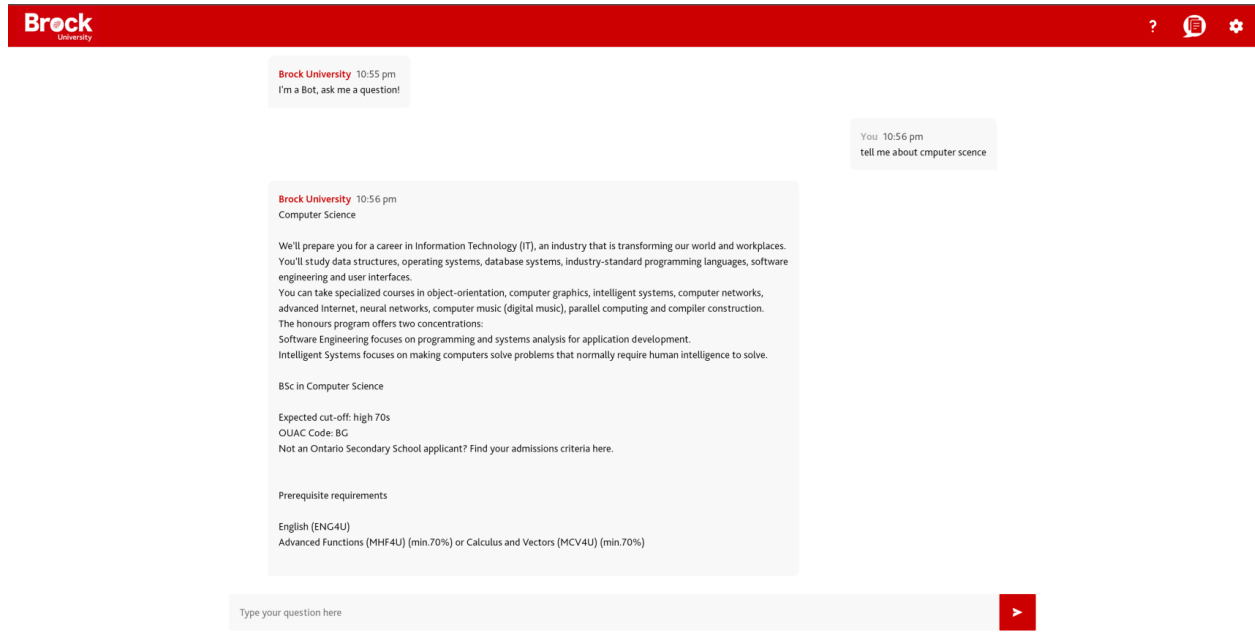
Here is the latest Brock News:

- The Brock News: [Link](#) 
- Participants sought for SAHP review consultation sessions: [Link](#) 
- Career fair to showcase post-secondary options for Indigenous high schoolers: [Link](#) 
- How Badgers alumni laid the foundation for Brock Sports success: [Link](#) 
- Brock prof internationally recognized for Canadian Studies contributions: [Link](#) 
- Scholarship opportunities available through Brock's unique connection to Trinidad and Tobago: [Link](#) 
- Panel to examine progressive politics, Michael Manley's legacy: [Link](#) 
- Brock Media Clips for Friday, March 25: [Link](#) 
- Thesis defences March 28 to April 1: [Link](#) 
- Provincial and national championship matches on tap for Brock Sports: [Link](#) 
- Brock celebrates employees with 25 years of service: [Link](#) 

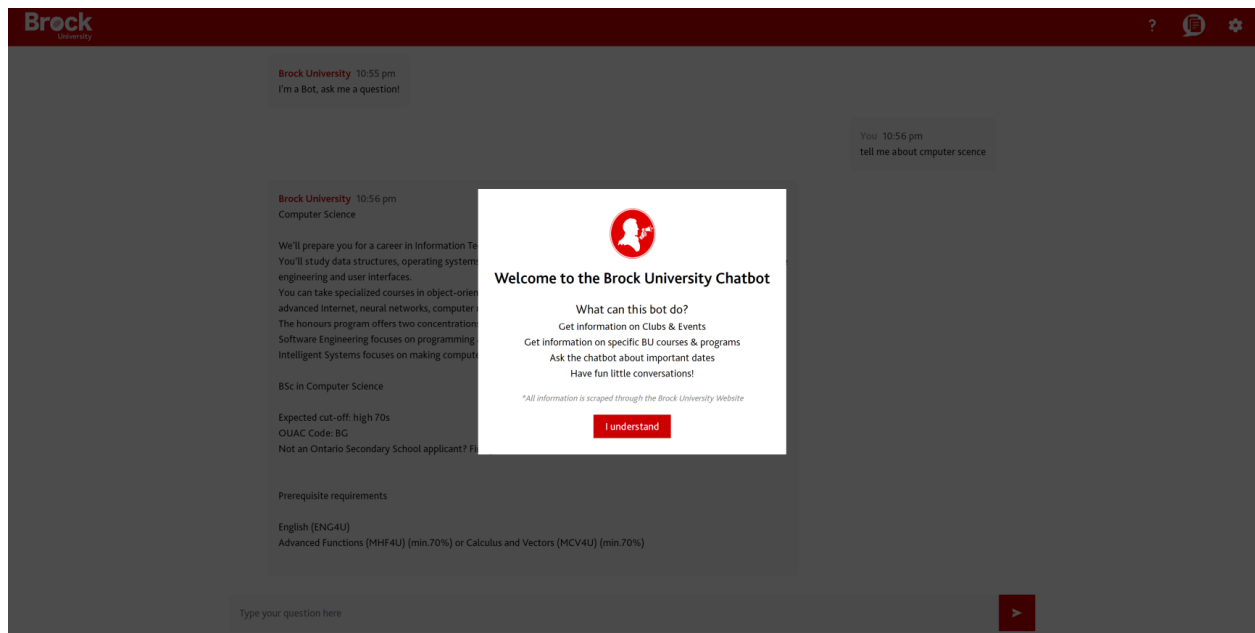
Type your question here



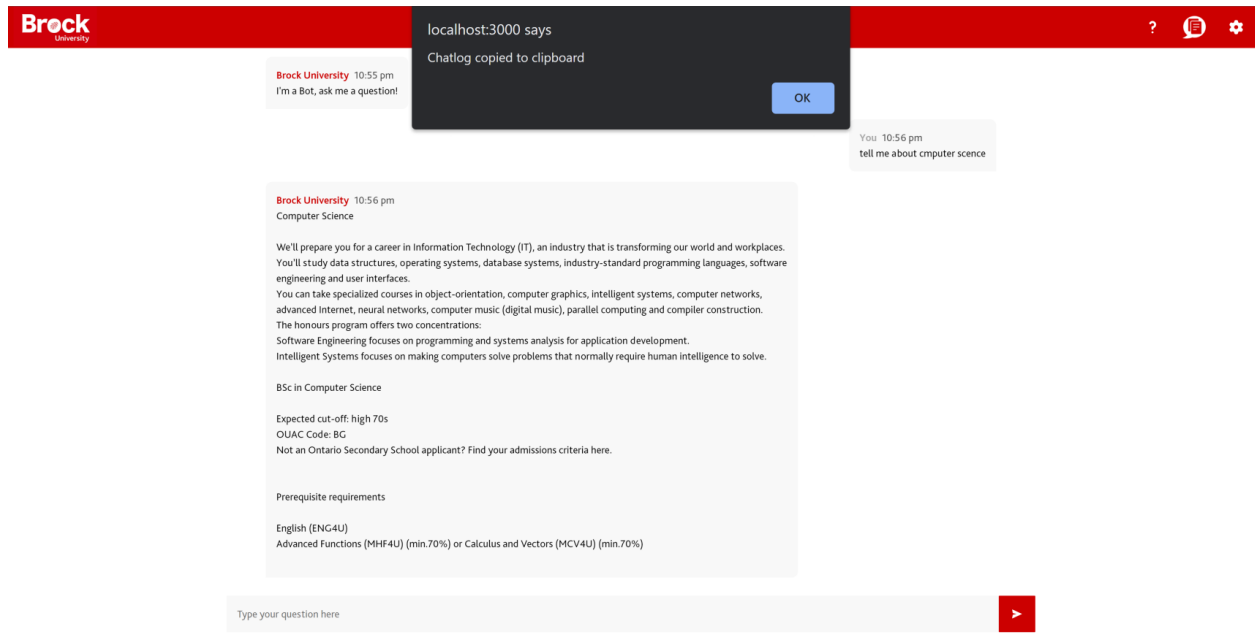
Example of the chatbot providing information on the latest Brock news



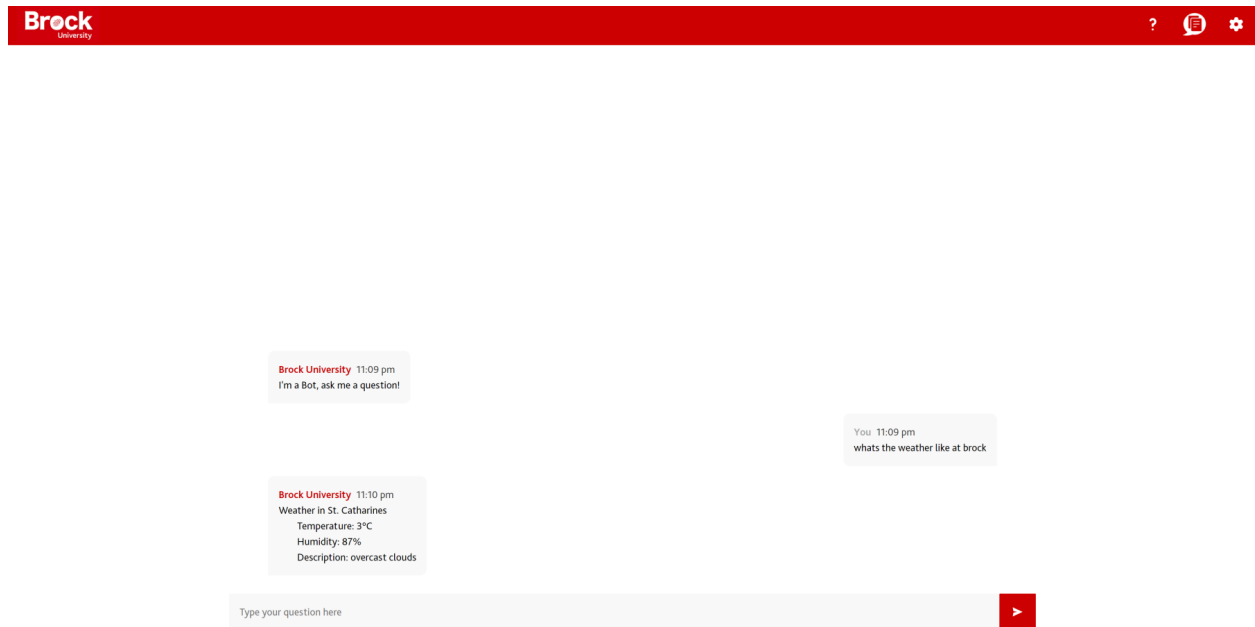
Example of the chatbot system providing information on courses. Note the spelling error (Cmupter Science to show off processing capabilities)



Example of the chatbot “help” modal.



Example of our adding chatlog to clipboard functionality.



Example of the chatbot giving information about the weather.

5. Issues

Luckily the team has largely avoided any major issues and things have run generally smoothly in regards to implementation. We feel as though the major issue now comes down to figuring out what other things can be implemented and how we can go back and improve on our design so that it is more functional and modular. This is important because if Brock University decides to use our Chatbot, it is important that the code itself is maintainable and scalable to meet Brock's demanding needs. So a large portion of our meetings have gone into discussing how we can go back and improve our code and how to code for our future features, so they can be designed properly. We also have been wrestling with the issue of implementing proper testing functionality when it comes to the addition of future features so that it does not break the system.

6. Group Contributions

This is largely similar to that of previous sprints

Marmik Bhatt-

Role: Group Leader

Contributions: Coordinated group meetings on both MS teams and subsequent emergency meetings. In communication with TA and the Professor whenever issues or clarification needed to be made. Worked on written documentation along with helping with the Front-End development, such as the modals.

Lucas Kumara

Role: Co-Technical Lead

Contributions: Worked on both the Front-End and Back-End. Currently working on a multitude of both front-end and testing functionalities, so that we can ensure that the features that are implemented are largely bug-free. Along with helping wherever it is needed when it comes to technical issues any of the other group members may have.

Liam Mckissock

Role: Co-Technical Lead

Contributions: Continued work on the Natural Language processing system so that it made use of the data that was gathered from the multiple scrapers. Most of what is being done now is optimizing the sub-system along with formatting the data in a presentable manner so that users can interact with the data quickly and easily.

Jakob Shortell

Role: Back-end programmer

Contribution: Worked on more of the back-end scraping so that things like course information could be used by the chatbot. Also did preliminary research on hosting and got the front-end set up on a hosting service as a proof of concept. Also helped with fixing and modularizing some of the other aspects of the scrapers.

Hyejin Kim

Role: Back-end programmer

Contributions: Worked on more of the scraping and modularization of the code. One such example was the transportation scraper. So that we could deal with bus routes and such that will be added to the chatbot system. Continued to help with the modularization of the code.

Tom Wallace:

Role: General programmer

Contributions: Provided front-end functionality in the last two sprints such as providing a basis of what can be done for the user to save the chat log. Also helped with the scraping subsystems for various aspects of the chat-bot along with working on the front-end which was the primary focus of the sprints.

Aedel Panicker

Role: General Programmer

Contributions: Helped with fixing and modularizing some of the other back-end systems along with setting up some of the aspects of the scraping systems. Will also help with implementing some of the improvements that the professor has suggested regarding the user interface as well.