Final Report – COSC 4P02

Members

- Front-End: Eric Kohler, Nathalie Atouba-Eyoune, Zihao Zhao
- Back-End: Brandon D. Wanji, Kenny Yang, Xingzhi Chang, Santiago, Jiahui Xu

Front-End

- Held meetings with front-end groups to discuss possible user interface designs, brainstormed ideas, discussed future updates to website, scheduled work to be done, worked together to solve hosting problems.
- We were able to create multiple designs of the user interface.
- Held group meetings to discuss which design all the group members liked.
- Implemented those designs onto the front-end website.
- Completed working on the local website adding extra functionality to the FAQ.
- Added responsive web design.
- Hosted the website on AWS S3 Bucket.
- Confirmed that the website communicates with the API gateway and the temporary Lambda function as responses were received on the front end chatbot window.
- Attempted to fully connect the front end with the back end by inputting the back-end chatbot functions into AWS Lambda.
- **Conclusion:** What we expected to accomplish was not fully realized in the manner nor to the extent that we wanted. However, we were still able to provide a working front end for the chatbot as planned.

Back-End

- Scraped Data of Brock University & Niagara 2022 Games
    - Webpages of importance were selected to be scraped and the tags of multiple webpages were pooled to create methods to scrape those webpages.
    - Scraped data was formatted appropriately to prepare it to be converted into a .json file.
- Converted Scraped Data into a .json file.
    - Scraped data was parsed and formatted into a .json file.
- Chatbot reading inputs and returning appropriate outputs.
- Unit Testing for web scraping
- Error & Exception Handling
- Chatbot being trained.

General Challenges

- Meetings

    - Forming meetings where everyone met up at a specific time was much more difficult than anticipated.

Front-End Challenges

- Our major hurdles occurred when hosting the website on AWS as our team did not have any prior experience with the platform. Nonetheless, through trial and error, our team was able to overcome those challenges by adapting other tools such as AWS S3 bucket instead of AWS amplify.
- Merging our local front end files into one webpage.
- Resizing the webpage to fit multiple screen sizes.

Back-End Challenges

- Implemented Chatbot logic
    - Feed-forward Neural Network to parse in the Json database.
- Scraping Data
    - The parsing of information on certain webpages was duplicated in some places and the distinction between needing to keep repeated data, in context of table information, and removing repeated data required manually looking through multiple web pages.
- Formatting scraped information into .json files.
    - Scraped data often looked correct but invisible Unicode characters such as '\n, \u2013, etc.' would appear within the .json files and would need manually looking through .json files to convert them into their ASCII equivalents or to remove them entirely.
    - Scraped data being a whole paragraph was broken into individual strings based on the appearance of a period followed by a space (ex '. ') but conflicted with titles such as 'Mr., Dr., etc.' which needed manual reviewing in order to determine if it warranted keeping a whole string or splitting a string up into smaller portions so that the chatbot would not return a whole paragraph in response to a simple question.

Scrum Method Effectiveness

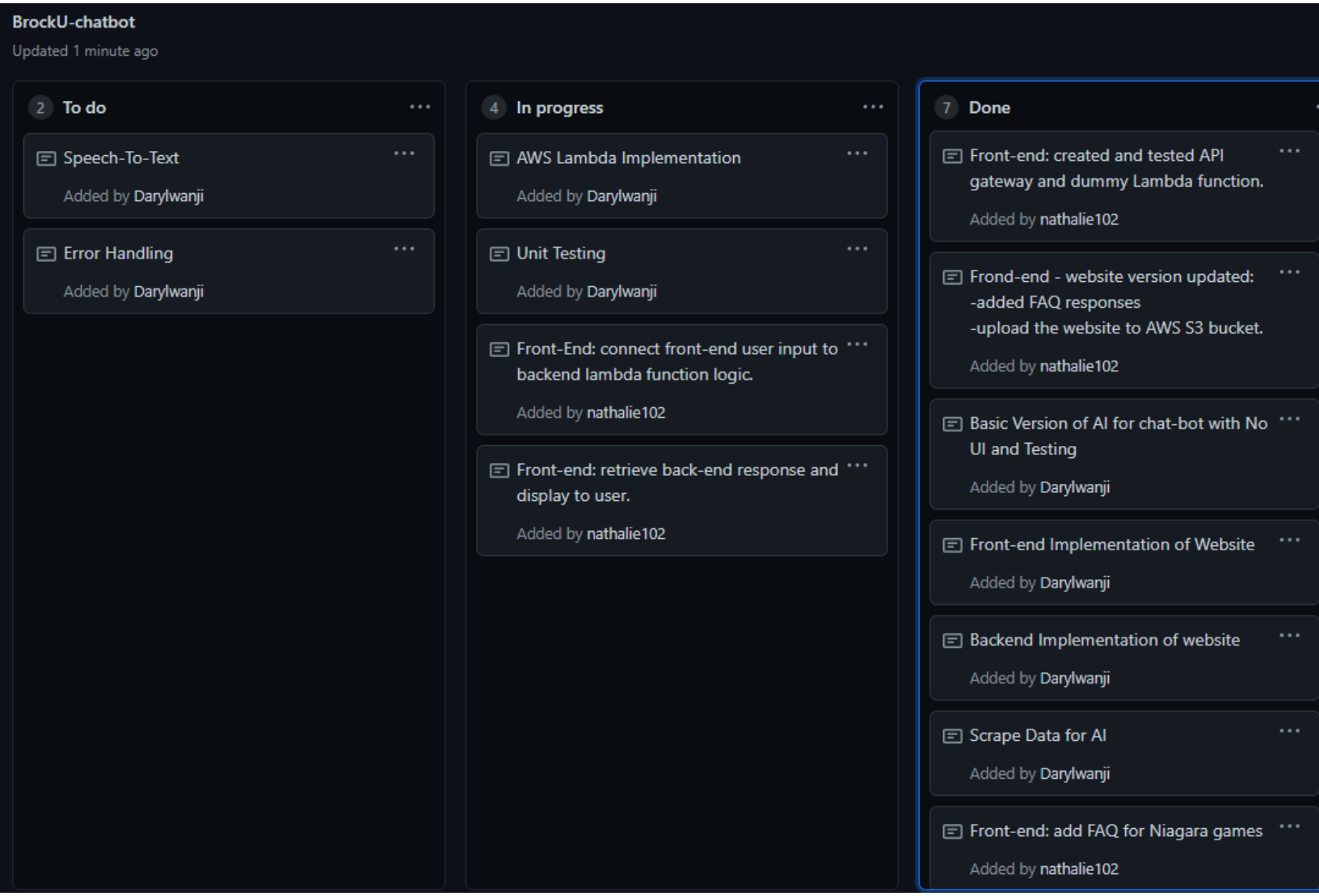
- Pros
    - The items to be worked on were noticeably clear.
    - The items that were completed were also clear.
    - People were able to work on what they wanted to.
    - Provided deadlines for people to work with.
- Cons
    - The time allotted to items was not optimized due to a lack of experience of scraping, using the AWS platform, and lack of Python knowledge.

Chatbot Progress

- Expectations vs Reality
    - The idea of a chatbot was amazingly simple, taking data that was scraped and reading a response, return an appropriate response.

Backlog

- Expected vs Done: What we wanted to do vs what we ended up doing.



Future Improvements

- Amazon Lex {voice & Text}
- Chatbot AI enhancement
- Better organization of. json elements.