EE/CprE/SE 491 BI - WEEKLY REPORT #1

September 16

Group number: sddec23-15

Project title: Discord Bot Integration for Replit Teams for Education

Client &/Advisor: Joseph Zambreno

Team Members/Role: Cole Mullenbach, Kristen Nathan, Kyle Rooney, Patrick Demers, Sophie Waterman Hines

- **Weekly Summary**

The team was able to get back on track where we had left off at the end of the Spring semester. We started by making large improvements to thread management and fixed multiple apparent bugs. The bot is also able to answer student questions from a store of existing questions and answers.

- **Past week accomplishments**

Kyle Rooney

Made great progress on how threads operate and students interact with the bot. Implemented a question command that will be used for students to input their questions. Along with the question, the student is able to optionally put a link to their replit as well. Fixed multiple bugs such as copying pictures from thread to thread, excessive pinging of the instructor, and fixed the order messages were copied. Lastly, I found many bugs in the code and recorded them as stories to be completed.

Kristen Nathan

This week I worked on integrating replit to the bot. I downloaded and began using selenium automate the process of the discord bot will take. The bot will need to login to its replit account in order to compile code and read error messages to help students. With Selenium I was able to create the steps needed for the bot to login to replit. Also discovered cookies will need to be cleared to make sure this process works and will look into making sure this is possible to automate.

Cole Mullenbach

Looked into the start of testing for the tread movement. Also started writing some little tests to see how the testing will exactly work. Also met and sat with Kyle and looked at some of the things for thread movement.

Patrick Demers

Worked to discover potential solutions to answering students questions. This is a tricky requirement since questions will be asked in different ways by every student. The solution that seems best is Algolia, which quickly sorts through a collection of JSON documents to discover which matches best. It allows for synonyms and typo-tolerance making it effective at finding relevant answers.

I was able to integrate the Algolia Python SDK with the Discord bot. Now, when a student enters a question, the bot is able to query Algolia to find an answer to the question. Then, a student can decide if they need more help. If so, a new thread is created between the student and professors.

I also worked on the closing/sharing of threads. When the professor is ready to share a thread with the class, the thread will now automatically be sent to the parent channel, instead of requiring the professor to enter a thread ID to send the messages to.

Sophie Waterman Hines

This week I worked with Kristen on creating the web driver to login, take students code, and link student accounts for repl.it. We made excellent progress and figured out the series of inputs needed in order to automatically conduct the login process. After we determined what inputs were needed on the Selenium IDE, I began constructing bot code that would recreate the login procedure from a discord command.

- **Pending issues**
  Private threads are visible by all users in the test discord server.

- **Individual contributions**

NAME	Individual Contributions (Quick list of contributions. This should be short.)	Hours this week	HOURS cumulative
Cole Mullenbach	Started looking at testing	10	10
Kristen Nathan	Worked on automating replit login.	10	10
Kyle Rooney	Worked on fixing threads, solving bugs, and finding bugs.	18	18
Patrick Demers	Discover Algolia, create database in Algolia, integrate bot with Algolia, improve share thread.	12	12

Sophie Waterman Hines	Worked on implementing the replit automation in python.	10	10

- **Plans for the upcoming week**
  - Sophie Waterman Hines: Finish implementation of the repl.it login system and begin working on pulling code.
  - Patrick Demers: Find a way to filter Algolia responses with a low confidence threshold.
  - Kristen Nathan: Continue working on the replit integration and bot automation with a focus on resolving the cookies issues.
  - Kyle Rooney: Figure out a way to answer multiple questions simultaneously.
  - Cole Mullenbach: Start writing tests for thread movement.

- **Summary of weekly advisor meeting**

We had two meetings with Dr. Zambreno and were able to show off two successful demos showcasing updated thread management and generic question answering. We also had the opportunity to ask about how to answer questions, close threads, the way we should ask questions, and how we need to configure the bot to Dr. Zambreno.