EE/CprE/SE 491 WEEKLY REPORT #7

Mar 20 – Apr 2

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**

Implementation of an initial bot is full steam ahead. Although this semester's purpose is to focus on design, the team has begun implementing the bot to have a jump start on next semester. The key features actively being worked on are automated deployment, ticketing, and integrating with Replit. Once these basic features are implemented, the team hopes to solicit feedback from our client and gain a better understanding of desired future work.

- **Past week accomplishments**

Kyle Rooney

Converted all of our commands over to slash commands because they are easier to use for both the coder and the user. Discovered how to pass links to a bot, which will be needed for integrating Replit. Was able to create and manage threads using the bot which will be used for sorting conversations with students regarding different issues. I was also able to refine all of my code for my personal bot and upload it to our repository to be used as our actual bot that we will be deploying to the CPR E 161 class.

Kristen Nathan

Researched about how to access Replit with a student given url in order to download and compile their files. Looked into authentication and getting access to the students Replit. This involved potentially creating a bot account to be able to access all student account in order to authenticate. Looked into keys and tokens we may need.

Cole Mullenbach

I got the bot to create a typing response so the student knows that the bot is working on their issue. I found and read through the code of multiple discord bots that have a ticketing system implemented to get a better understanding of how the team should implement the ticketing system needed. I also made a small drawing explaining how the ticketing system works on paper for others to understand easier.

Patrick Demers

An important aspect of a proper development cycle is the ability to use and test the current version of the application. To help facilitate this, I set up Docker on the virtual machine provided by the Electronic Technology Group. Then, I added a Docker compose file to the repository which specifies all the services to be used when deploying using Docker.

Whenever code is updated, the project now deploys the latest code to the server using a CI/CD pipeline. The proper way to use Docker for deployments is to push an image to a container registry and update the running image from the registry. For simplicity and privacy sake, I took a different approach. The GitLab CI/CD pipeline uses SSH to login to the remote server, pull the latest code, build the Docker image, and start the new Docker container. The application was modified to use environment variables which prevent hardcoding of sensitive values such as a Discord API token.

Sophie Waterman Hines

Unfortunately I was out sick this last week and was unable to contribute a lot of time to the project. However, the week before that I spent time analyzing what makes good UX and UI. A big concern for this project is making sure that users prefer the bot experience over directly contacting the class professor or TA. Therefore, having an engaging and easy user interface is an absolute must for this project. I assembled a list of important elements to UI (e.g. primary/secondary button distinction, consistency in UI elements, contrast, form cohesion). I also began drafting a styling guide to make keeping elements consistent easier.

- **Pending issues**

There are no current pending issues within our project at the moment.

- **Individual contributions**

NAME	**Individual Contributions** (Quick list of contributions. This should be short.)	**Hours this week**	**HOURS cumulative**
Cole Mullenbach	Found multiple examples and read through ticketing bot examples	13	29
Kristen Nathan	Researched Replit integration and authentication.	5	17
Kyle Rooney	Implemented most of the commands needed for the bot.	18	34
Patrick Demers	Setup Docker on virtual machine, create Docker	22	55

	Compose, create SSH keys for CI/CD, setup CI/CD deployment, convert bot to use environment variables for sensitive values.		
Sophie Waterman Hines	UI/UX research and styling guide	4	19

- **Plans for the upcoming week**
    - Sophie Waterman Hines: Authenticate with database. Add student interaction to link from Discord ID to Replit Username.
    - Patrick Demers: Help Sophie with database, create QA environment, and setup Grafana/Loki.
    - Kristen Nathan: Build out authentication and code fetching from Replit.
    - Kyle Rooney: Finish commands and implement ticketing with it. Keep working on the use of threads and how a bot can micromanage threads.
    - Cole Mullenbach: Start the implementation of the ticketing system.

- **Summary of weekly advisor meeting**

We did not meet with our advisor this week.