
EE/CprE/SE 491 WEEKLY REPORT #2

Feb 6 – Feb 12

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**

This week, the team met and aligned on goals for the next two weeks. We also set up our GitLab and created templates for asking Dr. Zambreno questions as well as organizing our meetings. Everyone on the team is continuing to learn more about Discord bots as it will be core to the project.

- **Past week accomplishments**

Kyle Rooney

Researched frequently asked questions within the CPRE 161 Discord. Created a chart of questions asked, the given answer provided by Dr. Zambreno, and if our bot could possibly answer the question or not. I have not completed the entire chart yet as there is a whole semester worth of questions in the discord. Here is my work so far: https://docs.google.com/document/d/1XpXBRl2zTLM0djbEO0CyzEVCSNTJXfUBb3eQjv1iiPw/edit?usp=sharing I also did some more research on generic discord bots to get a better overall understanding of what they are capable of and how they are typically implemented/used.

Kristen Nathan

Researched more about how to implement python discord bots and look at examples and integration into discord. Got access to CPRE 161 discord bot and looked at previously asked questions by students. Brainstormed examples that can be given by the bot when responding to students.

Cole Mullenbach

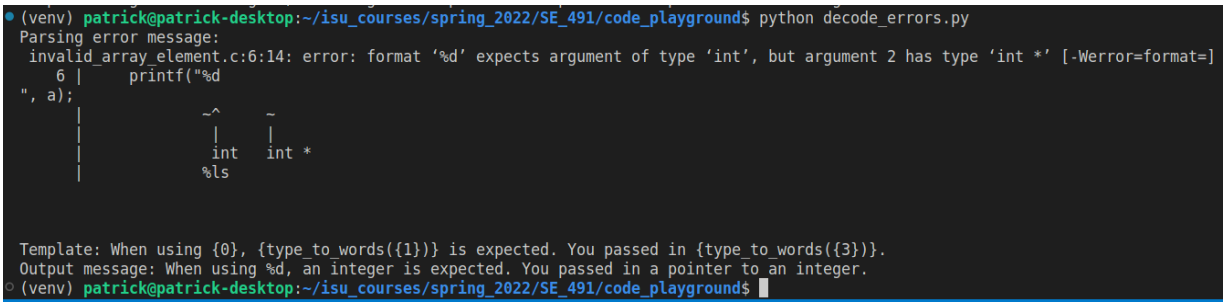
Looked at some of the questions on the discord for CPRE 161. Also had a good weekly meeting with everyone deciding how we are going to get started. I also looked at other discord bots again to see if I can find any easier way to implement replit. Also started looking into python a little bit more to get a deeper understanding of the language.

Patrick Demers

Furthering last week's explorations, Patrick continued to work on exploring error parsing techniques. When a TA or professor wishes to add custom handling for a new error message, there will be two steps:

1. Write a regex expression which can identify the error message.
2. Write a human friendly error message template using a specific syntax which can be parsed by the Discord Bot.

The most complicated portion of this process will be writing the error message detection regex. The plan is to have a variety of error messages already added to the Discord bot to alleviate pressure from administrators.



A sample input and output for decoding an error message.

A first implementation has been created to take the regex and friendly message and process them when an unknown error message has been emitted from the compiler. In the screenshot above, three portions are shown: the input error message, the human readable template, and the output message. The program has automatically identified the error from a regex expression and created a nice error message from the template.

Sophie Waterman Hines

This week I gained access to the CPR E 161 discord server to determine what kind of questions were generally being asked by students, and started to determine which questions were applicable to the discord bot (i.e. which questions would be easily answered by preprogrammed responses.) While a lot of the content in the server required more in depth conversation/dicussion, there were a variety of repetitive questions (how does X work, how do I accomplish X with relation to the repl.it interface) that can definitely be automated.

- **Pending issues**
    - Some questions from the CPRE 161 discord are very specific or logically which might lead to struggles in the foreseeable future.
    - Although the project is still in early stages, one foreseeable challenge is interacting with Repl.it as it does not offer an API. The proposed method at this point is using a web scraping tool or accessing file exports through Repl.it.

- **Individual contributions**

NAME	**Individual Contributions** (Quick list of contributions. This should be short.)	**Hours this week**	**HOURS cumulative**
Cole Mullenbach	Tried to get a deeper understanding of Python and looked at different python discord bots	3	5
Kristen Nathan	Did more research on developing a discord bot with python.	2	4
Kyle Rooney	Created a document with a list of past question/answers from the CPRE 161 discord.	3	5
Patrick Demers	Created a language grammar to parse message templates, requested a virtual machine from ETG, wrote test cases for language parser.	6	10
Sophie Waterman Hines	Analyzed questions on the CPR E 161 discord server and brushed up on python syntax and discord bot coding.	4	6

- **Plans for the upcoming week**
    - Sophie Waterman Hines: Help start bot development and examine security practices for discord bots.
    - Patrick Demers: Expand the existing error parsing implementation to compile a C source file and use the compiler output as input to the error parser.
    - Kristen Nathan: continue researching python implementation of a discord bot and look at examples. Start development of the bot.

    - Kyle Rooney: Continue looking through CPRE 161 discord and accumulating common problems/questions. Fully get a grasp of what type of questions we want to answer and what we can get started on immediately.
    - Cole Mullenbach: Find discord bots that also implement similar things to see if we can find an easier way for us to implement things.

- **Summary of weekly advisor meeting**
    - We did not have an advisor meeting this week. In the first meeting, Dr. Zambreno said he preferred to have meetings every other week or whenever the team has progress or questions. We also set up a common channel to create a weekly list of questions for Dr. Zambreno.