
EE/CprE/SE 492 Status Report 2

01/31/2025 - 2/12/2025

Group number: sdmay25-33

Project title: Interactive Embedded Systems Learning using the Prairie Learn Framework

Client &/Advisor: Phillip Jones

Team Members/Role:

Rachel Druce-Hoffman — Notetaker

Justin Cano — Technical Lead

Joey Krejchi — Quality Assurance

Caden Otis — Project Manager

Devin Alamsya — Consultant

● **Past week accomplishments**

- Joey: I had some issues using Git this week. I wasn't able to pull or commit anything and my eventual solution was just to clone the main branch from the repo and manually add my changes back. I then did a little further testing on homework 4 and merged it with the main branch. I went through all the available earlier homeworks (2,3,5, and 6) and made notes on the Beta test plan over things we can improve. There are mostly minor things like grammar in the prompt or misconfigured autograders. I then took Caden's feedback on homework 4 and made changes where necessary, mostly to the structure of the question panel. One of the questions had a large answer bank with some incorrect answers and that took some time to fix. Finally, I started working on homework 9 and adding my notes to the beta test plan. It seems that a lot of the questions from this set are not very developed.
- Caden: Similar to Joey, I also had a problem with Git. Whenever I tried to use Git for anything in the repo, I would get an error that a git object was empty. I also had to just reclone the repo to get Git to work again. I then tested HWs 2-6 and found some problems with HW 2 and HW 4. I'm not sure if HW 1 changes were ever pushed to the master branch or to the repo itself. Worked on fixing HW5_Q1. It turns out that the previous team just set up the problem (prompt and drawing), but never set up randomization or autograding of the problem. I have added in more information and updated the drawing so the problem can be solved, and also added in autograding

capabilities for the problem. To add in randomization, the drawing/image within the problem will have to be updated as well. I haven't figured out how to do that yet.

- Devin: I reviewed the changes that I had made to the questions and pushed all of my changes. They should now be merged to the master branch. I then looked at HW4 to find any issues with it, which were mainly just formatting. I also looked into HW7 a little bit to try and find any issues with questions to give us an idea of what needs to be changed or fixed inside of the questions that are currently implemented. I worked on making changes and fixes to problems found in HW 2 especially. I worked on H2_Q3, making the memory map format easier for students to understand, and worked on randomization and making the problem make more sense (I believe it is now less breakable or questionable). I worked on H2_Q2 and tried to figure out the error that Joey found, but on my local machine everything is running fine. It's just not working on the prod server for whatever reason. I worked on H2_Q4 and fixed any formatting issues there were and also updated the server.py to maybe make the question make more/cover more. And lastly I worked in H2_Q5, making it so that the students' code won't be checked if it uses string library functions.
- Rachel: **Week One:** Unfortunately I wasn't able to do much the first week, especially with the data collection templates as I had hoped. I continued learning about the steps for Canvas integration so that I can be effective once we have a test page. However, some things I will need to experiment with hands-on. I researched more qualitative data methods and am wondering if a focus group may be an effective way to get feedback from more students in a smaller amount of time. This could use similar or tweaked leading questions as a 1 on 1 interview would. **Week Two:** I created a feedback form on Google Forms for students to complete each time they test homeworks/questions. This will be open to all students and can be completed multiple times every time they use PrairieLearn for practice. I also created a talkthrough template for the team to collect students' comments during and after completion, and I made a rough draft of the introduction script. Continued research into Canvas LMS.
- Justin: Pulled our team's changes onto the prod server and began testing homeworks for the beta test. Worked through homework 1 to try and find any issues with it. Also had the same issue as Joey and Caden where I had to reclone my repo to allow git to work. Worked through homework 10 to find all issues in it and added it to the beta test plan document. Started working on making homework 10 question 1 parts A through C randomized. Also fixed the issues with the headings on all of question 10 that we discussed in our advisor meeting last week. Also fixed some minor grammatical errors.
- **Pending issues**
 - Waiting for a response from Dr. Rover

Due to where things are at with our testing and hearing from Dr. Rover, should we choose our most quality homeworks or questions to test, rather than trying to get feedback on all 12 sets? This will reduce redundant feedback and guide improvements to questions we don't beta test.

- Figure out how to print a message in the submission comments if the students' code doesn't compile due to forbidden functions (H2_Q5)
- Format
- Get access to last years server

- **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours past 2 weeks</u>	<u>HOURS cumulative</u>
Caden Otis	Dealt with a Git issue and tested HWs 2-6. Found some problems with HWs 2 and 4 that I will discuss with the team. Fixed HW5_Q1 to get it into a state where it is solvable and is autogradable.	11	16
Rachel D-H	Continued research into Canvas API, and PrairieLearn API. Researched more feedback methods. Created Google Form to collect feedback right after student testing. Created a talkthrough template and started the script. Canvas research	9	13
Justin Cano	Pulled Git changes to prod server. Worked through homework 1 to find any issues. Tested through homework 10. Fixed grammar errors in homework 10 and started working on making HW10 question 1 randomized.	9.5	13.5
Joey Krejchi	Fixed Git issues and merged homework 4. Started testing homework 1. I tested homeworks 2,3,5, and 6, applied the feedback from homework 4, and started testing homework 9.	12	16
Devin Alamsya	Merged my changes to main. Tested HW4. Looked at HW7. Worked on making fixes to HW 2.	11	16

- **Plans for the upcoming week**

- Joey: I will continue to debug homework 9 and will help wherever needed on the earlier homeworks to help prepare for the beta test.
- Caden: I will continue to work on HW5_Q1 so that it is fully randomizable with the rest of the GPIO ports. I will also fix the rest of the mistakes in HW 5.
- Devin: My plans for the upcoming week are to be of help wherever I can be in fixing any more homework problems. I will also start looking more at HW 7 and 8 to identify any issues with the current implementations of the questions.
- Rachel: I will edit the form as needed. I will add to the talkthrough script to include instructions for the student to access the PL assignment, and make an instruction sheet to go on the Canvas for students that use PL for practice but don't interview.

- Justin: Finish getting homework 10 question 1 randomized and move onto another question.

- **Summary of weekly advisor meetings**

For our advisor meetings, we discussed the results that we found from testing HWs 1-6 for our upcoming beta test of the project. We also showed our advisor the changes that we made so far to HWs 1-6 and if we needed to make any more refined changes. We also talked about methods for obtaining student feedback when we release the beta version of our project.