# SE/EE/CPR E/CYB E 492 – Spring 2024
# PrairieLearn Senior Design Team
# Week 19 Report

*April 6 - April 12*
*Faculty Advisors: Phillip Jones*

## Team Members:

Chris Costa - Auto-Drawing
Matt Graham - Emulator
Mitch Hudson - Technical Lead, ARM Assembly Auto Grading
Carter Murawski - Note Taker, Emulator
Tyler Weberski - Project Manager, Auto-Drawing
Andrew Winters - ARM Assembly Auto Grading

## Summary for Progress this Week

- Created script for emulator configuration, setup, and run
- Updated emulator writeup: Emulator Writeup

## Past Week Accomplishments

- Updated emulator writeup: Emulator Writeup
- Simplified emulator terminal output
- Configured emulator to use TM UART names
- Python register config system updates
- Wrote register rules for ADC
- Finished midterm bi-weekly report
- Continued work on the QEMU emulator
- Moved the stuff from other GitHub repos to GitLab
- Started work on QEMU TM4C123GH6PM writeup
- Fully implemented and base TM4 processor in QEMU
- Fully implemented ADC in QEMU
- GPIO is in testing phase in QEMU

## Individual Contributions

| Team Member | Contribution | Weekly Hours | Total Hours |
|---|---|---|---|
| Chris Costa | Figuring out hw5Q1 randomization and looking for different ways. Worked on some documentation | 5 | 105 |
| Matt Graham | Created a script to configure the emulator, update the C file, and run the program. Updated emulator writeup. Continued experimentation with UART | 6 | 110 |
| Mitch Hudson | Started work on QEMU writeup for tm4c Implemented base tm4 processor in qemu Implemented ADC in qemu | 36 | 285 |

|  | Wrote and started testing GPIO in qemu TODO: Timer, UART, finish GPIO |  |  |
|---|---|---|---|
| Carter Murawski | Helped Matt test the emulator script. Started to keep track of what documentation we need to create. | 5 | 100 |
| Tyler Weberski | I went through debugging issues I was having with C/C++ autograder and PrairieLearn. Was able to figure out the issue and confirm that C++ code written will be able to be implemented in PrairieLearn. | 10 | 108 |
| Andrew Winters | Started working on the randomization for Homework 12 Problem 1 a and b. Hoping to have it implemented soon | 5 | 92 |

## Comments and Extended Discussion
- Still waiting on Dr. Jones to send the emulator UART writeup

## Plans for Coming Week
- Move to working with UART on the emulator

- Finish GPIO testing with QEMU

- Write and test UART code

## Summary of Weekly Advisor Meeting
- Integrate Mitch's tech into HW 12 and allow leave blank for non-initialized registers
- Make a list to keep track of documentation
- List created from both scratch and from repo
- Trim branches down to just the master branch in git, or have multiple branches with a clear operating procedure