EE/CprE/SE 491 WEEKLY REPORT sdmay25-29

November 15, 2024 - November 21, 2024

Group number: 29
Project title: Implementation of the ABC using modern technology
Client &/Advisor: Professor Alexander Stoychev
Team Members/Role:
Connor Hand - Client Interaction and Team Organization
William Mayer - Meeting Time Tracking and Note-Taking
Peter Hurd / Noah Butler / Zach Scurlock - Testing and Individual Component Design
Peter Hurd - Budget Handling

Weekly Summary

This week, our group continued working on several tasks. We got our adder-subtractor circuit ready to order on KiCAD and will be doing so soon. We furthered our KiCAD skills by working on the circuit and watching tutorials for designing PCBs. We started designing the base converter circuit and breadboarding it. We also continued work on our Android UI and researched to gain knowledge on how to create custom Views in Android. We have also continued work and made significant progress on our Gaussian simulation.

Past week accomplishments

· Connor Hand: Created and added makers mark to adder-subtractor PCB and edited footprints to use stock KiCad ones. Watched a few KiCad PCB design tutorials and added writing to the binary pager generator to make it easier to understand.

· Zach Scurlock: Peer-reviewed adder-subtractor schematic and PCB design and continued developing punch card Android UI

· Peter Hurd: Worked with Connor to further design the Adder-Subtractor PCB. Continued design work on the tester PCB for the Adder-Subtractor. Began breadboard prototype for base conversion circuit.

· William Mayer: I completed the Java Gaussian program, which is able to solve 2, 3 ,or 4 equation linear systems. I researched how the user operated the machine.

· Noah Butler: Peer-reviewed adder-subtractor schematic and reverse engineered the bit-layout of the decimal to binary drum

Individual contributions

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Connor Hand	Created and added maker's mark to PCB and changed footprints. Watched PCB design tutorials. Added text to binary page generator.	6	43
Zach Scurlock	Peer-reviewed adder-subtractor schematic and PCB design and continued developing punch card Android UI	5	41
Peter Hurd	PCB design work on Adder-Subtractor Module and Tester, circuit prototyping for base conversion	6	45
William Mayer	Finished Gaussian program. Component Research.	12	46
Noah Butler	Peer-reviewed adder-subtractor schematic and reverse engineered the bit-layout of the decimal to binary drum	7	42

Plans for the upcoming week

· Connor Hand: I will fill out the required sections on our website. I will also continue to work on various PCB design tasks.

· Zach Scurlock: Continue working on Android punch card app

· Peter Hurd: Finalize first revisions for both Adder-Subtractor module and tester PCBs. Pivot new circuit design for base conversion based on new information discovered in this week's meetings.

· William Mayer: I will to the already existing Gaussian program by looking into more coefficients and updating scaling in floating point input and outputs. Will start up a 3-4 equation user manual relating to the original machine.

· Noah Butler: I will finish the reverse engineering of the decimal binary drum and begin working on the section it will have in the final project review

Each group member will be filling out their respective member info section on our website.

Summary of weekly advisor meeting

In our weekly meeting with Stoytchev we revised new information that we each brought to the table. We discussed design aspects of our PCB's. Including: having the board size related to the golden ratio, and name ideas for our project. We also understood that one of the components, the drum, pulled and stored decades in a way we originally didn't think it would. We recognized that we need to jump the gun on our end of semester presentation and ordering parts before Thanksgiving.