

EE/CprE/SE 491 WEEKLY REPORT sdmay25-29

October 4, 2024 - October 10, 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 / Zachary Scurlock - Testing and Individual Component Design, Peter Hurd - Budget Handling

○ **Weekly Summary**

This week, we continued our research into specific components. We were also able to order parts for prototyping and have since received most of them. We will be assembling the adder-subtractor unit of the ABC with them. The project is still moving along smoothly with no large changes.

○ **Past week accomplishments**

- Connor Hand: Further researched the adder-subtractor and designed it on an app called Digital which simulates digital logic and outputs the boolean algebra equation and truth table.
- Zach Scurlock: Researched Flip-Flop Implementation
- Peter Hurd: Researched digital circuit design and possible implementations for key memory units (Base 2 conversion drum, Keyboard and Counter drums), logged parts coming in from last week's order
- William Mayer: Looked into punch card standardization (input) and more Gaussian
- Noah Butler: Read into implementations for Adder Subtractor modules

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Connor Hand	Further researched adder-subtractor	1	10
Zach Scurlock	Researched Flip-Flop Implementation	1	8
Peter Hurd	Researched digital circuit design and memory implementations	2	11
William Mayer	Research components	1	8
Noah Butler	Research components	1	8

○ **Plans for the upcoming week**

- Connor Hand: Will continue modeling the adder-subtractor with more detail (having multiple in a row to confirm functionality). Will also read more on how the addition was performed (which drums stored what).
- Zach Scurlock: Prepare for prototyping
- Peter Hurd: Start prototyping memory-based circuits (EEPROM, SRAMs), continue tracking parts and resources as they come in from ETG, may start building a second parts order as breadboard prototypes get underway.
- William Mayer: Developing a program for the user to input equations like an operator, review 281 notes
- Noah Butler: Continue researching and playing with Adder modules in preparation for the prototyping

○ **Summary of weekly advisor meeting**

This week at our advisor meeting we further discussed general ideas around components of the ABC. We had a guest with us who worked on the replica team in the 90s, Lee Harker. Also, we went into more detail on the adder-subtractor unit and will be building a prototype of it soon.