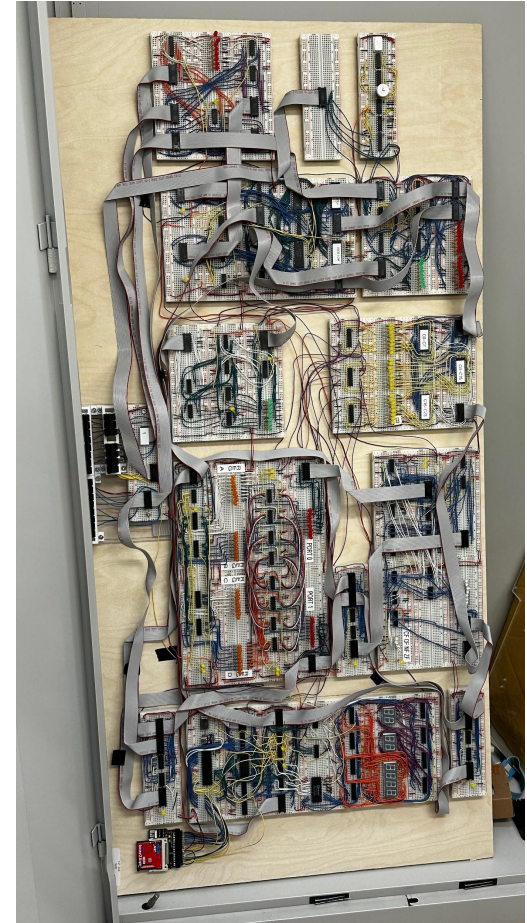# i281 CPU

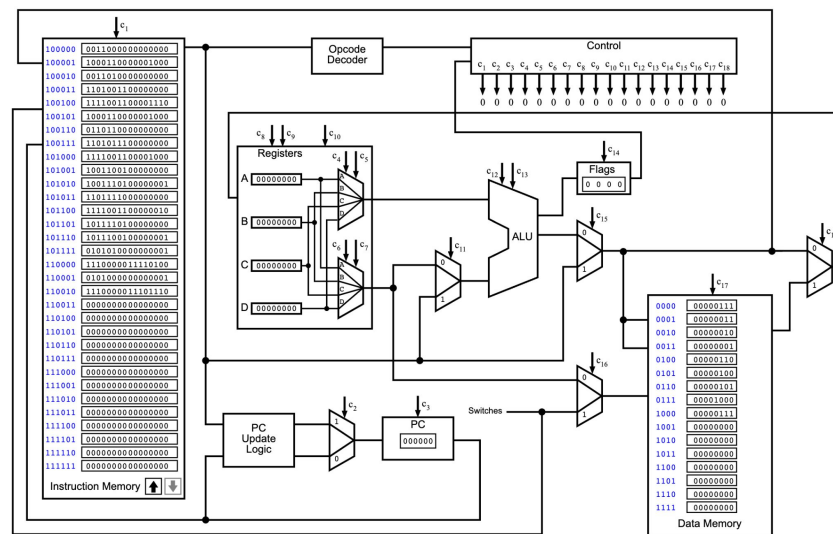Ariana Dirksen, Gigi Harrabi, Tessa Morgan, Ethan Uhrich

Overview

- Utilize the existing i281 CPU designed by previous senior design teams
- Assemble another microprocessor and document the process
- Design, test, and document 10 lab activities for a new class
- Create and implement several outreach activities
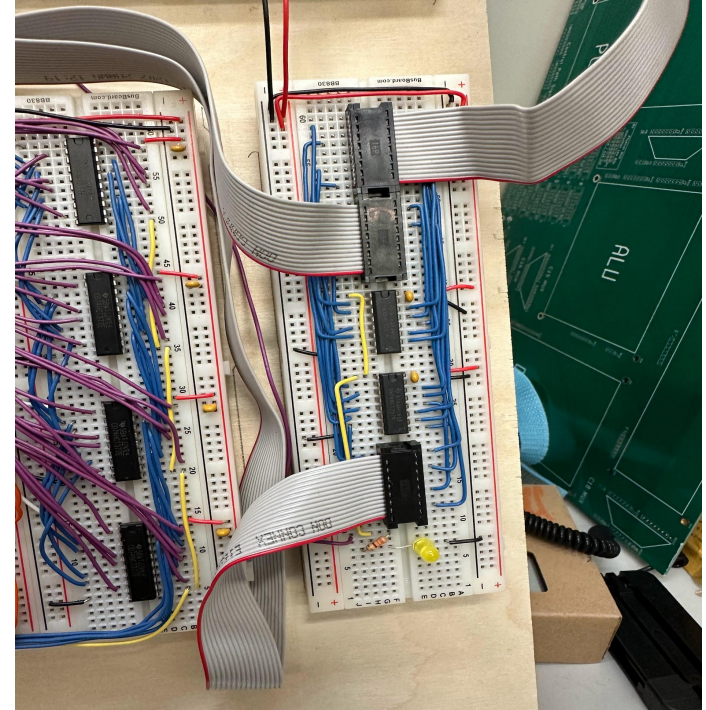- Problem Statement - Design and implement a set of labs and activities based around the i281e CPU

Related Products

- 281 Curriculum

- 288 Curriculum

- 381 Curriculum

Market Gap

- The new lab activities will be used for a class between CprE 2810 and CprE 3810
- This class was originally meant to exist but was never implemented
- Will introduce students explicitly to coding in assembly with a custom CPU without needing to design the architecture
- More closely bridges the gap for students between hardware and software

Labs - New Ideas

- The labs are mainly catered towards an audience ranging from middle schoolers to sophomore year college students
- Even though labs consist of detailed instructions, they are made to be a challenge according to the demographic the lab is given to
- For example, the labs will consist of interactive games or solving a puzzle

Conclusions

- We are able to recycle the idea of building upon ideas as the labs progress
- The existing labs are in a template format that can be reused for this lab
- There are similar classes that currently exist but the labs we are developing will supplement the material taught in those potentially culminating in a new class