
EE/CprE/SE 491 WEEKLY REPORT 8
11/15/2024 – 11/21/2024
Group number: sdmay25-15
Project title: Millimeter-wave 3D Scanner
Client &/Advisor: Mohammad Tayeb Al Qaseer
Team Members/Role:
Nathan Reff
Luke Post
James Peterson
Daniel Ripley-Betts

Week's Overview

At this point in the semester everyone is looking forward to Thanksgiving break. The progress of the physical build has been slow, or feels slow due to the nature of the work left. We have not been stopping with the finish line in sight, which will leave us plenty of time to troubleshoot in the end. We were also slowed somewhat by a need for more printed parts. Some more insights were gained about the design of a potential GU web interface.

- **Key Accomplishments:**

- Nate: did more work on the wiring of the electronics, and prepared for final stretch on the scanner
- Luke: PCB is finally working correctly. Spent a lot of time testing it and tracing back the errors.
- Daniel: Motion system (scanner) is ready for final steps - attaching the end stops to frame, connecting a + b motors and their cage, install newly printed mounts for endstops and PCB sensor, mount one more wire cage. Then we'll be ready for testing without the sensor attached
- James: Continued work on the UI, looking into and trying web based options for the graphics option of the UI. Researching sending G-Code serially through the PI.
- Collectively: continued work on Scanner and UI research

- **Challenges/Issues:**

- Nate: I am getting increasingly busy as the semester goes on with classes. Struggling to find time to work on the project
- Luke: None anymore. PCB was not working correctly but got it figured out.

- Daniel: none!
- James: None

Individual Contributions

Name	Individual Contributions	Hours this week	Hours cumulative
Nate	Continued work on the wiring of the scanner in the lab and prepared for final steps in finishing the scanner	6	47
Luke	Spent all the time this week testing the PCB. Discovered that the level shifter was not on correctly and a resistor was not completely soldered. There was also a short in the connector between boards.	5	46
Daniel	In lab completing what feels like nothing because there are so many little things that make no visible difference in the build after the physical is done.	6	47
James	Continued UI work and research into control commands,	6	47

Upcoming Week's Plan

- Nate: THANKSGIVING BREAK - work on design document and website.
- Luke: THANKSGIVING BREAK - fill out the design document more. Especially the testing portion. Also maybe start building the website.
- James: THANKSGIVING BREAK - Eat lots of yummy food... oh and keep looking into G-Code control commands through serial ports.

- Daniel: THANKSGIVING BREAK - make a comfortable amount of headway on the remaining Testing, Implementation, Professional Responsibilities, Closing Material, and Team sections (subject to change)

Advisor Meeting Summary

- **Key Discussions:**
 - Molex crimping for a professional wiring look
- **Action Items:**
 - none