sdmay23-13: Prosthetic arm

Week 12 Report
November 7 - November 13

Team Members

Erik Raman — *Software*
Jack Vetsch — *Electrical*
Jacob Eisbrenner — *Mechanical/ Electrical*
Scott Bolek — *Electrical*
Sean Gray — *Software/Electrical*
Jeremy Wallace — *Electrical*
Leo Forney — *Software*

Summary of Progress this Report

Mechanical CAD files sent out to 3D print shop currently waiting for parts to arrive. The tens unit was successful in helping find the best location to place EMG pads. The touch-sensing circuit is being integrated into the motherboard design to help compact electronics. USB C is being used for data transfer and for charging of the battery. The software team is going through the proper protocols and prepping the code base with I/O. The electrical team is setting up the BMS circuit to work with the new plug. BMS and motor driver PCBs have been finished.

Pending Issues

Timing issues with group meetings have continued to be an issue but have gotten better as the weeks continue. In the following weeks will become increasingly difficult to make progress with the Fall break coming up as well as final exams and other presentations and projects.

Plans for Upcoming Reporting Period

Get the final BOM ready for the motor driver circuit as well as any other necessary parts for the electrical system. Order parts and hope to begin working on 3D hand assembly. EMG testing will continue for more concrete data analysis and proper calculations for movement will be worked on and discussed by the entire team.

***Not Finished need to fix soon**

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Erik Raman	Developing high level software solution for microcontroller	6	44
Jack Vetsch	Signal processing progress and EMG testing	4	38

Jacob Eisbrenner	Work on motor driver board, electrical integration into the motherboard, and sketches/ hand design of the forearm.	10	78
Scott Bolek	Amplifier and battery system design as well as learning Kicad	7	45
Sean Gray	Developing high level software solution for microcontroller	6	46
Jeremy Wallace	Amplifier design and document management	7	55
Leo Forney	Developing high level software solution for microcontroller	8	48

Gitlab Activity Summary

Nothing to report.