

## **sdmay23-13: Prosthetic arm**

Week 9 Report

October 17 - October 23

### **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**

Work continued on mechanical hand CAD design with the completion of the thumb joint and fingers. The amplification circuit was breadboarded and tested without EMG signals while medical pads are on the way. The motherboard schematic was finished and basic PCB work began. The BMS circuit was completed and the PCB design went into full effect. The software team continued to boilerplate embedded code generators for libs and driver generation.

### **Pending Issues**

Boilerplate embedded code generator work. Research in potential calibration methods for the arm. Timing issues with group meetings have continued to be an issue but have gotten better as the weeks continue.

### **Plans for Upcoming Reporting Period**

Finish mechanical hand design. The motor driver circuit schematic is finished. Integration of touch sensors into mechanical and motherboard design. PCB design finished for BMS circuit. First raw data tests with medical pads to get an EMG signal.

### **Individual Contributions**

<b>Team Member</b>	<b>Contribution</b>	<b>Weekly Hours</b>	<b>Total Hours</b>
Erik Raman	Boilerplate embedded code generator work. Research in potential calibration methods for the arm.	6	28
Jack Vetsch	Work on schematics and parts	6	28

## Senior Design Weekly Status Report

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	selection for motherboard and amplification circuit.		
Jacob Eisbrenner	Mechanical CAD work for hand parts and motors chosen.	10	48
Scott Bolek	EMG amplification circuit work and breadboard work. PCB design of power board and battery research.	6	28
Sean Gray	EMG amplification circuit work and breadboard work. PCB design of power board and battery research.	6	28
Jeremy Wallace	EMG amplification circuit work and breadboard work. BMS circuit breadboard work and design.	8	34
Leo Forney	Boilerplate embedded code generator work. Research in potential calibration methods for the arm.	6	28

### Gitlab Activity Summary

Nothing to report.