

## **EE/CprE/SE 492 BI-WEEKLY REPORT 3**

**February 17th – March 3rd**

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**Group number: sdmay23-13**

**Project title: Prosthetic Arm**

**Client &/Advisor:**

**Dr. Santosh Pandey**

**Team Members/Role:**

**Erik Raman — Software**

**Jack Vetsch — Electrical**

**Jacob Eisbrenner — Mechanical/ Electrical**

**Scott Bolek — Electrical**

**Sean Gray — Software/Electrical**

**Jeremy Wallace — Electrical**

**Leo Forney — Software**

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### **Bi-Weekly Summary:**

*Finished work on recording EMG signal from medical pads. Motherboard redesign was sketched out and traced within KiCAD. Research finished on BMS circuit design and work began on integrating into designs. Motor driver board sketch and KiCAD design are well underway.*

### **During the time period:**

#### **Leo and Erik:**

Worked on setting up simulations and scenarios for the motors that would be comparable to the signals they would receive from the microprocessor and amplifier being generated by the emg pads.

#### **Jacob:**

Finished work on EMG pad designs and helped successfully pull signal. Helped work on driverboard layout.

#### **Jack:**

Integration of BMS and continued to work on the driver board in KiCad for fabrication.

#### **Jeremy and Sean:**

Continued to work on the signal processing from the emg pads. The amplifier circuit originally used was scrapped and reworked. Also development of a second amplifier that will aid in signal reception completed successfully.

#### **Scott:**

Updating of website and documentation as well as categorization of BMS data

### **Pending issues**

From now the only pending issue remaining seems to be scheduling time to finish integration of systems

### **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this 2 week period</u></b>	<b><u>HOURS cumulative</u></b>
Jack Vetsch	BMS circuit, Driver board	12	78
Jacob Eisbrenner	Forearm and Hand design, Motherboard, EMG, Driver board	20	168
Erik Raman	Software design, Motor control	2	68
Jeremy Wallace	EMG signals, amplifier design, BMS research, Documents	10	95
Leo Forney	Software design, Motor control	6	84
Sean Gray	EMG signals, amplifier design, Software design	6	74
Scott Bolek	Document updating	6	66

### **Plans for the upcoming weeks :**

- Continue work on integrating BMS with Motherboard.
- Finish running simulations on our motors.
- Finish work on the forearm design of our arm.
- Finalize any pending orders.
- Start looking into the implementation of the different aspects of the project.