

## EE 492 Progress Report 5

MAY 15-26

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**Advisors:** David Jiles and Ravi Hadimani

**Client:** Iowa State University/Magstim Company LLC

**Members (roles):** Jessica Staley (GUI/Leader), Saurabh Minocha (SEMCAD/Webmaster), Anqi Deng (3D Design & Modeling/Communication), Yixiao Shen (Comsol/Key concept holder)

**Project Title:** Design and Development of Adjustable Halo coil for Non-Invasive Treatment of Brain Disorders

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### Summary

The main goal this period was to solve issue of our project and assemble the whole system. And we aimed to make a transparent case to hold all of our circuit boards together. We also need to come up with a poster for our presentation.

### Meeting notes

04/08 Group meeting with advisor

**Duration:** 60 min      **Members Present:** All

04/10 Group meeting with group

**Duration:** 60 min      **Members Present:** All

04/15 Group meeting with advisor

**Duration:** *60 min*                      **Members Present:** *All*

04/17 Group meeting with group

**Duration:** *60 min*                      **Members Present:** *All*

### **Purpose and Goals:**

Since we got issue for the side actuator that we can only get the actuator move down rather than both direction, so we aimed to solve this issue. We also presented our personal progress for the previous week every week to our advisor. The other goal this period was to submit a poster of our project.

### **Achievements:**

1. Submitted poster
2. Troubleshoot the movement of actuator
3. Assembled the actuator to our system

### **Pending issues**

1. Calculate the rotation steps for specific angular movement
2. Get simulation done
3. Finish our final document and prepare for our final presentation

### **Plans for next period**

Jessica: Finalize all code and add images to the GUI.

Saurabh: continue SEMCAD simulations and rotations.

Anqi: Design and change a new element our system to make the helmet fasten, calculate the steps for rotation, and finish the final document and laminate the poster.

Yixiao: Assemble the modified structure from Lee, and see if that works good or not. write more code for Arduino.

### **Contributions (individual)**

Jessica Staley: Got the necessary H-bridge to control the rotational stepper actuator.

Began wiring the actuator to the arduino and started testing it.

Saurabh Minocha: SEMCAD simulations for -10 and -15 degrees.

Anqi Deng: Attended the meetings, help to troubleshoot the actuator movement, assembled the final standing system and wrote progress reports and poster..

Yixiao Shen: Attend the meetings, give idea of the design. Receive the new structure from Lee and assemble that, got new problem with the modified structure, Send to Lee to modify again.