

## EE 492 Progress Report 3

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 find ways to solve our existing problem and get all parts we need to prepare to testing our linear actuator and wireless communication.

### Meeting notes

03/04 Group meeting with advisor

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

03/06 Group meeting with group

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

03/13 Group meeting with group

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

**Purpose and Goals:**

We presented our personal progress for the previous week every week to our advisor and talked about the issue we got in our individual work and tried to find ways out.

**Achievements:**

1. Got the side linear actuator ordered
2. Found possible ways to check the wireless communication part
3. Researched possible element for the connection between the side linear actuator and the halo coil

**Pending issues**

1. Try the possible ways to see if the problem is on the module
2. Assemble the linear actuator when it arrives

**Plans for next period**

Jessica: Work on the Bluetooth communication and finish rotational code.

Saurabh: Continue SEMCAD simulations and rotations.

Anqi: Modify the helmet structure when we get the side linear actuator and help to test the linear actuator for how long it should be move to make a 5 degree rotation of the coil. Write the progress reports and document.

Yixiao: Do the new structure design, Ask Anqi to create a 3D graph for my structure design. When get the design graph, put it into making progress to electrical shop.

### **Contributions (individual)**

Jessica Staley: Fixed the wixel communication and worked on the rotational code.

Saurabh Minocha: SEMCAD simulations for halo coil rotation of 10 degrees, 15 degrees, 20 degrees.

Anqi Deng: Attended the meetings, draw the block diagram of our project, tried to find the alternative actuator and the support element, gave idea about possible way to solve the issue to the wireless module.

Yixiao Shen: Attended the meeting, give idea for the group. test and modify the power supply to connect the three major components of our boards. Thinking idea about the new structure designation.