

# EE 491 Weekly Report    MAY 15-26    Week 8 (10/20/14-10/26/14)

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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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## Weekly Summary

The main goal this week was to keep brainstorming ideas for our new design and make everything from previous group working, and also distribute workload for the design document.

## Meeting notes

10/20    Group meeting with advisor

**Duration:** 60 min

**Members Present:** All

### Purpose and Goals:

We met to talk about the new design idea we group members came up with, and we showed the idea to advisor for suggestions. We also presented our individual weekly progress to advisor to get feedback. It was an effective meeting as we got to know the pros and cons of the idea we had thought of, and at the same time we understood the shortcomings of the current design. Advisor expanded on possible design upgrades.

### Achievements:

1. Had a new design determined.
2. Found out design issues we should focused on.

## 10/21 Group meeting with members

**Duration:** 30 min

**Members Present:** Jessica, Anqi, Yixiao

### **Purpose and Goals:**

The purpose of this meeting was to talk about the contents of design document, and to distribute tasks for an efficient result.

### **Achievements:**

1. Divided the design document tasks in four parts related to our roles and previous work.

## 10/24 Group meeting with members

**Duration:** 60 min

**Members Present:** Saurabh, Anqi, Yixiao

### **Purpose and Goals:**

The purpose of this meeting was to talk about our website, such as the page layout and component's position. And we also got some researches on possible linear actuators we may use in the future.

### **Achievements:**

1. Unanimous approval with our website look.
2. Design document in progress.

## **Pending issues**

1. Find proper coil holder to make sure the Halo coil can rotate passively.
2. Finish our respective parts of design document and merge.

## **Plans for next week**

Jessica Staley: Troubleshoot remote start addition to GUI, continue to update GUI layout.

Saurabh Minocha: Get done with the website, Continue with simulations,  
Continue learning python, think of design solutions for our model.

Anqi Deng: Revise the model I build, and keep researching for useful components.

Yixiao Shen: Revise the COMSOL files, helping structure design with Anqi.

### **Contributions (individual)**

Jessica Staley: communication between members and Professors, attended the meetings, gave ideas of the report, wrote part of the design document, reworked layout of GUI, began adding remote start to GUI ( 6.5 hrs.)

Saurabh Minocha: attended the meetings, contributed in writing the report, contributed in writing the design document, learning Python programming, communication with graduate student working on SEMCAD, research on TMS, website building, SEMCAD simulations for an 8 figure coil, got my hands on a SEMCAD user manual (9 hrs.)

Anqi Deng: Drew the whole view of our new design, modified the helmet to suit our new design, researched possible coil holder, finished my own part of design document on time, compiled the report, attended the meeting, and gave ideas of the report (8 hrs.)

Yixiao Shen: Get acquainted myself with Comsol simulation software. attended the two group meeting, gave ideas of the report, contributed in writing the design document, meet with COMSOL masters to solve problems of my files. Give idea of structure design. (8hrs.)

### **Contributions (Total)**

Jessica Staley: 52hrs

Saurabh Minocha: 52hrs

Anqi Deng: 53hrs

Yixiao Shen: 53hrs.