EE 491 Weekly Report MAY 15-26 Week 12 (11/17/14-11/23/14)

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

---

Weekly Summary

The main goal this week was to define works to keep up with the Gantt chart and talked about what we should present in our final presentation.

Meeting notes

11/10 Group meeting with advisor

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

Purpose and Goals:

We met to talk about the past week's progress. We presented our individual works to our advisor and found out the expectation from our advisor and pending issues we should work on.

Achievements:

1. Shared everyone's progress.
2. A hardware part shared.

11/21 Group meeting with members

Duration: *40 min* **Members Present:** All

Purpose and Goals:

The purpose of this meeting was to talk about our final presentation. We went through the guidelines of our presentation and checked what contents we should focus on in the remaining time. We also checked our Gantt chart to keep up with our plan.

Achievements:

1. Detailed contents decided for individual parts of our final presentation.

Pending issues

1. Ask advisor about some parts in our final presentation.
2. Get our planned things done by the end of Thanksgiving.

Plans for next week

Jessica Staley: Finalize rotation code, continue working on remote start for treatment.

Saurabh Minocha: Do complete simulations for halo coil on a heterogenous model for different angle of rotation and record results. Start looking into python code for improvement in simulations.

Anqi Deng: Make a real model with every part of our new design, modify 3D printing part accurately, and prepare for the final presentation.

Yixiao Shen: Prepare for the presentation; simulate the new design in terms of heat and force use COMSOL.

Contributions (individual)

Jessica Staley: communication between members and Professors, attended the meetings, gave ideas of the report, found acceptable linear actuator, started designing a way to attach actuator, redesigned GUI, coded in new buttons on design (10 hrs.)

Saurabh Minocha: attended the meetings, helped compile the report, Semcad simulations for halo coil on heterogenous head model, met with Erik to talk about simulations and python script to improve them. (8 hrs.)

Anqi Deng: Modified the animation of Halo coil, assembled the ordered coil holder, compiled the report, attended the meeting, and gave ideas of the report (7 hrs.)

Yixiao Shen: Simulate the heat and force of our design in COMSOL, attended the two group meeting, gave ideas of the report, prepare for the presentation. Meet with COMSOL masters to solve problems of my files. Give idea of structure design. (7hrs.)

Contributions (Total)

Jessica Staley: 90 hrs
Saurabh Minocha: 91 hrs
Anqi Deng: 90 hrs
Yixiao Shen: 90 hrs