

EE 491 Weekly Report MAY15-26 Week 7 (10/13/14-10/19/14)

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 brainstorm new ideas and come up with possible improvements in the design. We even talked about the possibility of an entirely new design. Another goal was to try to get the existing code work on our own computers.

Meeting notes

10/13 Group meeting with advisor

Duration: 60 min

Members Present: All

Purpose and Goals:

We met to brainstorm ideas for a better design which would be more effective as well as professional. We met with our advisor along with two students who are familiar with TMS and SEMCAD. We also shared our individual weekly progress reports with our advisor and the two people on his team, to gain feedback as well as thoughts on future goals.

Achievements:

1. Brainstormed ideas for a new design.
2. Future tasks determined.

3. Expanded on possible upgrades to design

10/17 Group meeting with members

Duration: 60 min

Members Present: All

Purpose and Goals:

Continued to discuss about ideas for the new design, and talked about possible ways to hide the exposed wires and circuit board. Another important purpose was to talk about the design document which is due in a week's time.

Achievements:

1. Brainstormed ideas; one possible solution is to get a linear actuator on the cord of the Halo coil to make the whole coil rotate as desired.
2. Talked about the design document and what needs to be done.

Pending issues

1. Keep reading about TMS and gain more information.
2. Get the computer with SEMCAD fixed.
3. Get website ready by next week.

Plans for next week

Jessica: Add in a remote start to the GUI. Continue to redesign the GUI to make it look cleaner.

Saurabh: Meet with Eric to talk about SEMCAD. Continue learning Python and reading papers. Get the website to work.

Anqi: Try to model a new standing system after we have the ideas, read literature about TMS, and modify the existing model of helmet.

Yixiao: Continue working on COMSOL software and writing the project plan document.

Contributions (individual)

Jessica Staley: communication between members and Professors, attended the meeting, gave ideas of the report, got the current design to run (9hrs.)

Saurabh Minocha: attended the meetings, helped write this report, Met with Eric, machine still not working, Read papers on TMS and SEMCAD, tutorials on Python, Tutorials and introduction to SEMCAD (7hrs.)

Anqi Deng: Helped to test the existing hardware to make it work, got a rough model of one of our new idea, researched motors and cases may useful, compiled the report, attended the meeting, and gave ideas of the report (8.5hrs.)

Yixiao Shen: Create some basic module using COMSOL, comp up the idea of design and building the structure. do hardware research, attended the meeting, gave ideas of the report (7.5hrs.)

Contributions (Total)

Jessica Staley: 43.5hrs

Saurabh Minocha: 41hrs

Anqi Deng: 42.5hrs

Yixiao Shen: 42.5hrs