

EE 491 Weekly Report MAY 15-26 Week 6 (10/6/14-10/12/14)

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/3-D Printing/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 do some research and read about the study of TMS in Dr. Jiles' lab at Iowa State University and discuss possible ideas with the new design of the helmet. Everyone continued to learn how to operate their respective softwares. We got the basic template of our website ready and would continue to work on it.

Meeting notes

10/6 Group meeting with advisor

Duration: 60 min

Members Present: All

Purpose and Goals:

We presented our personal progress for the previous week to our advisor and he gave ideas and suggestions for the coming week. Our advisor also shared some papers about this project with us to read.

Achievements:

1. Future tasks determined.

2. Gained clarity on specific issues related to our project.
3. Website skeleton ready.

10/10 Group meeting with members

Duration: 60 min

Members Present: All

Purpose and Goals:

We shared our thoughts, experiences as well as challenges and talked about our progress so far. And we spent most of the time discussing the new design for the helmet. We also talked about how our website should look like.

Achievements:

1. Came up with two new possible ideas with the design.
 - a. One is to get some support to the cord of the Halo coil to lighten the load-bearing of two motors.
 - b. Another is to change the position and direction of the coil properly to make movement as desired.
2. Got the website skeleton ready.

Pending issues

1. Get more details with new designs.
2. Continue our research.

Plans for next week

Jessica: Test existing hardware using GUI, edit GUI to include operational code for any additional movements added to the design.

Saurabh: Meet with Eric and start getting used to SEMCAD once the machine starts functioning, Get the basic syntax of python, make website functional, continue reading papers and doing research on TMS

Anqi: Upload materials such as weekly report and project plan to our website, modify the model in Solidworks if we change the new design.

Yixiao: Continue getting familiar with the software and start our design of the model.

Contributions (individual)

Jessica Staley: communication between members and Professors, attended the meeting, gave ideas of the report, got GUI running on personal computer, read TMS articles given by advisor, began testing hardware from previous years. (10hrs.)

Saurabh Minocha: Helped compile this report, read and uploaded a document by our university related to our project, did research on python, Met with Eric to talk about SEMCAD, worked on the website and got the basic template ready (8hrs.)

Anqi Deng: Measure dimensions of the existed helmet, modeled the existed helmet in Solidworks, read up papers about TMS, compiled the report, attended the meeting, and gave ideas of the report (7hrs.)

Yixiao Shen: Met with Daniel (last year's project team leader) for Comsol help and obtained advice from him. Do research of this project and structure design, read the article that advisor sent us. Attended the meeting, give idea of the design. Gave ideas of the report (7hrs.)

Contributions (Total)

Jessica Staley: 34.5hrs

Saurabh Minocha: 34hrs

Anqi Deng: 34hrs

Yixiao Shen: 35hrs