

EE 492 Progress Report 1

MAY 15-26

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

Summary

The main goal these two weeks was to keep track of our works done in the last semester and collect suggestions on how to modify and change our design by the judgement of our presentation. We also tried to find if we can come up with more ideas to make our design better.

Meeting notes

01/28 Group meeting with advisor

Duration: 60 min

Members Present: All

02/04 Group meeting with advisor

Duration: 60 min

Members Present: All

Purpose and Goals:

We presented our personal progress for the previous semester and feedback of final presentation to our advisor and he gave ideas and suggestions for the coming semester.

Achievements:

1. Figured out our schedule of advisor meeting and group meeting
2. Everyone was on the way to make progress
3. Came up the idea about using wireless communication instead of the existing cable

Pending issues

1. Modify the frame to match the plastic part
2. Research for proper wireless communication part for our design

Plans for next period

Jessica: Continue troubleshooting the existing linear actuator, finalize second linear actuator code, research the proper bluetooth part for communication with stimulator.

Saurabh: Come up with a plan to continue SEMCAD simulations for Duke head model.

Anqi: Modify the aluminum frame to match the plastic part, research the proper wireless module for our arduino board to get wireless communication between arduino board and pc.

Yixiao: Order the linear actuator and power supply. Assemble the linear actuator and modify the power supply.

Contributions (individual)

Jessica Staley: Attended meeting, began troubleshooting the existing linear actuator movement, researched how to program for the rs232 connector, calculated and coded in the rotation movement.

Saurabh Minocha: Started halo coil simulations on SEMCAD using Duke head model.

Anqi Deng: Attended the meetings, talked to Dr. Harker on how to make change to the aluminum frame, modified the 3D printing part.

Yixiao Shen: Attend the meetings, give idea of the design. Doing research about the linear actuator in order to assemble it and make it works well. Doing research about the power supply for all of our electrical parts work.