

MRI-Compatible Lower Leg Exerciser

Client: Alejandro Roldan

Advisor: Naomi Chesler

Team:

Deborah Yagow (Leader)

Amy Lenz (BSAC)

Colleen Farrell (Communicator)

Val Maharaj (BWIG)

Week 14: December 4-December 10

Problem Statement

The goal of this project is to design and construct a lower leg exerciser that is compatible with MR imaging and echocardiography to be used during cardiopulmonary research on pulmonary hypertension patients and healthy volunteers. The device must have repeatable loads that can be measured and displayed to the patient via biofeedback.

Last Week's Goals

- Replace problem bracket screws
- Finish final report
- Complete notebooks
- MRI test device with Oliver on Wednesday

Summary of Accomplishments

- Construction additions tweaked
- Completed poster, paper, and notebooks
- Gave presentation
- Non brass screws replaced
- All purchases/budget tables completed

This Week's Goals

- MRI testing tomorrow
- client/advisor meetings next week

Difficulties

With the snow and everything, rescheduling the MRI scan has been problematic but will work tomorrow; we are excited to see what our device can do.

Activities

12/4/09	Deborah	Presentation practice and appendix printing	1 hr
12/8/09		Dorn Hardware trip and paper writing	1.25 hr
12/9/09		Paper pictures of device and editing	2 hrs
12/10/09		Printing paper and final thoughts in notebk.	2 hrs
12/3/09	Amy	Presentation Practice	0.5 hr
12/7/09		Paper writing	1.5 hr
12/3/09	Colleen	Presentation Practice	0.5 hr
12/6/09		Paper writing	1 hr
12/3/09	Team	Presentation practice and workload calcs	3.25 hrs
12/4/09		Presentation set up, delivery, team bonding	5 hrs
12/7/09		Construction and paper compilation	5 hrs
12/8/09		Budget compilation and hinge construction	3.5 hr
12/10/09		Progress report and MRI planning meeting	0.5 hr
12/4/09	Val	Presentation practice	0.5 hr
12/6/09		Paper writing	1.5 hr
12/5/09	Amy, Deb, Colleen	Bolt removal	2 hr
12/7/09	Val, Deb, Amy	Paper revisions and notebook completion	2.5 hr

Final Project Hours

Colleen: 37.5

Val: 48.25

Amy: 40.25

Deb: 53.5

Team: 129.75

Final Total: 491.5

Project Timeline

Week ending:	September		October				November				December			
Task	18	25	2	9	16	21	30	6	13	20	27	4	9	
Product Development														
Background Research	█													
Brainstorm	█													
Decision matrix				█										
First Prototype Construction			█											
Testing								█				█		
Deliverables (due)														
PDS	█													
Prelim. Report					█									
Poster Presentation												█		
Evals/notebooks												█		