

Leg Ergometer for Human Exercise Blood Flow Studies

Progress Report 9, March 29, 2007

Team Members:

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Client:

William G. Schrage, Ph.D.
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Advisor:

Paul Thompson
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Date: March 13, 2007 to March 29, 2007

Problem Statement:

The goal is to design a leg ergometer to be used by William Schrage in his lab. The test subject will use the ergometer to maintain a constant kicking motion while the femoral artery is imaged using an ultrasound. The information is used to determine blood flow to the leg during exercise.

Project Schedule:

1/26/07 – Choose team and project, meet with client
2/2/07 – Background research, preliminary design ideas, begin work on PDS
2/9/07 – Continue background research, complete and post PDS
2/16/07 – Brainstorm
2/23/07 – Develop design alternatives
3/2/07 – Decide on design alternatives, work on mid-semester presentation and report
3/9/07 – Give mid-semester presentation, finalize and turn in mid-semester report
3/16/07 – Decide on final design
3/23/07 – 4/13/07 – Work on final design
4/20/07- Perform tests on final design, determine and make adjustments
4/27/07 – Finalize design and final presentation, begin work on final paper
5/4/07 – Give final poster presentation, finalize and turn in paper
5/11/07 – Final meeting with advisor

Last Week's Goals:

- Order one-way clutch and viscous dampener
- Decide on sensors
- Design frame

Summary of Team Accomplishments:

- All contacted viscous dampener companies
- All determined the torque needed

Summary of Individual Accomplishments:

- Amy wrote the progress report
- Hyungjin updated the website
- Cali contacted companies regarding purchasing devices and determined what model number of clutch is needed.
- Amy and Cali contacted the client with questions regarding his needs for the sensors and budget
- Lacey continued trying to contact the company from whom we are getting the one way clutch.

Upcoming Week's Team Goals:

- Order one-way clutch and viscous dampener
- Decide on sensors
- Buy seat
- Research belt friction as a possible alternative to a viscous dampener

Difficulties:

We are concerned that the viscous dampener may not provide the needed power so we are looking into alternative devices.

Activities:

Amy

team meeting 2.0 hr
emailing team and client 1.0 hr
progress report 0.5 hr

Lacey

team meeting 2.0 hr
contacting companies 1.0 hr

Calista

team meeting 2.0 hr
emailing team and client 1.0hr
contacting companies 0.5 hr

Hyungjin

team meeting 2.0 hr
updating website 0.5 hr

Team Total Hours for this week: 12.5

Cumulative Team Hours to date: 137