Leg Ergometer for Human Exercise Blood Flow Studies
Progress Report 10, April 12, 2007

Team Members:
Amy Weaver (Team Leader)    aweaver@wisc.edu
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Client:
William G. Schrage, Ph.D.
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Advisor:
Paul Thompson
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Date: March 30, 2007 to April 12, 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 met to discuss ordering parts and what needs to be done by the end of the semester
- All designed the frame

Summary of Individual Accomplishments:
- Amy wrote the progress report
- Hyungjin updated the website
- Hyungjin did research on possibilities for the boot
- Cali contacted formsprag clutch and ordered our clutch.
- Amy contacted the client with questions regarding purchasing components and possibly extending the project to two semesters
- Cali and Lacey priced the components for the frame

Upcoming Week’s Team Goals:
- Purchase components to build frame
- Buy seat
- Buy alternative friction device (bike brakes)
- Begin assembling device
- Meet with client

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 1.0 hr
  - emailing team, client, and advisor 1.0 hr
  - updating sketches 1.0 hr
  - progress report 0.5 hr

Lacey
  - team meeting 1.0 hr
  - contacting companies 1.0 hr
  - pricing components 1.5 hr

Calista
  - team meeting 1.0 hr
  - contacting companies 1.0 hr
  - pricing components 1.5 hr

Hyungjin
  - team meeting 1.0 hr
  - research 2.0 hr
  - updating website 0.5 hr

Team Total Hours for this week: 14.0
Cumulative Team Hours to date: 151