

Field Measurement of Running Impacts

Client: Bryan Heiderscheit, PhD, PT

Team Members: Feest (co-leader)

Wanta (co-leader)

Kudek (communications)

Daehn (BSAC)

Carlson (BWIG)

February 23 to March 2, 2007

Problem Statement

Design an instrument that measures the impacts of running using tibial acceleration data. The device should combine the use of accelerometers and gyroscopes, which will record data to an incorporated data logger. The device must be easily worn by the user, and the hardware should have the ability to do most of the data processing. This instrument will be used to diagnose stress fractures and other injuries related to running.

Last Week's Goals

- Ask client about unknown sections of PDS and complete PDS
- Set up meeting to go to research park with client, see how the lab is set up
- Formalize design alternatives
- Keep contacting companies to get necessary specifications and prices
- Try to set up a meeting with Professor Webster to see if our idea will work before ordering the parts

Summary of Accomplishments

- Completed the PDS
- Continued individual brainstorming for design alternatives
- Had a group meeting to share gathered info, brainstorm
- Chose three tentative design alternatives
- Met with client to get feedback on data loggers, accelerometers
- Set up meeting with Prof. Webster and client to see if any of Webster's devices could be implemented in our project

This Week's Goals

- Have meeting with Prof. Webster and client
- Decide on a data logger
- Solidify our design alternatives and choose the best one
- Make the powerpoint presentation and practice presenting it
- Split up sections of the mid-semester paper

Project difficulties

- Finding proper equipment to meet all goals of the project
- Deciding which data logger will be most useful for our project

Activities

- Everyone met last week to solidify our design alternatives. We came up with three tentative ideas. However, at our client meeting we learned that Professor Webster may have a data logger that would work for our project, so now we may be rethinking one of our design alternatives.
- Amanda-3 hours
- Chelsea-3 hours
- Matt-3 hours
- Lindsey-3 hours
- Nicole-3 hours

Expenses

- None to report so far

