

## **Field Measurement of Running Impacts**

Client: Bryan Heiderscheid, PhD, PT

Team Members: Feest (co-leader)

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Kudek (communications)

Daehn (BSAC)

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February 17 to February 22, 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
- Narrow choices for the accelerometer/data logger we want to use for our project
- Continue individual brainstorming for design alternatives (wireless vs. nonwireless, etc.)
- Have a group brainstorming meeting to share ideas

### **Summary of Accomplishments**

- Set up meeting with Client for 2/23/07
- Found several data loggers, possible accelerometers
- Started doing research on Bluetooth capabilities
- Met on 2/21 to discuss possible design alternatives

### **This 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

### **Project difficulties**

- Finding proper equipment to meet all goals of the project
- Deciding between the possibility of wireless with a (possibly) less reliable signal or wires, which would require modifications to ensure that the wires do not get caught while running

**Activities**

- Everyone continued to research data loggers, accelerometers, etc
- We met on Wednesday to compare our findings and see if any of the parts we found would be compatible with each other
  
- Amanda-4 hours
- Chelsea-4 hours
- Matt-4 hours
- Lindsey-4 hours
- Nicole-4 hours

**Expenses**

- None to report so far

