Project Identity

Biomechanics Gait Analysis Lab
Week 5
October 5, 2006
Kimberly Carr

Work Completed

On Friday, September 29, 2006 we bought batteries for the LINX TXE/RXE 418 testing kit to get a feel for telemetry but unfortunately, the circuit boards were not working. We also had a meeting with Bill Prueschner about programming or PIC16F874A with the National Instruments LabVIEW™ Embedded Module for ADI Blackfin Processors instead of having to program it with assembler or C++. However, we are not sure if the LabVIEW microprocessor programmer only works with Blackfin processors.

Bill Prueschner also suggested that we try to use just an A/D converter instead of a microprocessor but after speaking with a few faculty in electrical engineering they informed me that it is actually simpler and more efficient to use a microprocessor because it will bundle all of the information for us and send it serially to the transmitter.

On Monday, October 2, 2006 we figured out that we will need to use two separate frequencies to send the data from both the left and right feet in order to send the data simultaneously. Unfortunately, the transmitters and receivers with built in encoders and decoders only come in 315, 418, and 433 MHz frequencies and after talking with the tech support at LINX Technologies they informed me that the frequency difference is not great enough between the 315 and 433 MHz for the telemetry to work properly. Therefore, we are going to have to purchase the 916 MHz transmitter, receiver, and antenna as well as an encoder and decoder to make everything work. We will purchase the transmitter, receiver, encoder, antenna, encoder, and decoder from LINX Technologies. These are the part number and prices.
Transmitter – TXM-916-ES – $11.95

Receiver – RXM-916-ES – $13.95

Antenna – ANT-916-SP – $1.75

Encoder – ENC-MS001 – $3.10

Decoder – DEC-MS001 – $3.10

The Transmission layout is shown in Figure 1 below.

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Figure 1: Transmission Layout for Telemetry
**Future Work**

On Friday, October 6, 2006 we need to connect the FSR’s and footswitches to the NI DAQ box and use LabVIEW to analyze the data so that we can get started with the program. We also need to use the diversified PIC training board to input the signals from the FSR’s and program the microprocessor to convert the data from analog to digital. We need to get all of our parts in as soon as possible so that we can analyze the circuit and design the board.

**Project Review**

We are definitely far behind in the timeline considering the fact that we had to start from scratch with this whole design project but I am optimistic that with extra time and effort we can catch up and finish this project before the deadline.

**Hours Worked**

15 hours