I. Backpack Lever Arm System

Work Completed:

The team continued working on the microcontroller this week. Based on the feedback obtained from the group meet last week, the team has decided to abandon the idea of purchasing the Digilent Microcontroller board. Therefore, finishing programming the microcontroller we currently have becomes very important.

The joining of the three segments has always been a concern for this project. After many attempts, the team still hasn’t created a good design, so I decided to take TA’s advice and downloaded AutoInventor. My main focus this week was on learning how to use this software because it is capable of producing a three dimensional model of the lever arm. This model is extremely close to the actual product, and its weight capacity can be easily analyzed which would greatly help determining the attaching mechanisms. I also looked into making customized 80/20 3-D parts that can be used in AutoInventor. After further familiarizing myself with the software, I’m confident that it will be a great contribution to the team.

I also updated our client on the progress of the project, and ordered the 7 hole Tee-shape connector from 80/20.

Future Work:

During next week, I will cut the two small vertical pieces (6 inches each), and search for appropriate attaching mechanism to attach the lever arm system to the wheelchair.

Project Review:

The team is moving along smoothly with this project, and followed the timeline this week. The main focus is on the microcontroller right now because that is the key to making this device successful.

Hours Worked: 7
II. Shampoo & Conditioner Identification Device

Work Completed

After making the PCB of the amplification circuit last week, I asked my teammate to verify all the connections. I found majority of the circuit components in the design lab including all the resistors, capacitors that the circuit needs. However, there are a few components that the design lab doesn’t provide such as the LM4876 amplifier, the 500 ohm potentiometer and the small speaker. Therefore, I ordered them along with the enclosed 4 AAA battery holder. I gathered all the components, and am ready to build the circuit on the protoboard, but we will have to wait until the amplifier arrives.

Figure 1. Enclosed AAA battery holder

Figure 2. Audio Boomer Amplifiers
I also helped the team to realize that the potentiometer is not necessary for the purpose of this project because the volume doesn’t need to be controlled. However a voltage regulator needs to be added to the PCB circuit

**Future Work:**

Next week, my task will be finding insulating material for the iPod casing, and help trying to reduce the amount of voltage the circuit requires in order minimizing the size of the batteries.

**Project Review:**

The team is moving forward with this project, and following the timeline. Once all the other parts arrive, the device can be easily integrated together.

**Hours Worked:** 3