I. Backpack Lever Arm System

Work Completed:
The team continued to work on the microcontroller this week. After further exploring, we decided to switch from PIC16F84A to PIC16F877 because the PIC we currently have doesn’t have the CCP module that the project requires. After building an ICD circuit, we tested our program with a PIC16F877 from TEAM 3.

Attachments were another major concern of the project. During this week, I suggested searching for appropriate hinges at Home Depot. We were able to find a butterfly hinge that allows 270 degrees of movements which is ideal for our project.

![Figure 1. Butterfly Hinges](image)

As far as attaching the two small vertical bars to the back of the wheelchair, I looked into the T-shape connector for 80/20 material, and determined the 7 hole Tee-shape connector is the best one for our purpose.

Future Work:
During next week, I will check on the Servo Motors because they are critical to our project. I will also help the team with programming the PIC, and search for alternatives if necessary.
**Project Review:**

The team is moving along smoothly with this project, and followed the timeline this week. After the Servo Motors arrive, the team will be able to proceed with the project.

**Hours Worked:** 6

II. **Shampoo & Conditioner Identification Device**

**Work Completed**

During this week, the team decided to make our own amplification circuit based on the feedback from last team meeting. Therefore, I found the schematic of the Digilent Speaker Board, and made a PCB circuit accordingly. I was able to arrange the components so that the size of the PCB was only 3’’ by 1.7’’ which is only 0.25’’ longer than the original circuit. This PCB is small enough to fit in the iPod case which is ideal for this device.

![Figure 2. Schematic of the Digilent Speaker Board](image-url)
Battery placement was the other task I focused on. I was able to find enclosed battery holders that hold 4 AAA batteries. Since our device will be operated in the shower, the enclosed casing is needed to prevent water contacting the batteries.
Future Work:

Next week, the team will need to focus on insulating methods and material once the iPod cases arrive. We will also work on integrating the circuits together.

Project Review:

The team is moving forward with this project, and following the timeline. The PCB was a major accomplishment this week, once all the other parts arrive, the device can be easily integrated together.

Hours Worked: 9