Project Progress Report
1) Backpack Lever Arm System
2) Shampoo-Conditioner Identification Device
Week 11
April 11, 2008
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1) Backpack Lever Arm System

Work Completed
This week, while testing the setup and functioning of the backpack lever arm system, we encountered some problems. The device was not as secure as it should have been, and the large torque caused the lever arm to fall to the ground, breaking the internal gears of the M2 (the 90 degree motor). Due to this, we were forced to order another motor from ServoCity. After some analysis of previous trial runs with the device, we decided to order a 5:1 ratio, titanium gear motor, the HSR-5995TG. This (more powerful) motor would be used in place of M1, and the current M1 (HS-785HB) would be used as M2, to rotate 90 degrees. However, since the HSR-5995TG is only capable of rotating 140 degrees, we would have to change the internal resistances of the servo motor, and alter the code to try and modify it to reach the desired 270 degrees. Once the motor arrived, most of the time was spent in trying to carry out this task. Finally, we mounted this motor in the place of M1.

Future Work
Future work involves working ordering the appropriate battery power supply to power the PIC and motors to run the backpack lever arm.
system. In addition, since we have a new motor, we must modify the C code for the desired rotation of each motor. Also, safety will have to be considered by encasing the motors or providing the necessary insulation.

**Project Review**
This project is proceeding according to schedule.

**Hours Worked: 16**

2) Shampoo-Conditioner Identification Device

**Work Completed**
We completed the insulation for the shampoo/conditioner identification device by modifying the outer covering of the iPod holder. Here, we placed a thin plastic cover behind the front flap of the iPod holder (fastened using epoxy gel), to prevent the electrical components’ contact with water. My team member also completed the PCB schematic, so this is ready as well. Once the adviser has approved this, it will be ordered.
**Future Work**
Once the insulation is complete and the PCB has been ordered, we have to make sure that all components are available, that need to be soldered onto the final circuit. As this is completed, the project will be in its final stages, of making sure that battery replacement and occasional maintenance is easy to carry out.

**Project Review:**
This project is on track, and should be completed by the deadline.

**Hours Worked:** 3