Project Identity

Head Mounted Art Device, Game for Improving Speed and Accuracy of Name Recall, and Alternative Devices for Mouse Input

Week 8
16-Mar-08
Matt Zywiak

Work Completed

This week works was completed on attaching one of the motors to the drive shaft of the second track that we have built. To do this we have machined a small connection piece for the motor and the drive shaft. We used a half inch diameter drill rod which was put on a lathe to drill out exactly the center. We began by drilling a .250 inch hole right through the entire piece. This hole would be the attachment for the motor. We then drilled another diameter hole about three quarters of an inch along the length of the drill rod which was the diameter of the drive shaft. Two set screws were then drilled into the side of the connection piece so that the two shafts could be secured without any movement between them. We then were able to attach the motor to the drive shaft of the second track and run the motor to see how the device actually performed. We found that the motor was powerful enough and fast enough to drive the carriage up and down the length of the track. However we have found that when the motor is running the entire device will vibrate. After much testing we found that the reason for the vibration was because the holes drilled into the connection piece were not exactly centered in the middle of the piece. This caused the motor to move in a lateral motion as it was rotating and driving the carriage up and down the track. A picture of the machined connection piece for the driveshaft and motor is shown below.

Shown next is a picture taken of the motor connected to the complete track system.
I have also continued work on the voice recognition computer game. The work I have been doing is to integrate the command and control speech recognition into the computer game so that when names and commands are spoken the computer will be able to recognize them. I have had a hard time integrating this aspect of the speech engine into the computer game but I am hoping that I will be able to complete it on time.

**Future Work**

Future work for the voice recognition game will be to fully integrate the command and control grammar into the game so that the computer program will not try to form sentences with the spoken words and cause errors. Once this has been done the coding for the computer game will be complete and we can begin to focus our attention on making it aesthetically pleasing. If there is time we will also add other capabilities to the computer game such as the ability to input relationships of individuals and maybe even other games. Work on the wiring of the motors and the PIC microprocessor must also be completed soon if we are going to be able to test and use the device before the time is up for the project.

**Project Review**

Now that we have purchased the correct accelerometers for the motion tracking system I believe that we will be able to complete the project in the appropriate time frame. Work on the Art Instrument along with the alternative mouse input system has
continued on and should be completed as well. Once the command and control grammar problem has been solved work on the computer game will be finished.

**Hours Worked**

14 hours