Project Identity

Head Mounted Art Device, Game for Improving Speed and Accuracy of Name Recall, and Alternative Devices for Mouse Input
Week 5
2/22/08
Derek Kulakowski

Work Completed

This week, construction of the track system, construction of the internal components of the foot mouse, and construction of the trackball were the main concerns. The track system is the biggest hurdle that we must overcome in terms of manufacturing. The side of the guiding track was machined and drilled. Now the piece fits the guiding rod and there is a thumb screw drilled to hold the guiding rod to the side piece. Also, the block to be mounted onto the sliding carriage was machined. Next step is to drill and thread a hole in the center of the block to screw the threaded rod through. This will be the moving mechanism for the screw actuator.

Because of the inclement weather on Friday, senior design lab was cancelled and the machine shop was closed for the day. This has set us back a lot of time for the construction of not only the track system, but the foot mouse and the trackball. We had planned to completely finish the construction of the foot mouse on Friday and have completed the construction of the trackball’s internal design as well. Also, the hole for the block to be mounted on the carriage would also have been drilled. Because of the weather, we were also unable to meet with Rich and Serge to discuss what parts needed to be purchased from Mansfield Supply in order to mount the threaded rod in the block and side piece with the bearings.
The foot mouse is nearly complete. All that remains is cutting the top piece and sealing the apparatus. After that is complete, the system can be painted and mounted. Once mounted, the project can be tested using volunteers and the games designed for it. Also, the buttons for the trackball mouse were not correctly ordered, but after examination, I was able to redesign the internal structure so that they are able to function properly for our design.

Due to miscommunication with our client, Brooke H., redesign of the art instrument was needed. Luckily, this doesn’t make our lives harder, but it would have been easier had we known this information at the start of the semester. Since Brooke now states that most of her clients cannot move at all, we need to design an apparatus that will draw for them. So, our new design will use stepper motors and a microchip that will store 5 different drawing patterns as well as a random pattern upon the selection of the user. Also, there will be an option of the client to use a joystick to draw, for those who are able
to move a sufficient amount. The major setback with this is the ordering of stepper motors that will need to be used for driving the track system.

**Future Work**

The foot mouse and trackball mouse will be completed next week. Hopefully the alternative mouse system project will be completed and out of our way, leaving only the game for improving name recall, which is nearly complete as well, and the troublesome art instrument.

**Project Review**

Progress of this week was very good, except for the setback from the weather on Friday. This did not keep us from completing the major tasks we set out to finish for the week. The alternative system is pretty much complete, as well as the game for name recall. The only project proving to be difficult is the art instrument.

**Hours Worked**

Week #5 Total Hours: 15 hours