Project Identity

Head Mounted Art Device, Game for Improving Speed and Accuracy of Name Recall, and Alternative Devices for Mouse Input
Week 3
2/8/08
Derek Kulakowski

Work Completed

Currently, the foot mouse and track ball housing are almost at completion. The foot mouse housing pieces are sanded and smoothed. All the pieces are ready for the mounting of the internal components. The optical mice have arrived, as well as the two 1 inch push buttons and the foot pedal switches. One optical mouse has been taken apart, to reveal the internal structure. This allowed us to see how mounting will occur, as well as how we can incorporate the existing circuitry with the push buttons and foot pedal switches to take the place of the right and left mouse clicking actions. Below is a photograph of the current pieces of the foot mouse as well as the internal structure of the optical mouse. Underneath the top two pictures is the arrangement of the optical mouse inside the foot mouse.
The optical mouse will lay flush with the bottom of the foot mouse, allowing the LED scanning unit of the mouse to shine on the surface of operation. The USB connection of the mouse will exit through the front of the foot mouse and will extend to the computer. The pedal switches will be mounted on 1/8 inch thick plexiglass that was found to be leftover in the stock room. The pedals will mount next to each other, with an area along-side that will be the mouse pad. Below is a picture of the plexiglass and the foot switches.

It is uncertain if the foot switches will remain in the housing from the manufacturer because they seem to cumbersome for the function they need to serve in this application. Overkill comes to mind referring to the sturdiness needed for this
project, so a possible solution is to replace the original housing with a smaller one, or to just adjust the current housing, making it both lighter and smaller.

The track ball housing has been started and we have decided to use the heat gun to construct the walls of the box, just as we did for the foot mouse. Using the heat gun allows for a smooth edge to avoid any sharp corners that may in turn cause injury to the user. Also, ordering of the track ball is being finalized so that construction of the internal components of the track ball housing can begin next week. Below is a picture of the pieces of plexiglass that were constructed for the box of the track ball housing.

![Picture of plexiglass pieces for track ball housing]

Future Work

Future work lined up for this project includes the finishing of both the foot mouse and track ball housings. This will take place either Thursday or Friday during the senior design class period. Also, construction of the internal components as well as mounting of the optical mouse in the foot mouse is a must for next week. Ordering of the track ball by the end of the week should allow us to finish the track ball design in the next two weeks. Also, completion of the computer games for the input systems will allow for proper testing and completion of this project. Mounting of the foot pedal switches and of the push buttons for the track ball is another plan for next week. Below is a drawing of what is hoped to be accomplished with the foot mouse final design and the internal design of the track ball.
Project Review

The project is progressing smoothly. The track ball and foot mouse housing should be completed by the end of this week. Also, the computer games should be completed or near completion by the end of this week as well. Next week will be very crucial because there will be a lot of work to be done in regards to the internal components and circuitry to the input systems. Hopefully all will go smoothly with little or no problems to deal with. As for the other projects, the game for name recall is still slowly progressing, as well as the art instrument. But the odds are in our favor as we will begin the construction of the track system this coming week.

Hours Worked

Week #3 Total Hours: 14 hours