Art Assistant, Alternative Mouse Input Device, Name Game
Week #9
3/28/08
Andrew McLean

Work Completed:

Alternative mouse input: I have not completed any additional work on this project this week. However as been stated in previous weeks, this project is near completion; so most of our time is being spent on other projects.

The game to improve name recall continues to be worked on, however much of our time is being put into the mounted art instrument. Tests for the game are still being done with command and control, this mechanism should work nicely with what the game is trying to accomplish because it will allow specific names to be called upon.

This week much of my time has been with the mounted art instrument. Briefly I’ll describe what has been accomplished this week. Attachment parts for the motor to our X-Y track have been re-machined, additional support blocks to attach the motor to the track have also been machined. These have both been tested and have found to be successful. While at high motor velocities some vibration still exists, at lower motor speeds this issue is negligible. That being said, additional support for the entire track system is being designed to hopefully remedy any problems that may occur with vibration. The motor can successfully drive the system as it currently is, however the plan is to mount the entire track system on a backing and provide an additional track to act as a guide rail for the system.

The accelerometers which had been purchased were tested, they give out a pulse width modulation, the frequency changes when the angle of the chip changes. The plan is to wire the circuit so that the accelerometer will output a voltage which can be read by our PIC, the voltage will vary based on the tilt of the accelerometer. This circuit is currently still being worked on. The accelerometer can be seen in the following picture on the left hand side of the proto-board.
I’ve also been working on PIC programming this week, the process is more tedious than I first thought. However with some assistance, the program project is coming along. Currently the script that we have written for our program identifies inputs and outputs but does not fully complete what is required, when compiling there I still get one error. I was able to acquire various scripts offline so using these sources as a reference the code is slowly being created. Hopefully with additional time and help this code can be successfully compiled.

**Future Work:**

Alternative mouse input system – Not too much has changed from last week, so same things need to be done this week. For the foot mouse, a foot strap needs to be integrated and then finally painting needs to be done. The track ball needs to be placed in the housing the buttons need to be fitted and wired. After wiring assembly of the entire system and painting will need to be done on the outside housing. We do not anticipate any problems, and the track ball should be completed within the next few weeks. The housing needs to be assembled internal wiring completed. Based on user feedback some changes will be made to the two games. This will result in completion of our first project.
The game to improve name recall is also nearing completion, final testing with voice recognition software is starting using command controls. Continuation with the voice recognition integration will continue over the next few weeks. Additionally we would like to add a ‘relationship’ variation to our game, this will be done after the voice recognition is completed. Additional changes may be made to make the program more eye pleasing and user friendly.

For the art instrument, we need to mount the track and build additional guide rails for the system. This will need to be done swiftly. The motors will need to be fully attached to the system as soon as possible. Once these things are done, the mechanical part of this project will be done. Additional circuit testing for the accelerometers need to be worked with, the goal is to have them outputting various voltage when being tilt. This will be the input for the microchip. The microchip needs to be fully programmed for voltage input and a voltage output based on the received signals.

Hours Worked:

Andrew:
Monday – 10 – 12:45 (2.75 hours)
Wednesday – 12 – 2:30 (2.5 hours)
Friday – 12:30 – 5:00 (4.5 hours)
Sunday – 5:45 – 8:00 (2.25 hours)
Total Time = 12 hours