Work Completed:

The alternative mouse system is nearing completion. Both games as well as the foot mouse are complete. This week we were able to accomplish a lot of work on the track ball mouse. It is also nearing completion. The holster for the track ball was completed. A 2 inch wide piece of plastic was heat molded to the form of our track ball. This was done with a heat gun and allowing the plastic to take the form of the track ball. The track ball smoothly runs over the plastic as anticipated from our initial testing. The optical sensor was mounted underneath the track ball. This was done by machining slits in the holster and mounting the optical sensor onto them. One current problem with this is, there’s sometimes connectivity issues between with the track ball and our optical sensor. After several tests we found that there were two issues with the problem. First the optical sensor was slightly off center making the track ball hard to read. Secondly the trackball’s texture and color made it hard for the optical sensor to pick up. To remedy these two problems we changed the position of our optical sensor, and plan on painting the track ball so it can be seen by the optical sensor. Along with the holster the outer housing for the whole track ball system needed to be redone. The outer housing is now ready for assembly once the internal system is complete.

The second project, the game to improve name recall is progressing well. The game is for the most part completely programmed. It is able to call forth random pictures and assign names to a multiple choice sheet. It is also able to save complete files and recall them from memory. All that is left is to integrate the voice recognition software.
The mounted art instrument has posed a lot of difficulties for us. However after contacting the client we have decided that we will keep working on the X-Y track system, in order to propel this system we want users to be able to move their hands or head. To do this we will be using motion accelerometers to sense change in tilt. The change of tilt will operate the motors.

Future Work:

For our alternative mouse systems both games and our foot mouse have been completed. Work on the track ball is also nearing completion. Things that still need to be done are as follows: Foot mouse needs to be mounted and painted, track ball needs to be ‘fixed’ and wired. After wiring assembly of the entire system and painting will need to be done. We do not anticipate any problems, and the track ball should be completed within the next few weeks. All that needs to be done is to create the housing, wire the system and then finally test using the two games that were developed. This will result in completion of our first project.

The game to improve name recall currently has only one issues and this can be resolved fairly easily. The frame size of pictures are not scaled when loaded into the game. They need to be scaled in order to fit the given frame of the game. We will try to resolve this issue, however another fix would to have the user save the pictures with given dimensions however ideally we want to have the frame scale automatically when playing. This will require additional programming and will most definitely be done if time allows. Next week the plan is to integrate voice recognition technology. Hopefully this will be a smooth process to interface our game with a voice input. Based on the tests we have run it should not give too many complications. I am confident that this can be completed with the next three weeks.

Our last project is proving to be the most difficult. We have communicated with our client and have confirmed what the build plan is now. We will be designing a device using motion accelerometers, while this device may not be useable for Stacy, it will be put to good use for other people who wish to draw. Based on our research it should be possible to use accelerometers to move our X-Y track system. Next week we will spend lots of time working on this.

Hours Worked:

Andrew:
Monday – 10 – 1:30 (3.5 hours)
Friday – 10:30 – 5 (6.5 hours)
Sunday – 12 – 4:30 (3.5 hours)
Total Time = 13.5 hours