Progress on the voice recognition for the computer game has continued this week. The voice recognition has been incorporated into the computer game so that the user can choose one of four options in the multiple choice game. There are four options presented to the user when the computer game begins. The individual can say one, two, three, or four and these numbers correspond to choices of names. When the user has made their choice the game will either record an incorrect answer or record the right answer and randomly switch the picture displayed to a new picture. The user can also say “Main Menu” to return to the Main Menu screen and load new pictures or view their game statistics. Work has also resumed on the track system for the art device. Roller bearings were purchased for the threaded rod and more pieces for the carriage of the second track were fabricated in the machine shop. We have also begun to discuss different options for the motion detection of the track system. We were originally planning to use a wii controller with infrared markers to detect the motion of the individual using the device. It now seems that this will not work as we have had trouble connecting the wii controller to a Bluetooth module and receive data packets. As a secondary option we have begun to research using accelerometers to detect the motion of the individual. We will have either a head mounted unit or an arm mounted unit with accelerometers that will detect the motion of the arm or head. This information will be relayed back to the microprocessor which can then drive the two motors on the track system. The orientation voltages for the purchased accelerometers is shown below. As you can see when neither the x or the y axis is being accelerated the output for both axes will be 1.65 volts. When the y axis has 1 g of acceleration it will output a voltage of 2.31 volts and when it has an acceleration of -1 g it will output .99 volts. The same is true for the x axis as the y axis. The supply voltage that is required for this output is 3.3 volts.
Future Work

To finish our project on time we now have to concentrate all of our efforts on completing the track system and integrating the accelerometers with the PIC microprocessor we have purchased. The main hurdle to overcome with the track system is attaching the motors that we have procured. Once we have attached these motors we will then have to hook them up to the microprocessor to allow it to drive the track in the x and y directions. We also have to put the finishing touches on the computer game we have designed and the foot mouse system. Another thing that we have to think about is how to attach the accelerometers to the person who will be using the device. As of now we are thinking about using a glove or head mounted device.

Project Review

After talking to Brooke Halowell about our project she has told us that we can build our track system and that it will be used for a different client. This puts us right back on track to completing our goal of having three working projects by the end of the semester. The computer game as of now needs only minor adjustments and should be complete on time.

Hours Worked

14 hours