Project Identity

Alternative and Augmentative Communication (AAC) Device
Week 2
19-Sep-07
Ryan DeCaprio

Work Completed

The work I completed this week revolved around the output device and the friendly scanning agent/character that we will use in the program. I accepted the role of being in charge of the output device after our last team meeting and additionally made the commitment to develop the character. To begin with this week I spent about four hours watching various Flash tutorials that I felt would help me to meet the requirements of our program. These tutorials were mainly on designing characters and animation. I was even able to make a short animation, which involved a simple character walking around an environment and interacting with various items in the environment.

My work with the output device involved working with the LCD’s power and video inputs. The video had already been established to work by running it off of a mini DVI jack, through a mini DVI to A/V converter, and then finally an A/V cable to the screen. Previously we had been powering the LCD from the power supply we had available in the lab. Now that our 2200 mAh, Ni-MH 12.0V battery from Powerizer had arrived we wanted to confirm that it was indeed going to be able to power the LCD. When we first received the battery we used the labs digital multi-meter (DMM) to test the voltage being supplied by the battery. At the time of arrival and prior to charging the battery read just over 11 V. The battery and charger required some assembly, namely attaching a female tamiya clip to the batteries leads and a male tamiya jack to the chargers leads. There was also a thermistor used to prevent battery overheating and overcharging that I had to attach to the charger. Once the voltages and polarity’s of the battery had been established we connected it to the partially dissembled car charger cable we had been using, rechecked the voltage and polarity and successfully powered the LCD with a live video feed from the computer.

The other work I did for the output device was to take a series of measurements from the components that are going to go into the output device so that I can start making a layout of the overall spacing and size the housing will have to be. Those measurements will be presented in the following table.

<table>
<thead>
<tr>
<th>Component</th>
<th>Length (in)</th>
<th>Height (in)</th>
<th>Thickness (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 V Battery</td>
<td>2 ¼”</td>
<td>1 17/16”</td>
<td>1 1/8”</td>
</tr>
<tr>
<td>7” LCD</td>
<td>6 ½”</td>
<td>4”</td>
<td>¼”</td>
</tr>
<tr>
<td>LCD control IC</td>
<td>2”</td>
<td>1 ¾”</td>
<td>½”</td>
</tr>
</tbody>
</table>

*Table 1: Component Measurements*
The other work I did was on the friendly character/scanning agent. Since the friendly character we decided to use was a koala bear I have been working on programming this character in Flash. This week I imported an image of a real koala bear into Flash and used the onionskin control to start programming this character. At this point more work will need to be done on the character to obtain a better-looking product. I have located a picture of a koala bear animation that I will be basing my future drawings on and I will show it in the next figure.

Future Work

This week’s work will have two main focuses; once again character development and output device building. As far as the character design is concerned I feel as if I’ve seen
enough tutorials at this point where I will benefit much more from programming than watching tutorials. With that said I am going to spend the time to get a good-looking koala bear programmed and ready to go.

The building of the output device will depend on when the wireless transmitter receiver we ordered arrives. In the mean time I am going to be working on finding a better connector for the external connection to the battery charger due to the fact that the one we had was difficult to connect and disconnect. I will also be researching a means of mounting the LCD screen in the enclosure. The final component I will be adding to the output device and hence researching this week will be some type of switch that allows the user to switch from charging mode to operating mode, as well as be able to operate as a power switch.

**Project Review**

With this being only our second team meeting I fell like were in a good position. The output device is coming along nicely and we are making large strides of progress in Flash programming. The one area where I feel that I fell behind this week was with the programming of the friendly character. I expected it to be a lot easier from watching the tutorials than it was to actually program. Now that I have learned from that mistake I will be much more diligent in my programming of the character this upcoming week and from now on.

**Projected Timeline**

Tues (09-19-07): Team meeting, program friendly character  
Wed: Program friendly character, research output device  
Thurs: Program friendly character, research output device  
Fri: Program friendly character, research output device

**Hours Worked**

11 hours

**References**

** Koala bear image obtained from  