Project Identity
Modified Communication System for Client with Disabilities
Week 2: 9/10 – 9/16/06
Stephanie Santos
Philip Licitra

Work Completed
This week some major milestones were surpassed and almost all parts needed for this project were scheduled to be ordered. The order date for our parts is Monday September 11, 2006. The LCD screen that was originally thought to be the one we wanted to order has been changed. A 7 inch LCD widescreen will be ordered from AEI Components, about ¼ inch thinner then the previous LCD. This screen has PAL and NTSC video connections and comes with a power cord. The power cord will be connected to a 12 volt, 2000 mA rechargeable battery pack that will be ordered from batteryspace.com. The battery pack will actually be composed of 10 NiMH cells in one package. Figure 1 shows the battery pack itself.

Figure 1: 12 volt, 2000 mA Battery Pack

The battery pack will be fitted with a female Tamiya connector to protect the users from wrongly connecting the charger to the battery pack or the battery pack to the 7 inch LCD screen. These Tamiya clips are depicted in figure 2. An additional male Tamiya connector will be attached to the power cord of the LCD.
A universal battery pack charger will also be purchased from batteriespace.com. This charger can charge a number of different types of battery packs due to the selector switches located on the side of the charger itself. The battery pack charger comes with a male Tamiya clip already attached which can easily connect to the female Tamiya clip on the battery pack. Figure 3 shows the exact universal battery pack that will be used to charge our 12 volt battery pack.

Once all parts are received, the assembly and testing of the entire system can begin. In the mean time, we need to work on the encasement designs for both the LCD monitor and the base of the joystick. The joystick base will need to be compact, weatherproof, and mountable to the arm of the client’s wheelchair. The LCD monitor encasement will also need to be compact, weatherproof, and mountable to a metal rod that attaches to the side of the client’s wheelchair (the same mounting rod for the client’s DynaVox). I have already begun to sketch some preliminary designs for the monitor encasement, which can be shown in the following figures:
Figure 1: Exterior View of Front Panel of LCD Monitor Case

Figure 2: Interior View of Front Panel of LCD Monitor
Future Work

This week, using all of the dimensional drawings and specification sheets provided by the companies for our products, the casings for the LCD screen, the LDC wiring, and the battery pack will be drawn modified. The issues with the mounting setups will also have to be resolved in the future. It will also be decided if it is more economical to construct the casing in the Engineering Machine Shop or whether we should just purchase one from an encasing company.
Once parts start to arrive, we can begin to assemble them and test our final design. Additional work will continue on the Hall Effect joystick from P & Q Controls.

**Project Review**

The accomplishments made this week have put our project on the right track. All we really need to do is to wait for the parts to start to arrive. In the meantime, we can work on how we will mount the design on our client’s wheelchair and what types of casings we will need to use to protect the electrical components of eth joystick and the LCD screen. Table 1 shows an updated budget with a total spending of $482.40. Our entire budget is $750.00 provided by the National Science Foundation, leaving $267.60 to spend on miscellaneous items.

Table 1: Updated Budget

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<tr>
<th>Part</th>
<th>Price</th>
<th>S+H</th>
<th>Total</th>
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<tbody>
<tr>
<td>Mono jack</td>
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<td>$5.50</td>
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<tr>
<td>VGA Card</td>
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<td>Charger</td>
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<td>7” LCD</td>
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**Hours worked:**
Phil: 10
Steph: 10