Work Completed

At the end of week five we determined that we decided to begin to focus on not only data acquisition but also on something else to make sure that we felt like we were still getting somewhere. This week Nathan and I each had a great deal of other work and exams to focus on. We sent out copious amounts of emails to all of the contacts that we have made to obtain a sample data packet. I talked with a customer service representative with GE Healthcare whom informed me that there had been someone who has asked most of the questions we are asking prior to us. He tried to contact the customer and found that he was no longer with the company. Then he sent us a new file which has been describing the RS232 port and how to retrieve data using it.

The next important step that we made was finding out that there is a data acquisition program that is capable of working directly with the GE-Marquette solar 8000i similar to the device shown in figure one that will retrieve the data straight to a laptop and display it. Then we spoke with Dr. Enderle and he seemed to agree that this program would be very helpful to our parsing and data manipulation.

Figure 1: S/5 Avance Ge-Marquette.
We then wrote an email to our cohort with GE Healthcare to ask him for this software that we were informed about. In the email response he told us that there was no need for the use of this software. He told us that the data stream is continuous and always available. He suggested writing a handshake protocol to access the information. He said that Capsule Technologies and Excel Medical have provided this handshake already. The only problem with this is that we have been trying vigorously to write or obtain one of these handshake programs. We have previously looked into excel medical to obtain this program and could not find it. Hopefully we will be able to find it with a closer look.

On Thursday, October 11, 2007 our group took another trip to Hartford hospital after we all got out of class around 3:15. Dr. McIsaac was unavailable so we proceeded to work with the GE-Marquette solar 8000i that was provided for us in the anesthesia lounge. Dr. McIsaac supplied us with a USB to RS232 converter to try to obtain data and directly connect the laptop to the GE-Marquette. First we tried to connect to the monitor directly and found that by doing this the entire monitor shut down. Then we proceeded to use the RS232 output port in the rear of the machine and found that this also caused the Marquette running issues. We then found that if we hooked up to the port in back of the central processing unit attached to the GE-Marquette we could have functionality while testing.

While testing our “hand-shacking” programs again with the new connector we found that we still received no true signal. We then determined that we had to find the address of the device to obtain a connection. This was done by working with the networking functions of the laptop. I found that if you went through the details of the network that we were connecting to an internet protocol address could be displayed. Once this was determined we tried our programs again and still had no success.

The next test I decided to try was to ping the device and see if we had any type of connection between the two. When I tried this all four sample packets that I sent out were returned perfectly, showing that we have access to the GE-Marquette solar 8000i if we connect directly. This leads me to believe that our programs are inadequate for networking with the device. I believe that we are inadequate programmers and we need to find an existing program to retrieve the sample data so that we can parse it.

We also found the exact serial number for the device that we are working with so that we can call for support of that model exactly.

**Future Work**

This coming week we have to look into the web sites that were recommended to us by Greg Harris to determine if we can find the “hand-shaking” protocol used by Capsule Technologies and Excel Medical. If we can obtain these programs we can begin to work with the data and start to process it and display it as we see fit. The LCD screen has been chosen and a sister board has been found that will work with blackfin to make them work in compliance. If we can find an existing program that will allow us to transfer our labview front panel onto an external monitor then we will order the parts and begin to assemble.
Project Review

The past week we have gotten some direction and have made some new contacts that we believe may renew our spirits on how to proceed. We have finally made progress with the LCD screen and I feel as though we now know what we need to do to make it work. I feel like the whole group is finally coming together to work on the project as needed. I think that if we can really make some progress. I’m going to have to send another email to Greg Harris to see if he could give us the program even though he says its unnecessary.

Hours Worked

Hours spent on project between (10/9-10/15), Week 6: 13