Nathan White  
Week 4 (9/24/07 – 10/1/07)  
October 1, 2007

**Expert Anesthesiology Monitoring System**

**Work Completed**

This week dealt heavily with testing in the Hartford Hospital. Our current programs are functioning in Senior Design but when we test in the operating room there is a communication barrier. To verify whether the GE Marquette is transmitting data we installed a program created by a previous design student. This program essentially was a packet sniffer. This program was had been working when the creator tested it; however we were unable to recreate the results. This lead me to believe the problem lies with the communication between the laptop and the GE Marquette and not the program.

We tested TCP, UDP, and the DOS based program created by a previous design student during our three visits to Hartford Hospital. For our TCP and UDP programs we acquired the IP addresses for 3 different operating rooms. During the test we were attempted to connect to the machine from the network. Our program was unable to establish a connection. The next trial was directly connecting to the machine and bypassing the network. The goal of this trail was to determine whether the problem connecting to the network stemmed from security measures implemented by Hartford Hospital. Unfortunately we still weren’t able to establish a connection directly to the GE Marquette which makes me feel as though the connecting to the machine is within our program, but this don’t eliminate the possibility that we may need access to their secure network.

To verify that the equipment was transmitting data we loaded the program that a previous student developed. Once we loaded Recorder.exe we plugged the laptop into the network and received no signal. Then we connected directly to the GE-Marquette as in the other tests and still received zero data. For our fourth and final test we directly connected to another monitoring device called the Dash 4000 and setup a small office network. After creating this network the Laptop recognized this new equipment but was still unable to obtain data using the Recorder.exe.
This LabView VI utilizes the UDP data communication modules. I created this VI to test the client program Timothy was using. This program helped with understanding how to establish a UDP connection and implementing different datagrams. When simulating the client portion we successfully transmitted data from the server to the client, but as mentioned previously testing in Hartford Hospital did not go as planned and no connection was established.

**Future Work**

Monday we will be meeting with a GE technical representative. We will discuss the specifications of the new GE Marquette machine and determine whether or not we need to send a request package to initialize the transmission. The technical representative will be able to determine whether or not our programs are adequate. If they aren’t he should give us the information we have been lacking about the new GE-Marquette. In addition to meeting with the GE-Rep we will analyze the Record.exe and look for certain commands within the C code which will enlighten us on how previous student established a connection.
**Project review**

Establishing a connection with the GE-Marquette has slowed our progress. At this point we should have converted the program to the Blackfin prototyping kit, but due to these conflicts we had to push everything else back. We still need to determine how to connect to the Blackfin kit to a LCD screen.

**Hours**

20