Project Identity

Expert Anesthesia Monitoring System
Week 9 (October 29, 2007- November 5, 2007)
Timothy R. Morin Jr.

Work Completed

This week we set a required completion point for each of our group members. I told the CEO Dr. Enderle that I would have sample data no later then Friday. I succeeded in obtaining sample data, but I would prefer to stream data. The data that I found was for the Bis vital signs monitor and was a past students data. This data I used to write a Labview program that would parse and redisplay it on the front panel. Figure one shows the program and how it can open the file and display the data after it has been parsed clearly and consistently. Figure two shows the front panel’s display of data and the code prior to being parsed.

Figure 1: Block diagram for opening and parsing Bis data.

Figure 2: Front panel for the Bis data.
This week I had a major set back with the Solar 8000i and the S/5 Avance. I went in on Monday afternoon and found that the machine I had been working with was taken apart and gone. This made it very complicated to test the converters and programs. I spoke with one of the BME specialists at the hospital whom takes care of the equipment and he set me up with a solar monitor and a simulated electrocardiograph machine.

I spent most of my time working with the converters to try and make them register on the pc as a communication port. I also had to problem shoot the software that went with the two different converters. After some time I was able to get the RS422 converter to be recognized by my pc with the solar 8000i. I have spent a great deal of time this week speaking with technical support for Labview connections and determining weather or not the VISA serial or USB extractors should be used. After a great deal of delineation we determined that the Serial VISA is more likely the correct way to go.

I learned to use HyperTerminal and Labviews Measurements and Automation to determine if the connection was active. HyperTerminal helped to talk between two different pins on the serial converter and send the signal back to show where the connection problem was. This allowed me to determine that the connection with the Solar 8000i was where the problem was originating. We found that the connector was being read but the connection to the Solar 8000i was for some reason was timing out.

After a long period of time, testing the RS232 to USB converter and installing it onto three different computers I determined that the drivers were not working well. Dr. McIsaac then came and tried as well with no success. He went out this past weekend and purchased a new Belkin USB to serial device as shown in figure two.

![Figure 2: USB to serial converter.](image)

**Future Work**
This coming week I plan to start off by going into Hartford hospital to test the programs that I have constructed and use the new converter to connect to them. Hopefully we will get some example data that we can begin to parse and test. I was thinking about hooking up the fake EKG generator and getting a sample set of data to being to work with. On Monday I plan to call Greg Harris back and try again to get the URL for the website that can help me with data acquisition protocol. There seems to be some problem with gaining access to the URL for data acquisition. They were supposed to get back to us by now, so I will be following up with that tomorrow.

**Project Review**

The past week has been frustrating trying to obtain a website that can possibly give me the answers that I have been looking for to obtain the sample set of data that I have needed so that I can parse and work with the data. I think that we have been working well as a team in the past week and focusing on what we each need to do. Hopefully we will be able to test the PDA this week and see how it performs with the data transfer using the Bluetooth technology.

**Hours Worked**

Hours spent on project between (10/29-11/5), Week 9: 23