Expert Anesthesiology Monitoring System

Work Completed

Early in the week, the group went to Hartford Hospital and tested the new query program. Dr. McIsaac was unavailable so before he left he provided us with a Solar8000i in the Anesthesiology research lab. This time we connected to the device, however we were unable obtain data that was something other than zero. These results lead me to believe the format of our request packet was incorrect. Additionally the machine could have been receiving zero data from the transducers. During our test, the only transducer we were using was the blood pressure cuff. The Blood pressure transducer collects data periodically unlike the SP02 sensor that collects continuous data. These results were still a huge breakthrough because we connected to the device and received adverse to our previous attempts, where LabView was not making any connection.

This week we started using an LCD screen from Crystalfontz. This screen was provided by David Price. The goal was to familiarize myself with displaying data on a LCD screen. Up until this point I have only been able to display the preprogrammed images. The initial testing stages were slow due to out of date instructions and old hardware. I called a Crystalfontz technical representative and he guided me through these simply problems. First, he instructed me to update the DLportIO.DLL, I downloaded the updated version from the Crystalfontz’s website. Then I replaced the old file in the system32 folder and executed CFAX_WinTest.exe. After updating the DLL file I still experienced an issue with displaying images. The rep assured me that the PCB board and program should work from what I described to him. I should start probing the PCB board to determine whether or not the J5A48CH LCD screen was functioning. I probed from the RS 422 connector all the way to J5 which is the label for LCD port. The actual PCB board had no errors so I switched the LCD screen with a smaller version H3D29HH and there imagine was produced. Figure one shows the schematic used to probe the PCB board. I focused my attention on the jumpers, represented by the resistors in parallel. Probing these nodes verifies the functionality of the bus drive as well as the LCD screen junction.
Next I looked into the C code used to control the LCD screen. The comments within the Code weren’t as detailed as previous programs I looked at. They are geared towards people with programming experience. At this moment in time I have established how to link all of the different files together and now I am beginning to parse the data into different functional groups.

**Future Work**

We will travel down to Hartford Hospital early this week to continue testing on the Solar8000i in the Anesthesiology research Lab and start testing on the Bis-Monitor. To optimize our groups productivity we have all agreed that the whole group going down to HH is a waste of time because only one computer can be retrieving data at a time. Therefore, Future trips will be made by one or two members while the remaining members work on other elements of the project. This week we will select and order an LCD screen after we have run it past Dr. McIsaac.

**Project Review**

We have a substantial amount of work before our project is completed. Through our contacts we have gain a better understanding about what we is required of us, however it is apparent to me we should have established all of this information last semester. The errors and unknowns from last semester are carrying over to this semester but with an exponential effect. The knowledge I have now is substantially greater than last semester. Our list of contacts and topics we needed to investigate should have been established last semester. Currently we still need to obtain a data sample and manipulate the sample set. Then using Blackfin we need to develop a PCB to control the LCD screen.

**Hours Worked**

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