Work Completed

On Tuesday of this week Timothy and Nathan went to Hartford Hospital to begin working on integrating our LabVIEW program with the hospital network. I was unable to attend due to a scheduling conflict. They were unable to make any progress during that time period. On Thursday we all went back to the hospital for several hours, but were still unable to yield any results. We were given a Dos-based program by Dr. McIsaac to retrieve data from the network, but due to some unknown restriction we were unable to get any results. Our LabVIEW program also could not interface with the hospital network. We attempted to connect with two separate GE-Marquette machines in two different operating rooms, with equally unsuccessful results. Dr. McIsaac informed us that he had a student some time ago that worked with this same concept and was able to connect to the network. Since then other people have tried the same thing without any good results.

I began to research the LabVIEW controls that are specific to Blackfin that we will need to use to integrate our program with the Blackfin processor. Last week I discovered that the ‘write to text file’ virtual instrument is not compatible with Blackfin. This week I spent time trying to find out what I will need to use in place of these virtual instruments. One of the Blackfin virtual instruments that I will need is the ‘BF Device Write’, as shown in Figure 1.

![BF Device Write.vi](image)

*Figure 1: BF Device Write.vi*
This virtual instrument inputs a device and buffer reference defined earlier in the program, and writes the outbound buffer to the Blackfin chip. The ‘BF Device Read’ virtual instrument has the same inputs and outputs as the ‘BF Device Write’, but instead of writing data it read it from an inbound buffer. The ‘BF Device Read’ virtual instrument is shown in figure 2.

![Figure 2: BF Device Read.vi](image)

I have begun testing our program and trying to use these instruments to integrate our program with Blackfin. As of this point I have been unsuccessful in getting them to work properly, but it is a priority for the coming weeks.

**Future Work**

In the coming week we will be focusing on getting our LabVIEW program to interface with the GE-Marquette system. We will be going back to Hartford Hospital on either Monday or Tuesday to work with Dr. McIsaac. I will also be focusing on converting our program to a Blackfin compatible format. Once our program works with Blackfin, we can begin expanding the program itself and begin to prepare for parts orders. I will also be contacting Newton Defaria, our contact at National Instruments, in order to set up a contact at Analog Devices for our Blackfin technical support. I need to find out what kind of TFT-LCD screen is compatible with Blackfin, and I have yet to hear back from Analog Devices customer service. We need to begin thinking about our parts order and what we will need in order to complete the project. At this point it is difficult to predict what we will need as far as parts orders because until we determine what LCD screen we will use we don’t know what kind of case to purchase, and until we complete the Blackfin programming and integration we will not know what printed circuit board we will need to order.

**Project Review**

This week we hit a major roadblock with the GE-Marquette system. We were unable to accomplish as much as we had hoped due to the technical difficulties of integrating with the Hartford Hospital network. We still have not heard back from Analog Devices, so we don’t know what kind of LCD we need to look for. I have not heard back from Newton Defaria about a contact with Analog Devices yet, so I cannot get any technical support with our issues with Blackfin. Once these issues get resolved we will be able to make some real progress and get back on track. This is an important
week, and our main goal is to get into the Hartford Hospital network to continue modifying our LabVIEW program.

Hours Worked
15