Work Completed

Since the end of last semester, I have taken the machine shop class in May in order to gain access to the machine shop. This will be useful for manufacturing any hardware for our project. During the summer I was unable to meet with the group because I had an internship in Texas, so in the first week I needed to get caught up with other work done by the group. We decided the general tasks and a rough schedule that we each will be following throughout the semester. I will be focusing on the Blackfin ADSP-BF537 EZ-Kit Lite and LCD integration. I began research on the Blackfin processor and possible ways to integrate LabVIEW with it. I also researched into integration of serial communication using LabVIEW. My main focus is the initial programming of the Blackfin board.

On September 7th, we visited Joseph McIsaac at Hartford Hospital to discuss our lack of budget, and project specifics. We decided that our design will consist of an LCD screen operated by a Blackfin processor that will input the data from the GE Marquette system, and then interpret it. We also discussed the possibility of using a PDA in conjunction with the Blackfin operated system so Dr. McIsaac can wirelessly view the data throughout the hospital. Our budget will be obtained by Dr. McIsaac on an as needed basis. We also plan to set up weekly meetings with Dr. McIsaac in order to discuss our progress and ensure that we stay on target for the project. We also found out that we will not be using serial communication, but Ethernet communication instead.

After meeting with Dr. McIsaac I began to focus on the Blackfin chip and its operation. I read through several manuals and viewed online tutorials so I could familiarize myself with it. I installed the LabVIEW embedded software and Visual DSP++ onto our computer in Bronwell 213 and began to experiment with the processor. Under the Visual DSP++ program the program to be loaded onto Blackfin must be opened in Visual DSP++, then “Build Project” must be selected to build the program on the Blackfin processor. I tried to do this with the sample program as outlined in the Blackfin manual but as of yet I have been unsuccessful in getting it to work properly, but have made significant progress.
This is the Blackfin ADSP-BF537 EZ-KIT Lite board that we will be using to program our Blackfin chip. This board will be used to test our LabVIEW program and LCD display. Once I get the sample program to work I can focus on outputting to the LCD screen. Dr. McIsaac indicated that we should be using an LCD that is approximately computer screen size in order to display all the data required. Dave found an LCD screen for our group in the storage room that will be perfect for our project. It is a Toshiba 12.1” flat panel TFT-LCD display, model number LTM12C275A.
Future Work

In the Blackfin manual I found a sample program that can be loaded onto the processor using the software and run from the chip. This sample program is in a C format and the LabVIEW embedded program can be converted to this format. This is what I will focus on in the coming week, and once successful will be a large step in programming LabVIEW onto the Blackfin processor. Another large portion of my upcoming work will be configuring the LCD screen we obtained last week. As of now there is no power supply for the screen so my focus for this coming week will be to research what kind of power supply is needed and order it. Once the power supply comes in I will make sure that the screen is functional. The meetings we will schedule with Dr. McIsaac will be extremely beneficial to our project and will serve to keep us on task throughout the remainder of the semester.

Project Review

The past few weeks have been difficult to get much accomplished. Until we were able to meet with Dr. McIsaac there were a lot of unanswered questions as far as the integration with the GE Marquette system and what the components of our system would consist of. Now that we have a firm idea of what is expected for our project we should be able to
accomplish our tasks much more quickly. Our team has designated individual tasks to be accomplished by the end of the semester, and the work has been divided fairly equally.

**Hours Worked**

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