Work Completed

This week I focused on the integration between Blackfin and a graphic LCD display. I took a different direction than past weeks in that I have been researching how to initialize and control an LCD display using a PIC microcontroller since our original plan to use Blackfin cannot work anymore. PICs are programmed using a C-like language, and there is a large volume of sample code available on the internet. The basic outline of what we need to do is shown in the block diagram in Figure 1.

![Figure 1: Block Diagram for setup of microcontroller and LCD display](image)

This diagram shows a PIC microcontroller driving an LCD panel with the assistance of dynamic RAM, or DRAM. The DRAM acts as a temporary storage device for the image and allows the application to be run much more smoothly.
In order to get some sort of display on the LCD we will most likely need to use a PC to test the application. Figure 2 shows the necessary circuit to connect to a PC.

![Option RS232 Circuit](image)

**Figure 2: RS232 circuit for use with PIC microcontroller**

This circuit will be helpful if we decide to use two different PICs in our project. One of the PICs will be used to drive and parameterize the LCD display, and the other will be used to accept data from the Blackfin chip and display it on the LCD.

**Future Work**

So far I have basically only scratched the surface of programming an LCD using a PIC microcontroller, so I will need to focus on that this week. I will make some contacts at various companies that have experience programming a system such as this, and I will also employ the help of Dave, since his project dealt with programming a character LCD with a PIC.
Project Review

The project seems to be going a little better this week since we have finally found a direction. We have obtained the proper converter for working with the Marquette system, which should be essential in obtaining the data we need. Nathan has been getting considerable work done involving the interface of LabVIEW with a PDA. I have been researching how to interface with a graphical LCD display using a PIC, which is a new direction for us this week, and anticipate getting a lot more accomplished this week. We are running out of time however, so the next few weeks are crucial in our project development.

Hours Worked
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