Work Completed:

Thursday I started the creation of the PCB layout on Express PCB. After reading over all the instructions twice, all hints and tips and looking at a few example PCB I was ready to go. I have most of the PCB designed, but still working on power supply manipulation and may make a few small changes.
The next day in the lab Gabe and I were able to run the motor using a programmed microprocessor. At the same time I was looking into the use of voltage regulators to reduce our supply down to 5V for most of the supply voltage needed. A few different voltage regulators were tested using the lab power supply and they all seemed to work fine. Also, I did a little more work on the PCB layout.

The following Monday I rebuilt the entire circuit on one breadboard and wired it to our voltage supply. The driver loves our nice power supply, but is drawing current away from the rest of the circuit. The entire setup works and runs the stepper motor, but the stepper motor is does not run smoothly due to the fact that only 4.5V is produced by the voltage regulators. I tested this by reattaching the lab 5V supply to the rest of the circuit, while having the driver run off our 24V supply. In that case everything worked smoothly.
Future Work:

This week I plan on finding an alternative to the current voltage regulators we are using so the motor will run smoothly. In addition, as I make the final decisions on the components to be used the PCB layout can be completed.

Project Review:

The entire project is on one breadboard and running off our power supply. We can run the motor with the microprocessor. The LCD display is partially functional. The supply voltage when put through a 5V voltage regulator is a little low. Much more work to be done.

Hours Worked:

Starting Creation PCB in Express PCB: 3 hours
Working on running motor using microprocessor: 2 hours
Modifications to PCB design and analysis and testing of Voltage Regulators: 2 hours
Rebuilding circuit on one breadboard using new power supply and debugging: 6 hour
LCD to microprocessor interface and testing: 1 hour
Total: 14 hours