Easel 5000
Week 8
March 17 - March 24, 2006
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Work Completed

Express PCB

This week, the PCB was finalized. Using Express PCB, it was realized that the original PCB design had to be modified. In order to make the PCB fit an enclosure well, the size and arrangement of the PCB had to be changed. All the footprints of the parts had to be rechecked with the arrival of parts. All of the parts, including the LEDs, resistors, transistors, capacitors, battery wires, switch wires, and 8-pin dip socket all fit onto the board as they should. In addition, copper lettering was added to identify the parts on the board.

Express PCB Schematic

PCB Enclosure

Another large portion of the work this week was spent finding an appropriate enclosure for the PCB and lighting system. Numerous websites were searched for a plastic box with the correct dimensions. More than one option was found. However, Hammond manufacturing was found to have the best enclosure. Two separate boxes that could be used for the PCB were obtained as free samples and should be received next week. The PCB board then had to be rescaled again to fit the enclosure. The enclosure had
screw mounts to place a PCB in already, and so correct hole placement of the PCB for screw mounting was important.

Hammond Manufacturing 1591H Enclosure

**Machine Shop**

Time was spent at the machine shop. PVC is being used in order to make an enclosure for the battery. In case the free enclosure from Hammond Manufacturing will not suffice, measurements for an alternate PCB enclosure were also made and pieces cut. With additional options, assessment can be made to determine the best method of enclosing the PCB and lighting system.
Parts Order

In order to reduce the number of exposed metal ends, end caps were ordered to specifically fit the extrusions being used for the easel. This order should arrive next week.

Mansfield Supply

A trip was made to Mansfield Supply to purchase parts needed for the system that will secure the easel to the table. The easel base will function like a C-clamp; in order to accomplish this, two screws will be threaded through the base and the ends will push on the tray thus securing the easel. All the parts were purchased and assembled.

Future Work

At the end of this week the PCB will be ordered and should be received by the middle of next week. This will allow enough time to construct the board in the ordered plastic enclosure and attach it onto the easel. The battery case will also be constructed using pieces of PVC and then mounted on the easel base. The focus for next week will be to finish up construction, assemble all the easel units together, and do final testing of the final prototype.
Project Review

The end of the semester is nearing and the project is wrapping up. All of the major details have been taken care of. At this point, waiting for a few parts to be delivered is essential in order to proceed with the end steps of the project. Once those parts are received, final construction will be completed by the deadline for a fully operational prototype. This may take a few extra hours in the last remaining weeks in order to complete.

Hours Worked

Alison - 13 hours

Seth - 11 hours

Justin - 11 hours