Easelectric
Group #4

Weekly Report
Week #7
March 17, 2006
Team Report
Work Completed

This week significant progress was made with the fabrication of the easel. Over the break Frank was able to go to his father’s welding shop and complete most of the “assembly” of the easel. He welded any remaining parts together and attached the base of the easel to the tilting frame. He was able to notch holes for the actuators to fit in and also added mounting plates for their attachment. In addition, he was able to redesign one of the slide mechanisms to allow it to lock in place. This will be used for the tilt actuator.

Frank was also able to obtain a number of screws, bolts, and spacers to use for actuator attachment and easel assembly.

Figure 1: Redesigned Slide
Figure 2: Mounting Plate

Figure 3: Assembly Bolts/Washers
Figure 4: Easel Tilt Mechanism
Prior to break, Adam spent time working with Frank to determine the exact placement and positioning of the actuators as well as finalize the design before its assembly. Adam also worked on the horizontal motion mechanism for the easel. A piece of aluminum 80/20 tracking will be used to guide the horizontal motion of the canvas and will be controlled by a linear screw drive that will be mounted on top of the tracking. Adam also discussed the addition of limit switches and their location with Jon. The switches will be mounted at the ends of the horizontal slide to control its range of motion.

Jackie spent a significant amount of time this week searching for a light for the easel. Unfortunately, she found that most of them tend to be fairly expensive and we are not sure we will have enough remaining money in the budget to purchase such a light. She discussed the idea of building our own from scratch, however, budget and time are still a concern.

Jackie and Jon also spend a large amount of time researching a power supply for the easel. Since this is such an integral part of the project it is important that it be not only adequate, but sizeable and reasonably priced. A solid prospect was found from a company called Mean Well. It is rated for around 100 watts (roughly 8 amps at 12 volts). Also Jon and Jackie discussed the most effective way of wiring the easel to ensure that the wires are either hidden, or minimally visible. Lastly, the position and location of a box to enclose the electrical components was determined. Adam and Jackie will be constructing the enclosure.
Figure 5: Approximate Layout for Relays and Circuit Breakers

Figure 6: Location for Relay/Breaker/Power Supply Enclosure
**Future Work**

Over the next week, we will begin tackling all the small tasks that must be done in order to successfully complete the project and ensure that the project will be completed on time. Now that the easel is mostly assembled, we can order the last pieces of tracking and slides that we need for the project from 80/20. A purchase order will also be placed for a power supply. Once these arrive the final wiring process can begin. Also we will be constructing the box to enclose the electrical components as well as the power supply. Once the power supply arrives we will be able to finalize dimensions. We will be grinding down large welds, and also finalizing actuator attachments with removable pins to allow the easel to collapse as desired.

**Project Review**

Our project has come along well through the semester. Now that it is assembled, we can be making large strides forward. The assembly was a significant portion of the project and now that it is complete, additional aspects can be completed. Our group is planning on finishing the project on time and as expected.