Easelectric
Group #4

Weekly Report
Week #4
February 15, 2006
Adam Ross
Work Completed

The main work completed this week consisted of some touch-ups and a whole bunch of planning for the path of the project over the upcoming months. Much time was put into planning how the workload will be split up amongst the team members in order to assign a specific design task to each member. We decided that Frank will continue to do the majority of the welding, since he possesses the skills to do it correctly and efficiently. Jon is in charge mainly of the electronics and will take it all the way from the design aspect to the wiring and touch-ups at the end. Jackie is designing a container for accessories and a box to house all the easel’s electrical components as well as is in charge of doing the finishing touches to the easel such as painting and other accessories. Lastly, I will be designing the remaining portions of the easel, from the horizontal motion to the easel face where the canvas will attach. Aside from that, some of the aluminum pieces used to fabricate the easel were cleaned up with a grinder. After pondering for hours on how to amplify the movement of the actuators, we came across a piece from a previous project in the back closet that fit our application perfectly. It is a carriage and track assembly which is moved via a screw drive and a gear motor. We hooked up the gear motor and the track assembly to find, to our amazement, that the rate of movement was absolutely perfect for the easel and allows for the greatest possible range of movement we could ever hope for.
Future Work

Our track from 80/20 has finally arrived and this week we will be cutting the pieces into correct lengths and deciding how to fasten the extrusion to the solid aluminum pieces. The original plan was to weld the track directly to the aluminum, but under further consideration of the heat involved we decided not to risk any warping and to devise a system to join the two without welding instead. Frank will be welding up the majority of the structure this weekend and I will be devising a way to reduce the weight of the horizontal motion system, along with how to affix it to the carriage and how/where to attach the gear motor. We are now at a juncture where the only major purchase remaining will be for a power supply for the easel; however it is expected that selecting an appropriate one will take quite a bit of time for Jon. Jackie will be working on turning down some rods on the lathe to around 0.25 inches to provide support for our vertical motion.

Project Review

In my opinion, the progress this week on the project seemed to be rather slow. This is mainly attributed to the need to sit down and figure out how to proceed for the remainder of the semester and allow for everyone to have a major component of the easel to work on. With the tracking finally in we will be able to tackle a major milestone in our project, and that is to make the carriage actually slide upon the base; thus completing one of our 4 ranges of motion. Even with the slow week, we are still very easily on track with the project and all the individual components that have been worked on should be falling into place together very soon.
**Hours Worked**

Out-of-lab Design Time: 4 hrs.

In-Lab Design Time: 4 hrs.

*Total: 8 hrs.*