Easelectric
Group #4

Weekly Report
Week #2
February 3, 2006
Adam Ross
Work Completed

The work completed during week 2 consisted of a mixture of design and fabrication. Extensive testing and modeling of the easel was done earlier in the week to ensure that the design components worked well together before any fabrication was done over the weekend by me, Frank and Jon. The final positioning of the easel face was decided upon by sitting in a wheelchair and discovering what placement was most comfortable and accessible. Even though it was designed for, we were also delighted to find that the wheelchair fit perfectly in between the two clamps under the table. Hinges were added to the cardboard mockup of the easel to test its collapsing abilities and whether or not any other parts of the easel will interfere with one another. Styrofoam was shaped into sizes representative of the actuators that will be used to further ensure that there will be no complications when the actual components are added to the device. Pieces of pencil were used to serve as bolts and provide pivoting for the actuator so we could visualize how the device will be constructed and clearances needed for collapsing. A portion of the carriage was constructed down at Independent Welding using rectangular tubing, channel, angle and flat aluminum stock.
Future Work

The actuators have arrived and over the next few weeks we are planning on finalizing their optimal placement in the device. The carriage components must be TIG welded together once the placement is finalized. We have brought up two grinders to the lab so that the material can be cleaned up, de-burred, and welds ground down if necessary in preparation for the final product. Another piece of aluminum tracking from 80/20 is expected to arrive later in the week which is necessary to provide for the carriage and base to be joined together and allowing them to slide. Brackets must be fabricated to mount the carriage to the urethane slides used on the 80/20 extrusion. The electrical system can now be planned and a box must be fabricated that will contain the circuitry while still allowing for the collapsing of the easel.

Project Review

As of week two, the project continues to run on schedule. The cardboard cut-outs have allowed us to trouble-shoot many design problems, saving us valuable time in the long run. With the base and carriage fabricated and actuators that have finally arrived, we are ready to start taking the next step and start to incorporate motion into the easel within a few weeks. We have yet to run into any major issues, and the slight one with a threaded rod binding has been filed away and fixed.

Hours Worked

Design & Fabrication: 5 hours
Lab Time: 4 hours

Travel Time: 2 hours

Total Time: 11 hours