Adam Rauwerdink Weekly Report

Work Completed:

This week’s work involved finalization of the 8020 frame design and the ordering of the parts. After the demonstration last Friday, it was also determined that 8020 could be used for the hinge as well. Our plan after last week was to use a hinge like those found on an office chair, but after consulting with the 8020 representative it was determined that their hinges would suffice. The total frame design was finalized in CAD, as shown below, and a quote was prepared from the associated bill of materials.

As can be seen in the timeline, we are behind schedule in that the frame construction should have begun already. The 8020 should be far quicker to assemble than a welded metal frame, though. Therefore we should be back on schedule by the end of next week as the frame and hinge should be complete.
Future Work:

Next week will be largely dedicated to the construction of the frame. The completed frame will then be attached to the chair. When this is completed work can begin on attaching the motor and determining cam and linkage bar sizing. Initial analysis has already been completed, but it will need to be brought up to date in order to match the assembled frame.
Project Review:

The use of 8020 for the frame and hinge should speed up our construction greatly. All that we will need to do in the machine shop is cut the metal tubing to length. The actual construction can be done in the lab, so it should go quickly. By the end of next week this should be completed, and I should be able to start on the motor and drive system. Within the next two weeks we should have the chair rocking on its own, though in a very rough form.

Hours Worked:

1/26-2/2: 9 hours