Work Completed

Over the last week our team worked to finish the all the individual parts of the easel and to assemble the entire easel together. Once the frame and base were fully welded we were able to combine the two pieces together and pin the frame to rotate within the base.

Careful consideration was taken to ensure that the easel collapsed and folded as expected and that all clearance was sufficient. Also, we attempted to determine where the power supply, circuit breakers, and relays could be attached most efficiently. This must be a location that is recessed and out of the way of the easel itself, as well as compact, yet accessible.

One difficult aspect being considered is where and how to run the wires between the relays, joystick, and actuators without them being overly visible or exposed. The will all need to be tied tightly to the frame if they cannot be hidden within the frame itself. They must also be able to move with the easel. If the base, for example, is moved forward, the wires must be able to accommodate for this. The picture below shows the approximate size that will be required for the relays and circuit breakers. The box that encloses these will also most likely contain the power supply. By keeping the two together, there is less need to run extra lengths of wire. Currently only two 14-16 gauge
wires to each actuator/motor will be necessary. Seven smaller 22-24 gauge wires will need to go to the joystick.

Figure 1: Approximate Size Required for Relays/Breakers

The most probable location for the electrical components and power supply is shown in the photo below. This will still allow the easel to fold as expected.

Figure 2: Location of Electrical Parts and Power Supply
**Future Work**

Over the next week I will be obtaining supplies necessary to finally wire the easel such as wire, power cord, switch, and spade connectors. We will also most likely be ordering a power supply. A significant amount of research was done by our team to find a sufficient, yet moderately priced power supply. Because we do not have electronic components, noise and interference will not be a problem.

We will also be constructing a box which will hold the joystick and make it attachable to either the easel itself or our client’s wheelchair.

**Project Review**

Our project is coming along well, especially since we have made a large jump by getting the easel assembled. The remaining tasks are small yet numerous, and as a result we are being very careful to ensure that they are divided evenly and accomplished timely. We are confident that our project will be finished on schedule and entirely functional.

**Hours Worked**

Roughly 2-3 hours was spent researching power supplies adequate for the easel. Another 2-3 hours was spent deciding on a method to attach the joystick to either the wheelchair or the easel, and also how to run the required wires to it. Around 2 hours was spent designing the box to enclose the power supply and electrical parts and also its location on the easel. Finally, around 2 hours was spent testing the actuators with the assembled easel and determining the maximum range of motion that the easel can be allowed to move. Total time for the week is around 8-10 hours.