Work Completed:

The last week was a re-gathering of teammates after Winter break. We spent the entire work day on Friday creating and discussing the plans that were made in the previous semester and how exactly they were going to be implemented this semester. After reviewing and agreeing on the plans that were presented in the Fall, cardboard was used to design the basic structure of the easel that we proposed. Although the cardboard is a flimsy material it helped us get a better idea of how the project is going to look in 3-D as opposed to just being on paper. The use of the cardboard helped us to see that some of the measurements that were assumed in the optimal design were not exactly going to work. After making the pieces and putting them together we discussed the workings of the easel. New ideas were thrown out as to the size of the aluminum that was proposed to be used and what might work better. We allowed for 2” square tubing for the vertical motion of the easel and the electrical wiring as well. After looking at the prototype that was constructed a suggestion was made to use 1” square tubing so the easel would still fulfill the specifications. Figure 1 will give an example of the structure of the easel. Figure 2 are examples of the metal sizes and pieces that we have options to use for the basic easel construction.
The base of the easel was constructed previous to the beginning of the semester and thus was an advantage when we got into the lab. Steel was welded together to create the piece that rests on the table. The under-table clamps which support the easel were also constructed. Figure 3 show the clamps as a detachable part of the easel.

Another part of last weeks work was to check if the parts that we ordered over break were correct and were going to work with the project. We realized that a part of our shipment was indeed incorrect. The track that we got did not match up with the sliders that were supposed to correlate with it. Therefore I looked at the 80/20 website and manual to confirm a new order and place that in so that we could have it as soon as possible.

Another part of the project that got started this week was the beginning of the electrical equipment. We received a joystick that was already assembled and was a help to look at and get ideas for how to wire the joysticks that are going to be used in our project. It was necessary to look ahead in the timeline and realize that during field testing it would be necessary to recreate the environment that our client will have to use the easel in. I provided a wheelchair that could be used throughout the semester to determine if we
are making the correct measurements according to the specifications. Finally, we made
progress on the website updating the material that was finished last semester and making
some additions.

Future Work:

During the next week of work, our plan is to finish getting all of the necessary
requirements for our website to be completely updated. Getting all of our resumes as
well as pictures onto the website is a main point. This week we can make final decisions
on the sizes of the materials that we will use for carriage and the movement of the easel.
With help from our manufacturers, hopefully our actuators will be coming in soon so we
can make final plans on how they will fit into the structure. We originally planned for the
easel to be able to be folded down and stored easily. This can only be accomplished if
the actuators are the size that we expect and move with the distance that it is intended to.
Another part of the project that can be started to look into and creating is the electrical
control part of the easel. Below is a timeline of the next few weeks of work.

Week 2: Work on website. Determine if our base fits the specifications of the
Week 3: Keep on fabrication of metals. Continue work on electrical equipment.
Analyze parts supply and make final measurements and metal size choices.

Project Review:

Thus far, the project is moving along quite well. When all the parts that we
ordered are in it will be possible to make final decisions and get a majority of the
fabrication completed.

Hours Worked: I worked 6 hours this week on the project.