Project Identity

Easelectric

Week #11

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Work Completed

With the easel complete and functional, this week was spent working on minor details and getting the easel to work exactly as desired. Many of the wires on the easel were loose and had to be tied down, so a significant amount of time was spent hiding wires and securing them into place. I also worked to determine a way to ground the easel as efficiently as possible without requiring a significant amount of extra visible wiring. The main problem arises when considering the fact that the upper portion of the easel rides on plastic polymer slides. Therefore, even if the base of the easel is grounded, the upper portion remains independently insulated from the base. Two ground wires will be required to fully ground the easel and prevent against undesired electrical shock.

I also worked closely with Adam to determine a method of strengthening the canvas attachment. Unfortunately, the small amount of play in the horizontal slide bearing is significantly accented over the large distance spanned by the canvas attachment. The thin aluminum framing also contributes to the excessive play in the attachment. Additional 80/20 Inc. tracking will be used to reinforce the canvas attachment. The largest problem is ensuring that this new tracking system is designed in such a way as to allow the easel to continue to move both vertically and horizontally. We are fairly confident that the system we designed will solve the problem.
In addition to fixing small details of the easel, a very large portion of time this week was spent compiling useful and visually descriptive pictures of the easel to be used in both the final report as well as the operator’s manual. Many hours were spent writing a large portion of the users manual and individually describing and labeling all parts of the easel. The operator’s manual was a huge undertaking as this is the document that will describe the easel to the client and his assistants. It must take into account all aspects of the easel from setup to maintenance and repair.

Figure 1: Canvas Attachment on Easel Before Modifications

Figure 2: Easel and Joystick Attached
**Future Work**

Over the next week we will be preparing our PowerPoint Presentation to be given on Senior Design day. We will also be putting together the presentation board which will accompany the easel. Lastly, we will continue to work on the easel and fix any remaining problems we have. The modification of the canvas attachment to decrease its “shakiness” will be a top priority.

**Project Review**

This last week proved to be extremely tedious and time consuming as all the reports and documents had to be painstakingly constructed. Each component of the easel had to be accounted for and described in specific detail. However, the project was functionally complete on time and only continues to improve each week. We are certain the project will be functioning exactly as desired by the time it is presented.

**Hours Worked**

Nearly 10 hours was spent in the lab this week working just on the easel itself and solving a number of smaller problems. In addition, over 20 hours was spent compiling the Operator’s Manual and Final Report. Total for the week is over 30 hours.