Easel 5000
Week 11 Report
April 9 – April 14, 2006
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Work Completed
Report Writing

This week was spent writing the user’s manual and final report. Much time was spent drawing, compiling, and writing. A lot of new material had to be covered for the final report and was also time consuming.

LED Light drawn in Visio

Battery Compartment Drawn in Visio

Sample of User’s Manual

INTRODUCTION
About the easel

The Easel 5000 is an adjustable easel designed for use by an artist with physical limitations. The easel is made to adjust to a variety of positions an artist would need when painting. It is fully mechanical with double locking joints to ensure sturdiness and safety. It is designed to attach to the tray of a wheel chair for the artist’s use. The easel design is broken up into four major components. These components include an LED light source, a canvas holder, an easel extension, and a base. The LED light source has a light intensity dimming adjustment, an easy to use On/Off switch, and an adjustable friction hinge to adjust the angle of illumination. The canvas holder easily adjusts using locking brackets to fit a large range of canvases. The canvas size it accommodates can range not only in length and width but also thickness. This allows for a large range of painting medium. The easel extension has two locking joints that allow the easel to extend forward, backward, up and down. Also it allows the canvas holder to pivot 180 degrees. The base allows the easel to attach to a wheel chair tray for ease of use. The base is then capable of locking down via screw fasteners that lock it to a surface. Each component is integrated into a functional unit for adjustment and use.

Example of Final Report

REALISTIC CONSTRAINTS

**Economic**

As mentioned, the funding allotted for the project is a maximum of $750. This budget will need to cover all aspects of the easel. Examples of necessary budget expenditures are raw materials, machine shop welding, troubleshooting, and packaging. Overall, the finished product of the Easel 5000 will strive to be affordable to the public. With efficient design, the easel will have a lower cost than many commercial products to date with similar or competitive features.

**Environmental**

The finished product of the Easel 5000 will be composed of nontoxic materials. The only materials used for the easel will be aluminum, rubber, plastic, and steel. The process of designing and constructing the easel will be environmentally safe. The majority of the easel is constructed of aluminum. That being the case, the project can be easily disposed of in an environmentally friendly manner. By removing the non-aluminum pieces, the aluminum components may be brought to the nearest recycling center for future use. The
other steel components may be recycled as well and the other smaller components should be disposed of.

**Sustainability**

Maintenance for the Easel 5000 will be minimal. Although aluminum is very corrosion resistant, the easel will be painted, thus further reducing possible corrosion. With moderate use, the easel maintenance could consist of oiling joints to reduce friction and squeaking. Bolts may need tightening on occasion and rubber strips may need adhesive reapplied.

Repairs to the easel may be made by replacing any damaged parts. The easel will include an operating manual addressing these parts. This manual will be included in the packing contents. An approximate estimate for the lifetime of the easel will be five years, in which the device might fail due to fatigue and general wear. However, the non-metal components of the design will likely need to be replaced before five years of use. These parts include LED lights, wires, batteries, bolts, washers, and paint.

**Hours**

Ali – 20 hours