

Tabletop Photography Studio Luke Boote

Summary



Figure 1: Front View of Tabletop Photography Studio



Figure 2: Example of Results Using the Tabletop Photography Studio

The goal of this design project is to make a device to provide quality lighting for photographing household objects. Professional lighting equipment is too expensive and too bulky, so the device had to be cheap as well as simple to setup and take down. To minimize assembly time, the device should have a simple power connection. When disassembled, it also has to be small enough so that it did not take up much space in storage. Another necessary feature the device needed was to be small enough to fit on a tabletop so that furniture in the room it was being used would not need to be moved around. Finally, the device should allow for the use of different color backgrounds

depending on the object being photographed, and the backgrounds should be easy to change.

There were several concepts considered for this project. One design consisted of a wood frame that was connected with hinges so that it could fold together when not being used. To provide quality lighting, two lights were clamped onto the side walls and diffused through white fabric. Another considered design concept used folding legs similar to those found on card tables to support a solid top that housed the lights. Additionally, white fabric was attached to the legs to help reflect the light and provide a clean background.

The final major design is built from foam board. There are two sides that support the top piece, which holds the lights. At the back, there is a smaller strip of foam board for added stability as well as a location to attach the different backgrounds to. The lights used are small fluorescent tubes that could be connected in series so that it was only necessary to plug in one power cord to the wall socket. The foam board pieces are held together using small finishing nails. These hold the foam board securely and allow for it to be easily taken apart and stored. The lights and the backgrounds are connected using plastic Velcro-like hooks. Since not much weight is being supported by the plastic hooks, no additional fasteners are necessary.

The results achieved with the device were very satisfactory. The white foam board and long fluorescent lights diffuse and reflect most of the light, so there are no shadows that fall on the object being photographed. One way to improve the lighting would be to attach a light fabric or paper covering over the lights because when photographing very reflective objects, it was possible to see the location of the overhead lights. In terms of assembly and storage, the device only takes a minute to setup and take down, and requires very little space to store. Also, the background can be changed in only a few seconds, and it is possible to include more backgrounds of different colors in the future.