Work Completed

This week saw great progress on both projects, mainly the monitor lift. This week we were able to get into the workshop quite a bit as a team and get a lot done on the monitor lift. The first few days in the lab we mocked everything up and then marked out where all the holes were to be drilled and as to what size the holes would be.

At the beginning of the week we started off by drilling the holes through the steel uprights in the appropriate places to line up with those pre drilled mounting holes on the guide rails. Next we had to figure out how to mount the guide rail without obstructing the movement of the rails. We decided to use flat head bolts that went through both holes and then nuts were attached on the other side to attach the guide rails to the uprights.

The next thing that had to be done was to mount the corner brackets onto the guide rails in the appropriate places. These corner brackets were mounted in a similar fashion as the guide rails to the steel upright. The brackets were mounted to the guide rails. Next we had to mount the other face of the brackets to the bottom cross piece of the upside down T aluminum piece. Seen below is the final product after this ninth week. The final step to achieving this product was to mount the guide rail uprights system to the base platform. This was done using the L brackets we purchased. These brackets were perfect except they had to be modified so they would not overhang on the back. The way in which they were modified was by cutting them done on one section of the L. We were then left with only one hole to mount that flat piece to the bottom frame. We then had to drill a custom hole in the bottom L piece so that it would have two points to lock down on the bottom piece. The front L brackets that are exposed to the forward of the device did not have to be modified since there was plenty of room to mount on the two foot deep aluminum piece.
Figure 1.1- Product after week 9 shows complete mounting of device minus electrical.

One can compare to our original Visio drawing that depicts what were meant to accomplish over this time period. Below is the Visio drawing of our monitor lift labeled to show viewers the actual placement of the real pieces in the above picture.

![Visio drawing of monitor lift](image)

Figure 1.2- Visio drawing of our monitor lift before our construction of week 9
Our paint cap remover saw progress as well in that the vice was affixed to the back upright aluminum piece using a set screw. Up to this point the vice was only resting in the drilled hole or perhaps slightly pressure fit into the hole. The set screw completely solidified the attachment of the vice back rod to the back plate of the paint cap stand. The motor and the motor housing unit were also affixed to the frame. The next step is to do up the wiring, mount the button, and encase all this underneath and behind the motor. Another esthetic piece that was created was a bent piece of sheet metal around the outer brim of the motor unit and its housing compartment. Below is a picture of the paint cap remover and the circuitry that will have to be enclosed within the underbelly of the frame underneath and behind the motor.

Figure 1.3- Paint cap remover as of end of week 9 showing crude mockup of circuitry.
**Future Work**

The next few weeks will see the completion of the circuitry of the two devices as well as the incorporation of switches and buttons on the appropriate projects. Housing units for the circuitry will also be created and will esthetically compliment the devices. If the side portion of the bottom plate of the monitor lift is not used for mounting of circuitry or a switch it will be cut off to increase symmetry, reduce weight as well as increase the appeal of the device as far as looks are concerned. We must also think about starting the written portion of our project so that we can account for everything troubleshooting wise with our project. We must also extensively test each project to its limits to make sure it is functional as well as safe.

**Hours Worked**

In Lab: 4

Out of Lab: 10

Total Hours Worked: 14