Work Completed

We tested the mount of work that the linear actuator can perform. We tested using the wood and other objects available in the lab: the big and bulky motor and the metal bar. The figure 1 below shows the forces and the distances of the tested objects. It proves that the actuator can raise and lower all of these objects successfully.

The figure 2 below shows the drawing of the whole system. The base platform is Aluminum with a dimension of 24”x24”x5/32”. The guide rail will help to raise up the monitor. The guid rail itself is supported by the guide rail support, which also made out of Al. The actuator’s stroke is attached to the monitor’s support, that is also attached to the monitor mount (shown on the right). This mount can be used for our monitor, the flat LCD monitor Samsung 275T.
Figure 2 – the monitor lift system.

The picture 3 below shows the base platform attached to the linear actuator. The process was done successfully. Four screws were used to attach the platform and the actuator together.
Paint Cap Remover:

We use the foam for the purpose of preventing the paint tube from being pressed down as the device successfully twist open the paint cap. The material of the remover frame is aluminum. Aluminum is sturdy and is good for support. There will be three pieces of the frame. The wall which is used to support the clamp, the middle piece will be attached to the wall that holds the motor in place, and the bottom plate that holds the wall.

Project Review

Monitor Lift:
The bottom platform was done and it looks very sturdy. However, what we tested was only maximum of 29.2lbs. We might need to do more testing to ensure everything works.

Paint Cap remover:
The frame turned out to be very sturdy. However, I concern about the weight of the device. It might be heavy. Since the frame is made of Al, the box around it might be made of Al also, which might make the design bulky and heavy.

Future Work

Monitor Lift:
- Figure out the dimension of the other components: the rail’s support, the monitor’s support
- Order the monitor mount
- Attach the monitor’s mount to the actuator’s stroke
- Attach the rail’s support to the platform

Paint Cap Remover:
- Attach the motor’s support to the wall
- Drill holes
- Attach the wall to the bottom plate

**Total Hours: 14**