**Project Identity**

UConn Health Center Wire Tester  
Week 7: 2/14/07-2/21/07  
Scott Michonski

**Work Completed**

We want to order the material from Yarde materials as soon as possible, therefore we have thought of the possibility of buying the base and then getting reimbursed for it later. This would allow us to make sure that our materials are in, in a timely and efficient manner.

The base that we want from Yarde materials will be 0.5x18x30 this will allow enough material for the entire base and for the support structure that we will need to build on it. The reason for this is that we want to cut pieces off of the slab to build the vertical mount. To do this we will need three pieces of steel, two 6x2x0.5” and one 4x2x0.5. After those two pieces are cut from our piece of steel we will still need to cut out the face of the wall which will attach to those pieces.

The face of the wall will need to be 14x6x0.5” this will allow enough room for the linear slide to screw directly onto the face. The holes in the face of the wall will need to be spaced 9.600” apart while still allowing for 0.763” that the slide will need to clear the base.

Yarde materials has a piece of metal with the dimensions 0.5x19.5x31.5 in their drop zone. The drop zone is material that has been previously made but they never sold. The piece of material with these dimensions is $488.00. The type of material is 316L stainless steel. 316L has a higher corrosion resistance than the other main three types of steel that they sell and it will last a longer time without rusting.

If we order a piece of material with the exact dimensions we want it will take over three months for them to get the necessary material. They do not have 0.5” thickness plates in stock so they would have to order more. However if we order the piece from their drop zone we should be able to get it in immediately. The shipping for this will be within one to two days.
The only other material close to what we need that they have in stock is 5/8” thickness plates. If the drop zone piece was ordered we could increase our thickness on our device and still be able to get everything in a timely fashion. They have a plate they could sell us with dimensions 5/8x22x30. The price for this would be $768, however hopefully we will be able to get our other plate and not have to use this option.

The only issue with getting this material is that since it is in their drop zone it could be ordered by someone else if we wait. They only have one piece of this type of material on hand and anyone can order it at any time. Therefore it is critical that we purchase our material as soon as we can.

The entire structure will consist of the base being 18x18x0.5, two pieces for the face with dimensions 6x2x0.5 the vertical piece 5x2x0.5 and the face for the structure. The overall volume of steel that we are going to use is approximately 221 inches cubed. The density of steel is 0.09722 lbs/in^3 so the weight of the steel alone in our device is going to be approximately 21.5 lbs. The slides themselves weigh approximately 4.5 lbs without the motor and 6.25 lbs with the motors attached.

After we attach everything to our device its overall weight is going to be approximately 42.554 lbs. Considering the fact that this larger weight is used to reduce torques to a negligible amount it is not bad at all. The only consideration we need to make is that we make moving the device as easy as possible.

Originally we got rubber platforms from Rich in the machine shop. However now that we are going to use steel to build the structure we are going to need stronger platforms. They can still be attached using English mount #10-32 screws however they will need to be larger in size.

We can pick up rubber platforms from Mansfield Supply off of 195 and the cost should be negligible to our budget. The base should be sitting at least 0.5” off the ground. This will make sure that users can easily get their hands under it to move. When dealing with the amount of weight that we are it is important that this is dealt with.
Future Work

We need to order this material as soon as possible since it is liable to be sold at any time. Therefore over this next week we need to send in our purchase order and make it known that it needs to go through immediately.

Project Review

The project is coming along, however it is very important that we get the last of our parts in. The whole project is due in 5 weeks and we need to make sure that we have everything to work with as soon as possible. We will be able to finish everything on time, we just need all of our materials in right away.