











Object

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ART 170 at CSU taught by Mark Dineen

Statement

With this work I seek to recontextualize the conceptual components of a computer mouse. By changing the mode of interaction with the mouse I hope that participants place more attention on their movements both in physical and digital space. My choice of materials was an intentional reference to the Mother of All Demos, the birth of the computer mouse. This project was inspired in part by the Mischief Ouija by Melanie Hoff and Dan Taeyoung as well as my experience at the 2021 Computer Mouse Conference organized by Ashley Jane Lewis and Emma Rae Brumel Norton.

Object Colophon

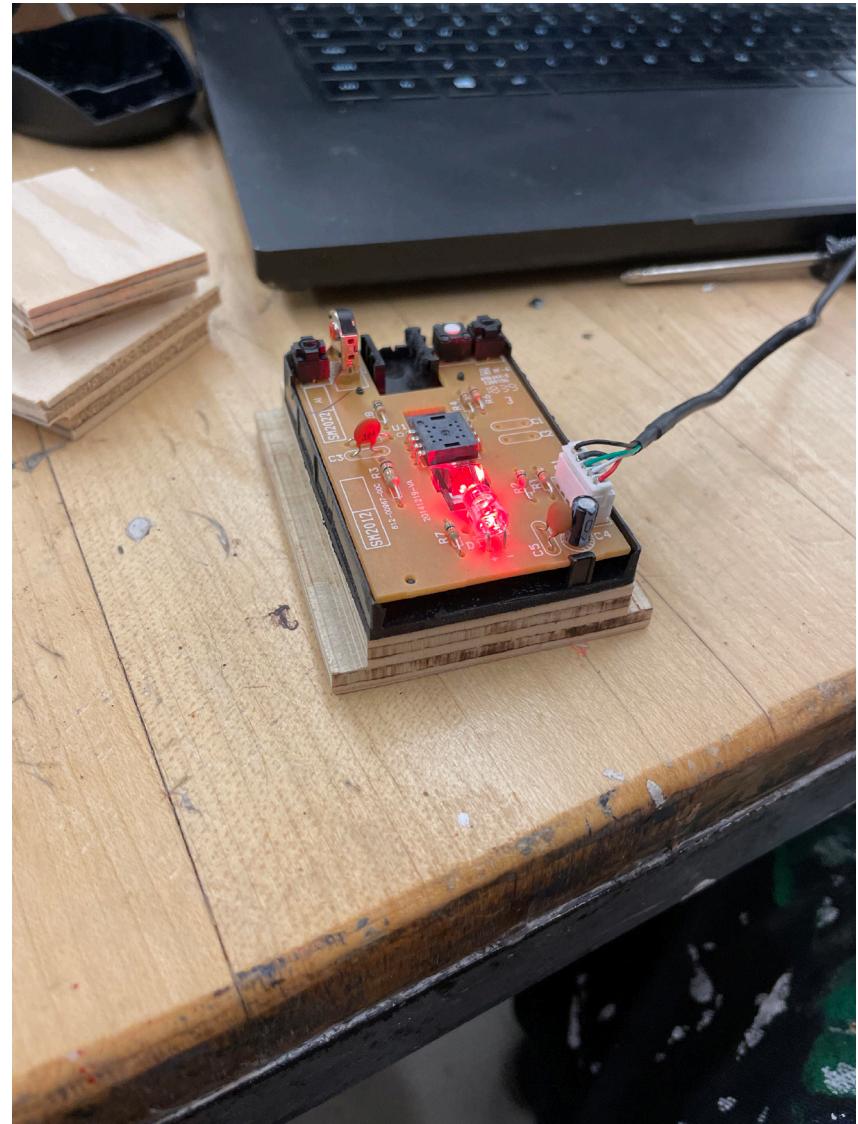
The mouse shoes were constructed using two Dell branded mice from CSU Surplus Supply Store, 12mm BB Baltic birch plywood from Sears Trostel, used mens US size 10 shoes from Arc Thrift Store in Fort Collins, Sparkfun branded 22 gage wire from Ace Hardware in Fort Collins, super glue from Ace Hardware, limit switches from ebay, Gorilla Glue brand 5 minute epoxy also from Home Depot on Magnolia St. in Fort Collins, a $\frac{3}{8}$ inch dowel from Home Depot and Blue Tac from Amazon. It was created in the CSU Art Department woodshop and the soldering was done at the Fort Collins Creator Hub. The computer display is a Microsoft Surface 3 from Ebay running Ubuntu 20.04 with Gnome 3 and a Processing sketch, some custom code and some code which was taken from an example in the Nature of Code by Daniel Shiffman. A usb 3.0 hub from Amazon was also used.

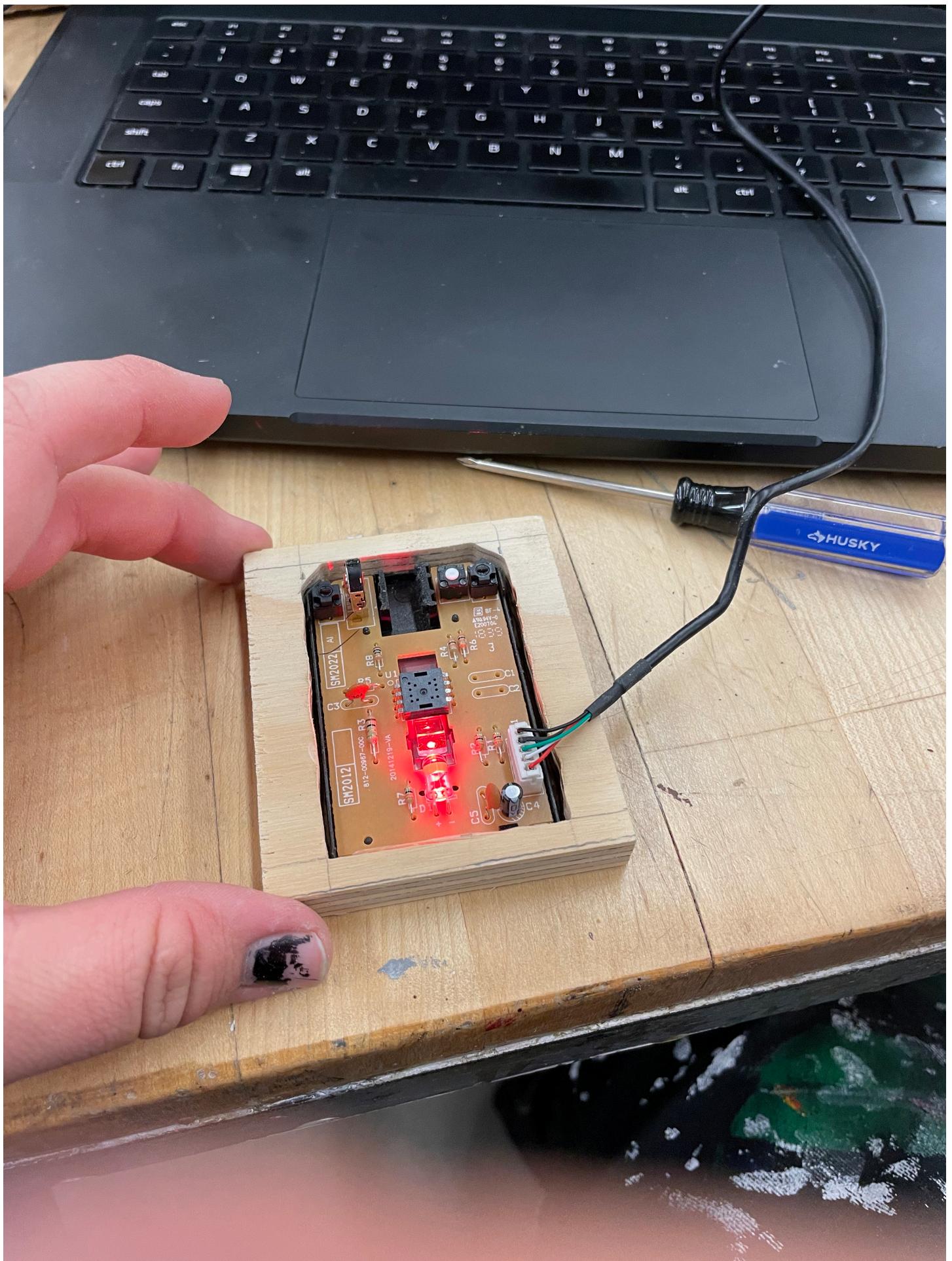


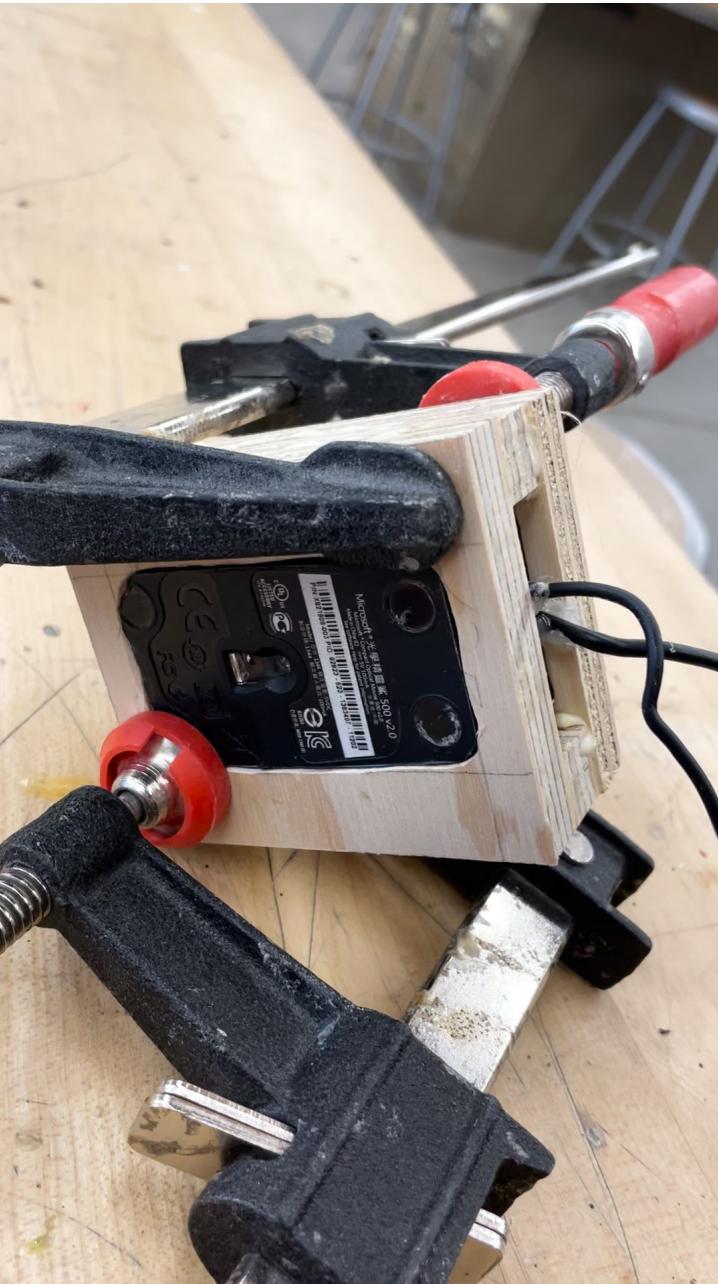
My first thought was it would be funny to make a mouse mouse. So I started with that. I didn't have super glue so i used a soldering iron to melt the plastic together. I quickly realized the ergonomics would not be good and I wanted to make something that was functional so I moved on.



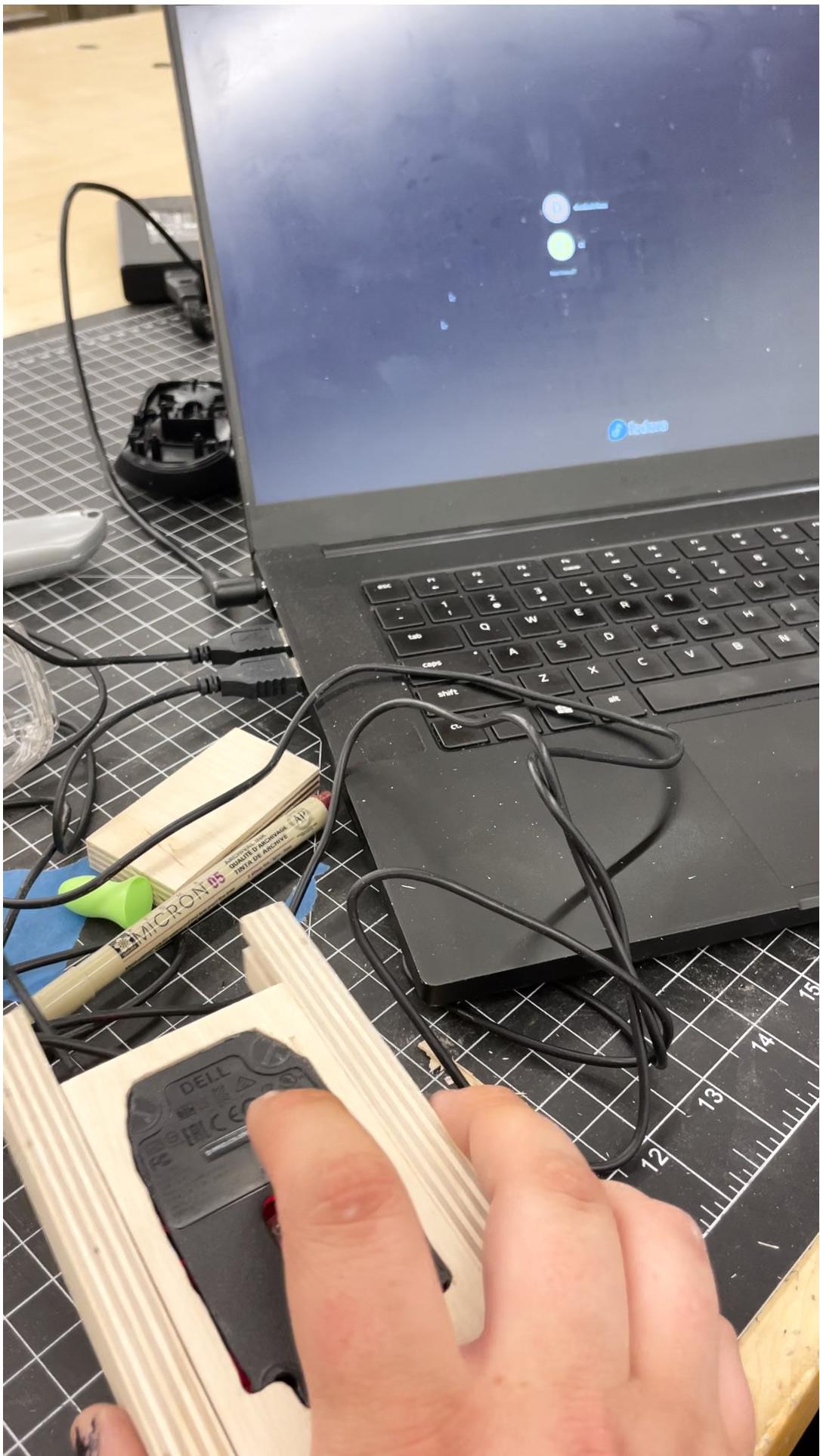
My next idea was to make a double sided mouse. So I tried cutting down the mouse shell. In some initial tests I discovered the mouse sensor was very sensitive to distance from the table. So my initial design was out.



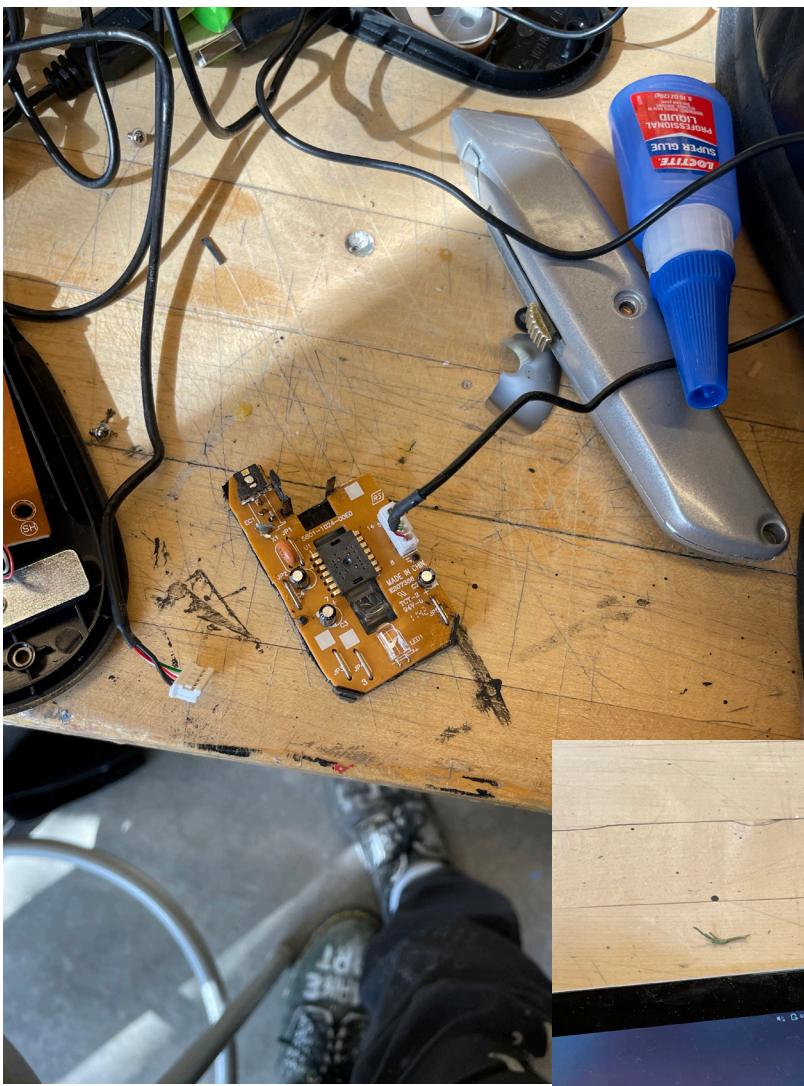




My second attempt on this idea used plywood to make a simple box shape with two cutout mice in it. Unfortunately this attempt stopped working sometime in assembly and because I used wood glue to put it together I wasn't getting it apart to fix the problem. So I created a second version that was user serviceable.

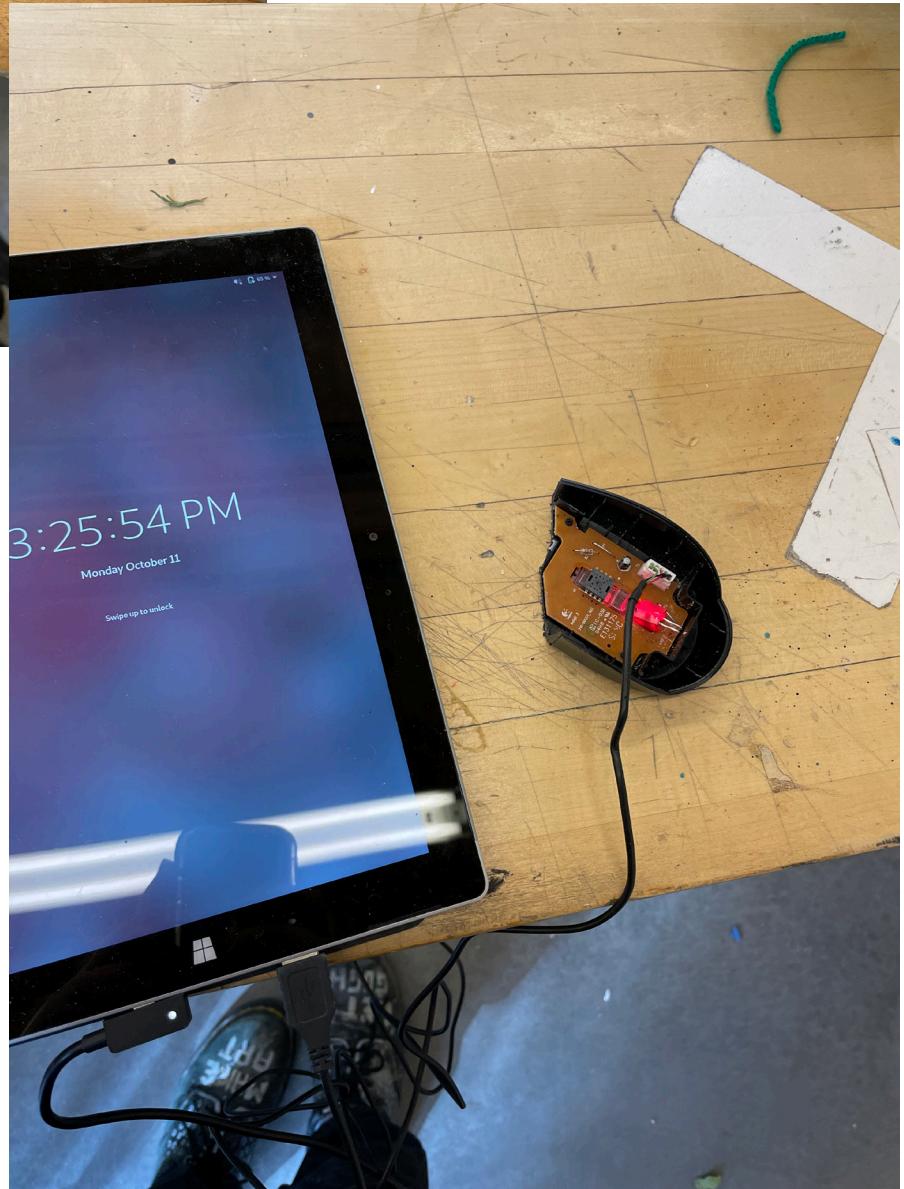






After a few days of deliberation I concluded that a shoe mouse would be an interesting object to make. So I started working on that. I did a number of experiments to see if I could make the mouse smaller so I could fit in the sole of a shoe. I simply would cut parts off the pcb. The previous page shows the variation in HP branded mice and left bottom mouse still functioned but the one on the right did not. I then tried a few more to varried sucess however dell mouse performed very well the one on the bottom left of this page is still a functional mouse (just without buttons).

I then did a glue up into the sole of a hollowed out shoe. When testing it still stuck out from the bottom at an odd angle and I concluded that adding a platform to the shoe was the way to go. Also it would allow for the shoe to be taken apart if it wasn't functioning correctly.





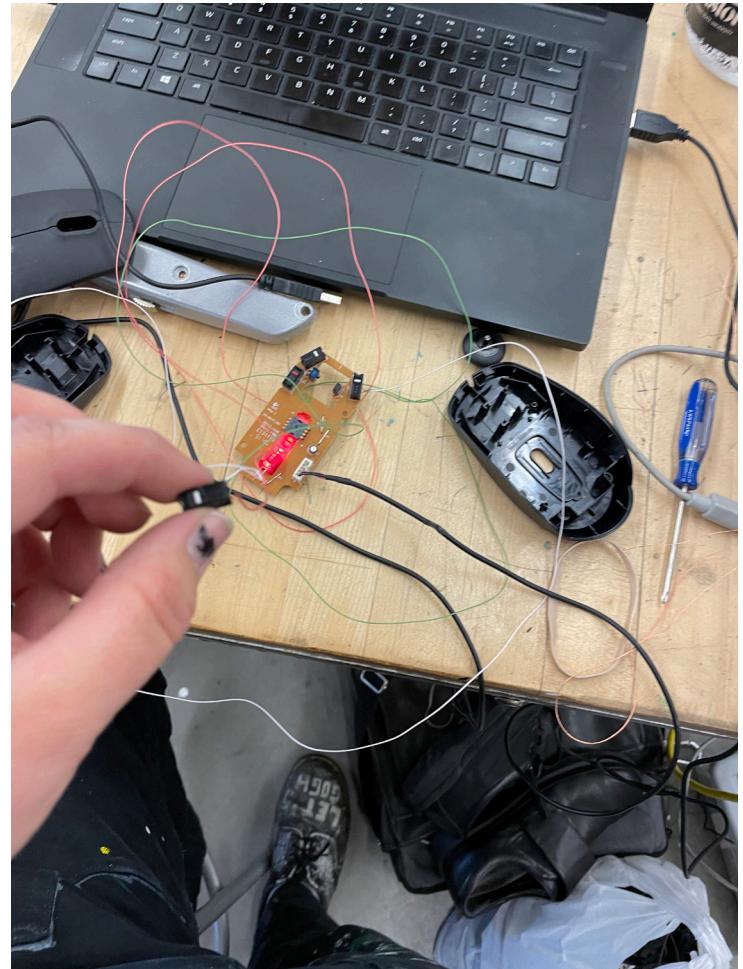
I realized that it would be nice to include clicking now that I had more space in the bottom of the shoe. So I experimented with extending the cables on for the button. I decided to use limit switches I had on hand because they were compatible after a quick test (which I would struggle to replicate).

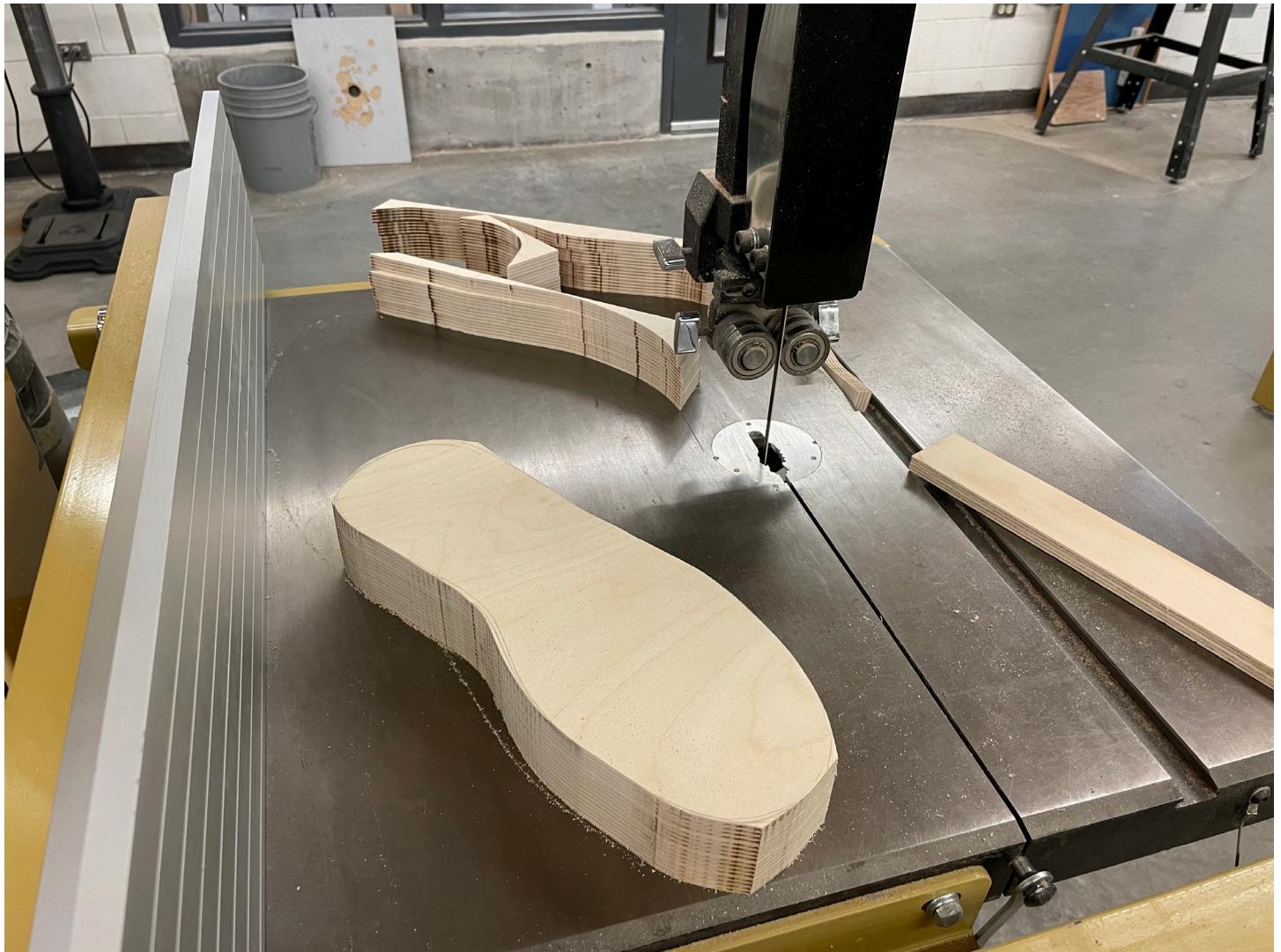
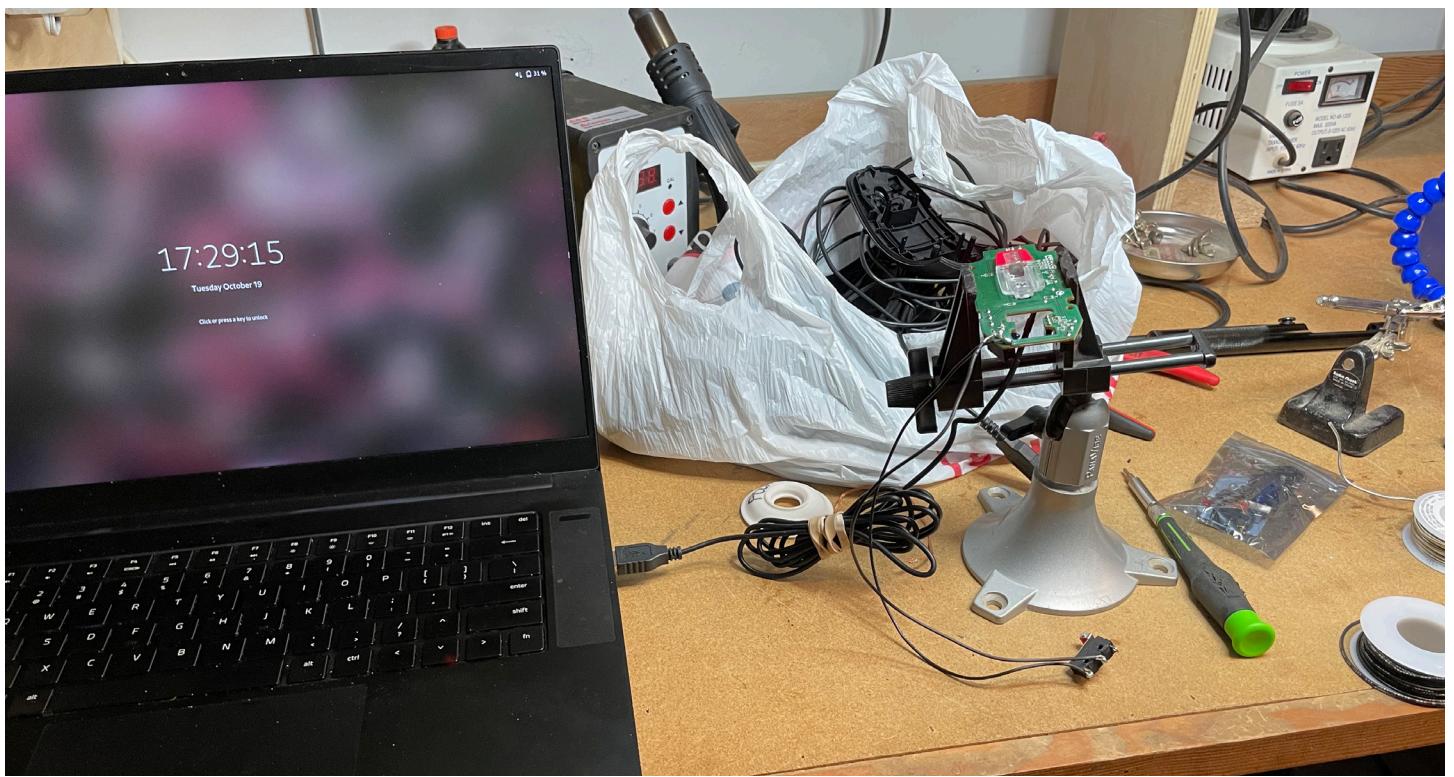
This was the biggest challenge of the project. I was making good headway but I had to scrap everything because the cables on my first shoe broke and I had super glued it together. The proceeded the massacre of mice. I kept killing mice because the soldering irons in the art depart-

ment weren't temperature controlled and the solder pads kept ripping off.

After 3 days and about a dozen dead mice I simply decided to take a short trip to the Creator Hub and simply use their temperature controlled soldering iron. It hardly took 30 minutes to finish up two mice.

Then it was 8pm the night before critique so I proceeded to spend the next 11 hours finishing the shoes. Because of the fast approaching deadline I let a few mistakes slide like not remaking the base when I didn't drill the holes for the dowels correctly. It was 5am and I hadn't written any software so I threw together a fun visual with Processing. Rather amazingly it only has one small bug with the cursor orientation jumping around at times. Spent the last 2.5 hours before critique trying to get rid of a bunch of things from the linux install that could cause problems. Rather ironically I was unable to disable the touch screen driver which if you know anything about linux normally it's impossible to get drivers working. But there was no way to close the program with the touch screen thanks to ditching all the other desktop elements so I called it good.















The carnage





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