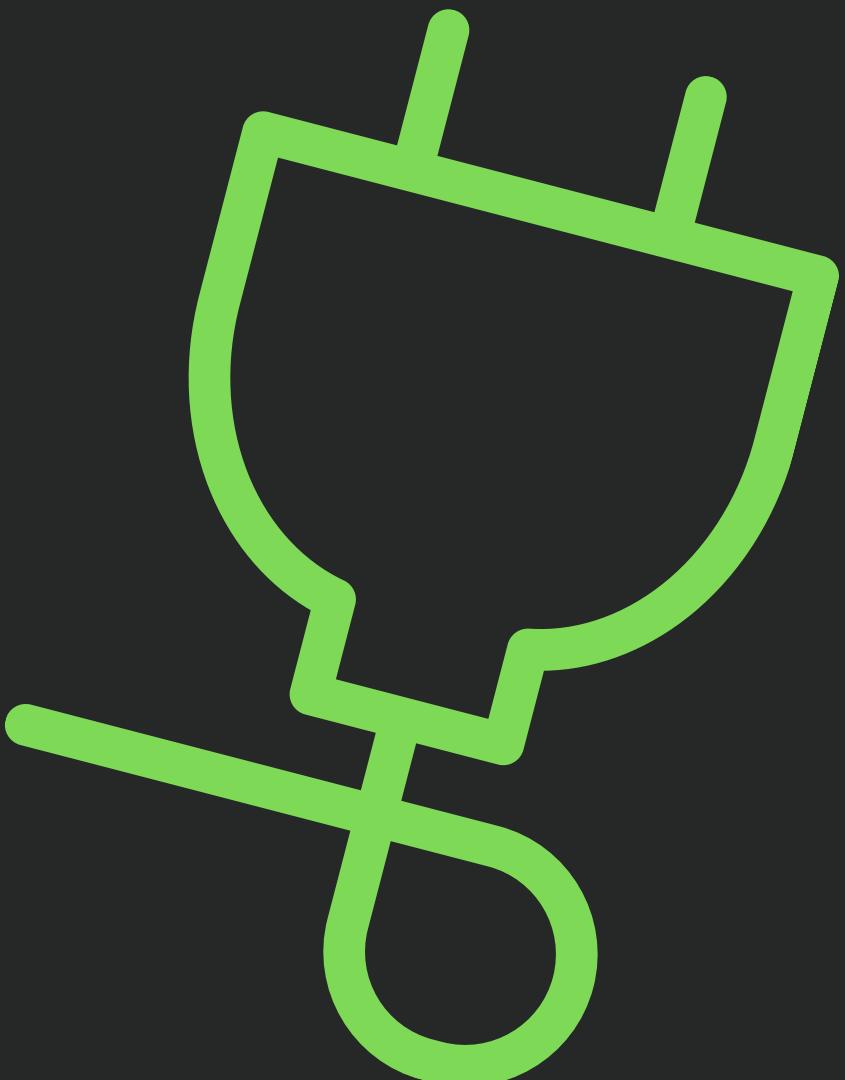
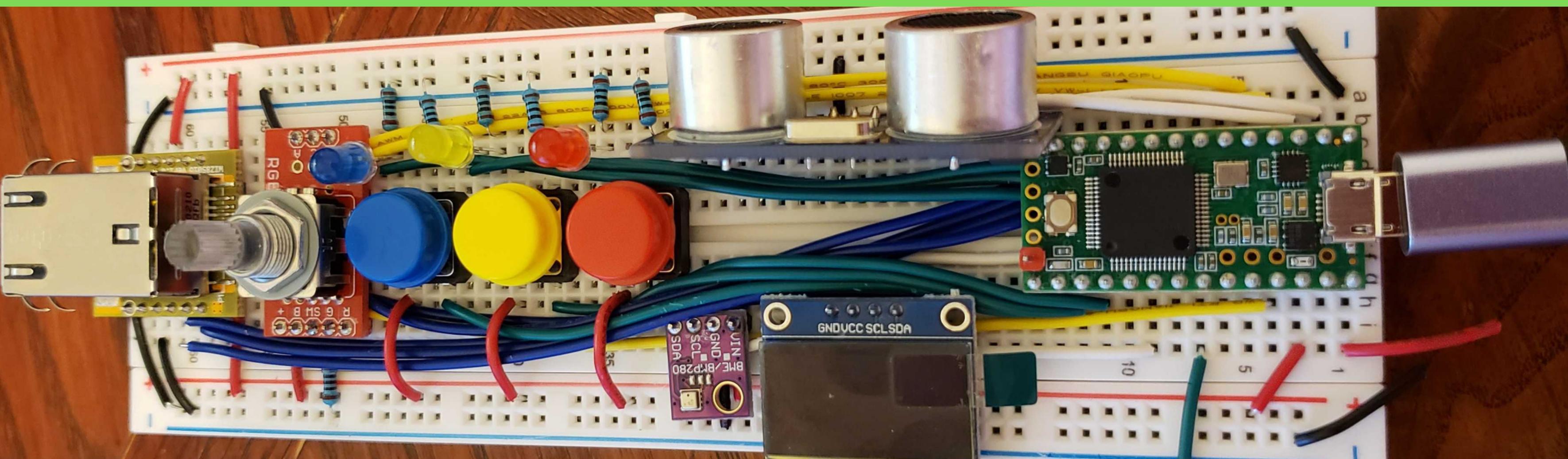
A large green lightbulb icon with a black outline and a yellow glow, positioned on the left side of the slide.

JANEL SANCHEZ PRESENTS

# SMART ROOM

A large green television set icon with a black outline, positioned on the right side of the slide.

A wonderful smart way to start your work day!



# What: Control at your fingertips



## How can I make your day a little brighter?

It contains a motion sensor that allows a person to walk into a space and it will automatically turn on the Hue LED light bulbs, display the temperature on the OLED display while allowing you to control their brightness with the encoder rotary knob. I also wanted to add ease and a energy efficient component. By using the Wemo outlets you can plug your most used/valued components and can control their on/off function with the press of a button. My example features three buttons that each control a separate outlet which can be located anywhere in your home. So with the press of a button I could turn on my coffee pot, my laptop charger or a personal heater or fan! For those of us who have trouble remembering if you turned on an item located in another room, I have included LED lights that will light when the button is pressed and is in the on position. Finally the motion sensor will detect when someone has left the space turning everything off and turning a LED Pixel strip on. I combined my pixel strip with a little creativity to create a nightlight effect.

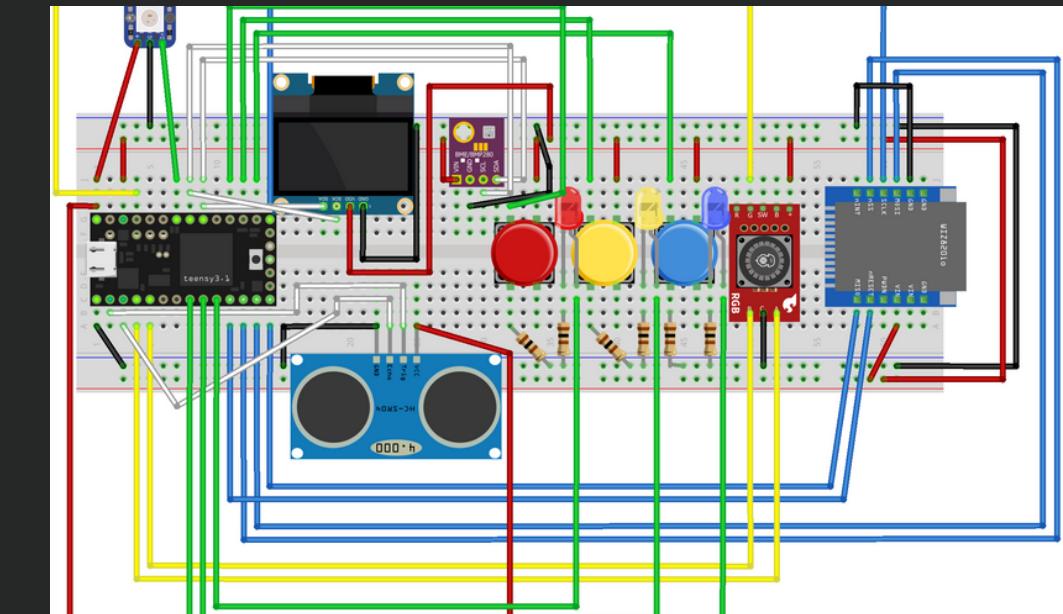
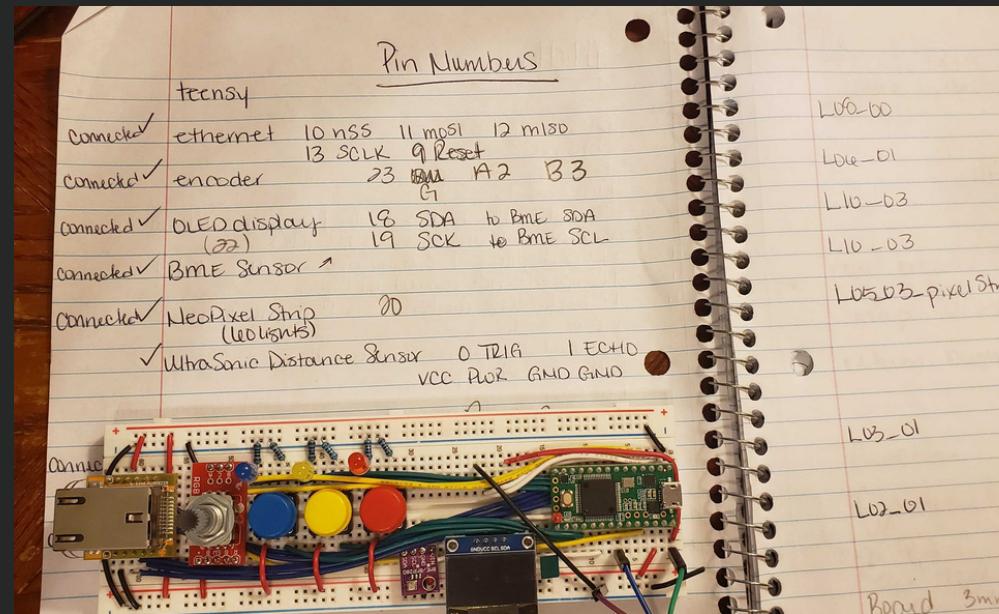
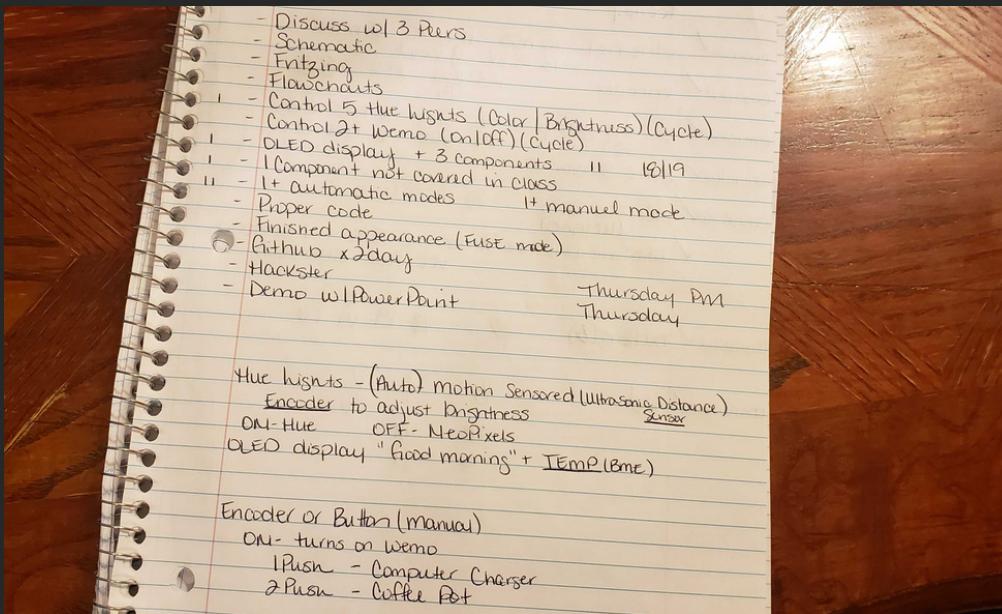


# Who: Anyone!

**Do you have a space you want to add a little convenience too?**

My idea was to create something that would add value to the at home worker in their office space. Now that many are finding themselves having to work from home this awesome controller can handle many of the daily morning tasks all in one accessible spot. From never having to find the light switch in a darkened room to turning on the coffee pot without having to get up this is a sure fit for anyone looking to cut back on those individual tasks. This concept can also be brought into other areas as well adding ease to your home.

# How:



## PLANNING

When I started this project I began making a list of the things needed for completion as well as my thoughts for execution.

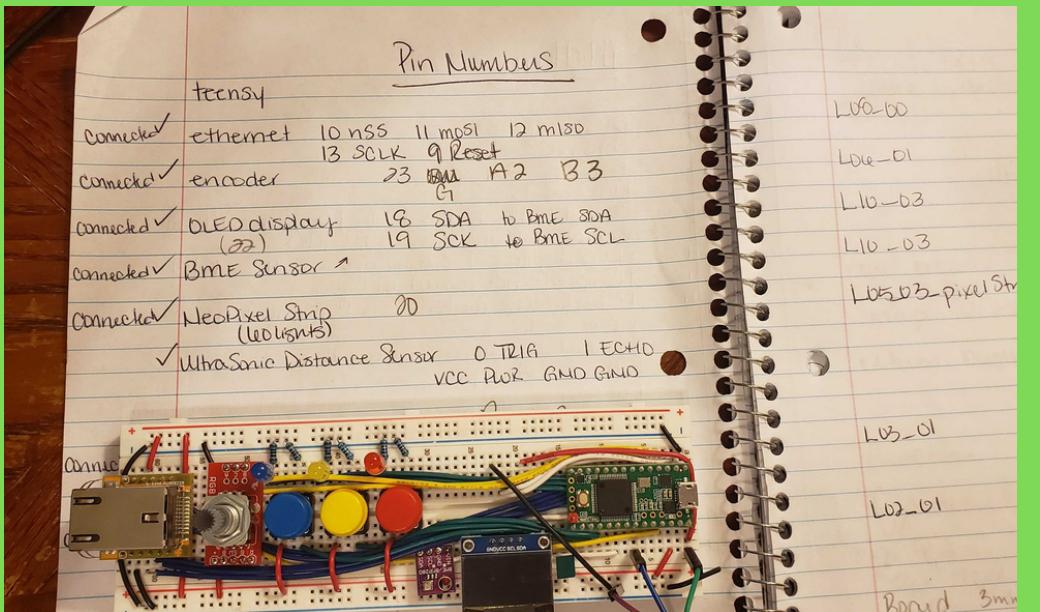
## NETWORKING

After being able to speak with my peers and throw my idea around this helped me fully grasp what I was capable of creating and what was most valued.

## FRITZING

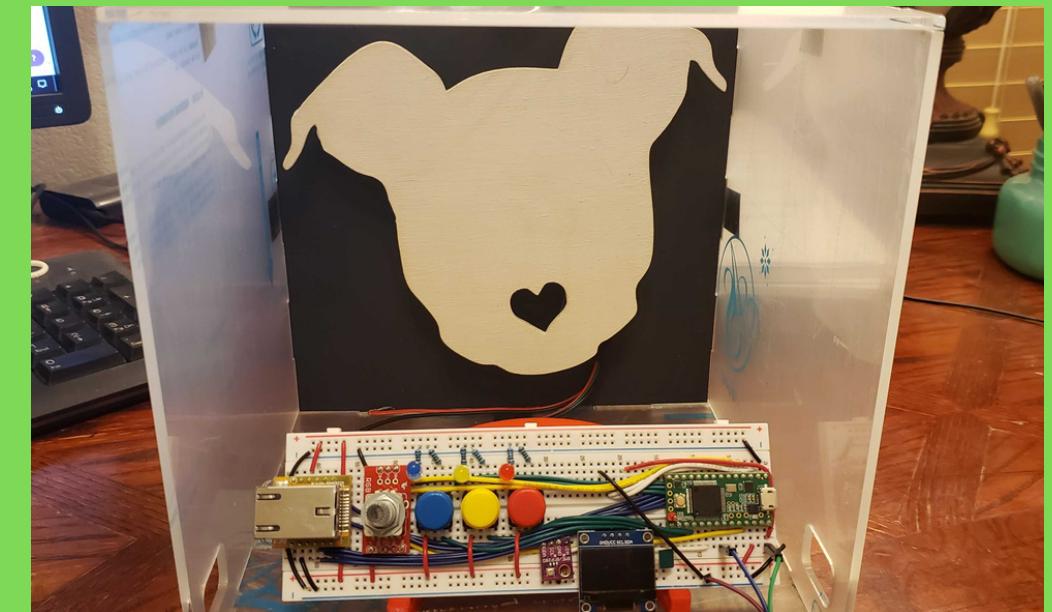
Next was the design of the electronic hardware. This allowed me to plan where all of my components and wiring will go.

# How:



```
Ethernet_Hue_Strip_1_.ino | Arduino 1.8.13
File Edit Sketch Tools Help
Ethernet_Hue_Strip_1_
55 HueColor=blueWhite;
56 HueLight=100;
57 lightNum=4;
58 }
59
70 void loop() {
71   ultraState=ultra;
72   if(ultraState!=lastUltra) {
73     if(ultraState == true) {
74       roomOccupied = !roomOccupied;
75     }
76     lastUltra=ultraState;
77   }
78   if(roomOccupied == true) {
79     Serial.println("SOMEONE IS IN THE ROOM");
80   }
81   else {
82     Serial.println("NO ONE IS IN THE ROOM");
83   }
84 }
86 bool ultra() {
87   int duration;
88   int distance;
89
90   delay(1000); // Execute once per second
91 }
```

The screenshot shows the Arduino IDE with the uploaded sketch named "Ethernet\_Hue\_Strip\_1\_.ino". The code implements a loop that checks the ultrasonic sensor state and prints "SOMEONE IS IN THE ROOM" or "NO ONE IS IN THE ROOM" to the serial monitor based on the occupancy state.



## WIRING

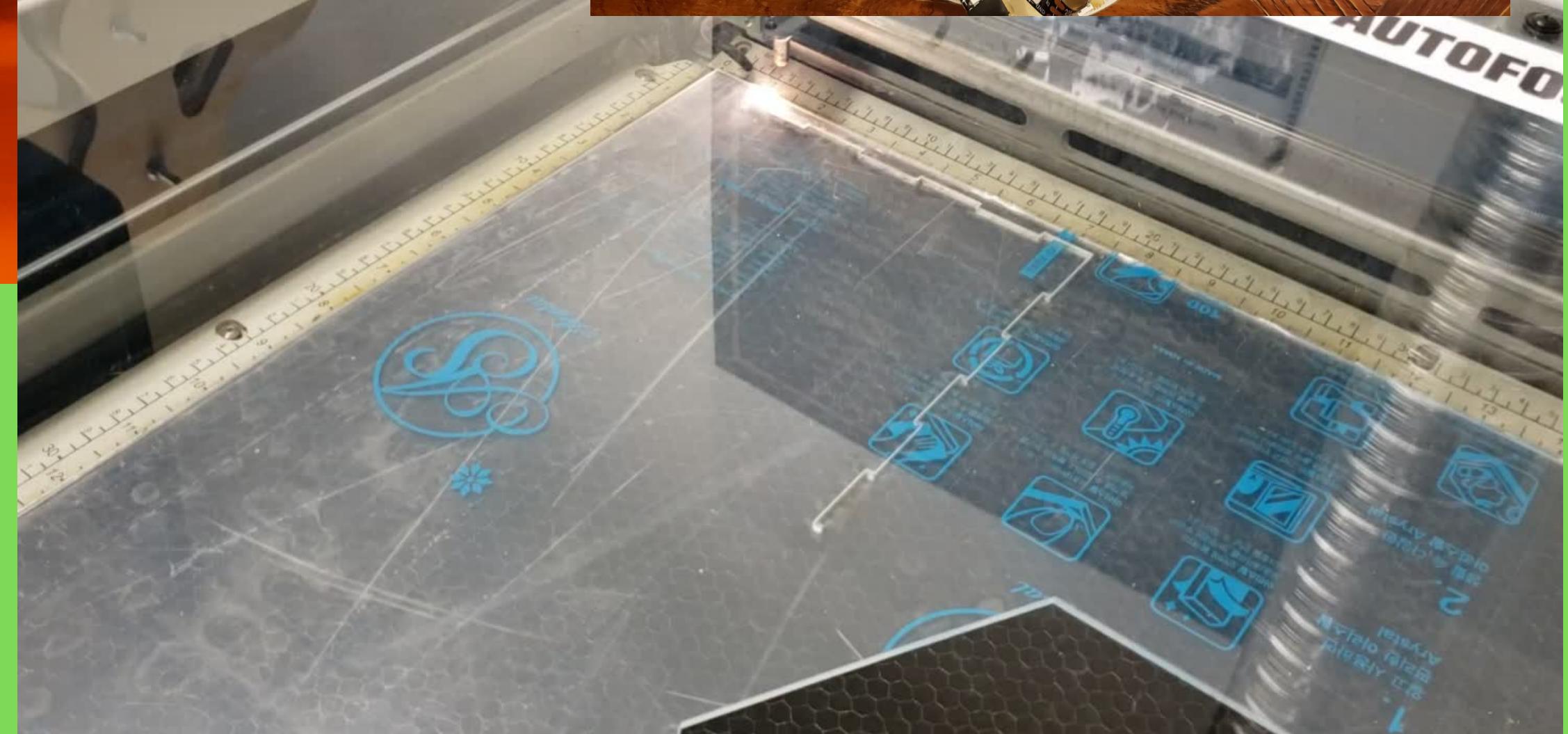
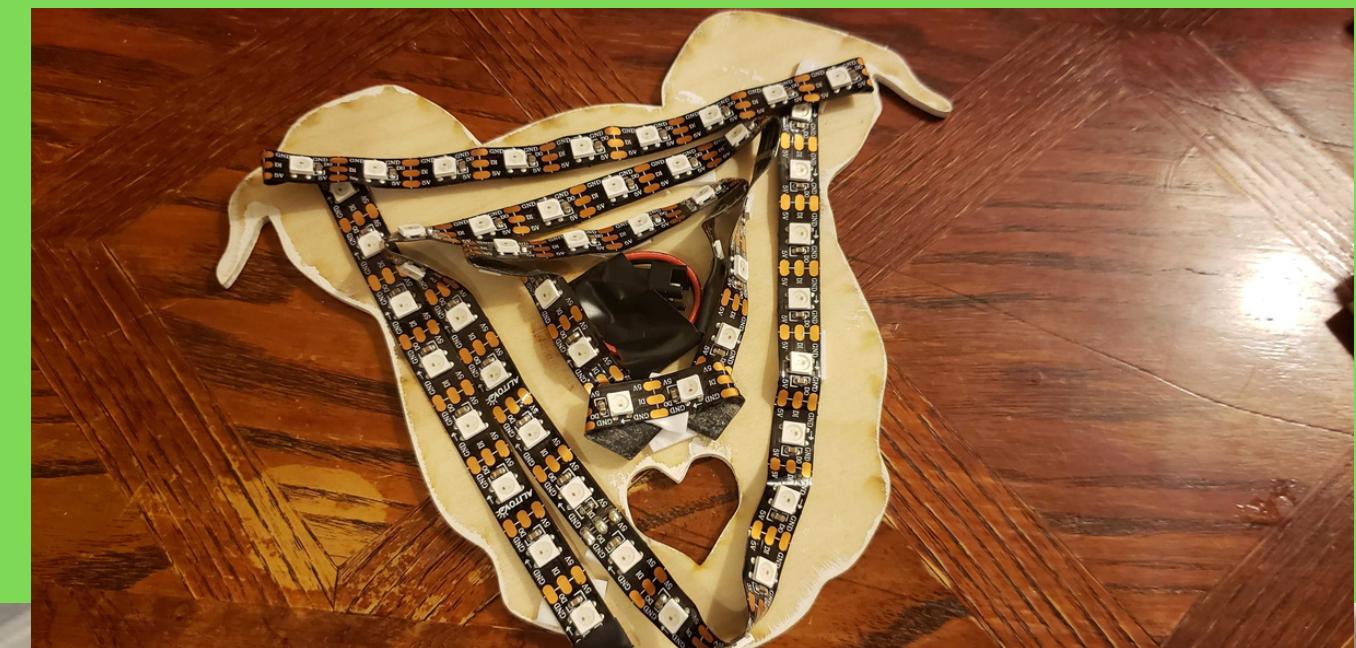
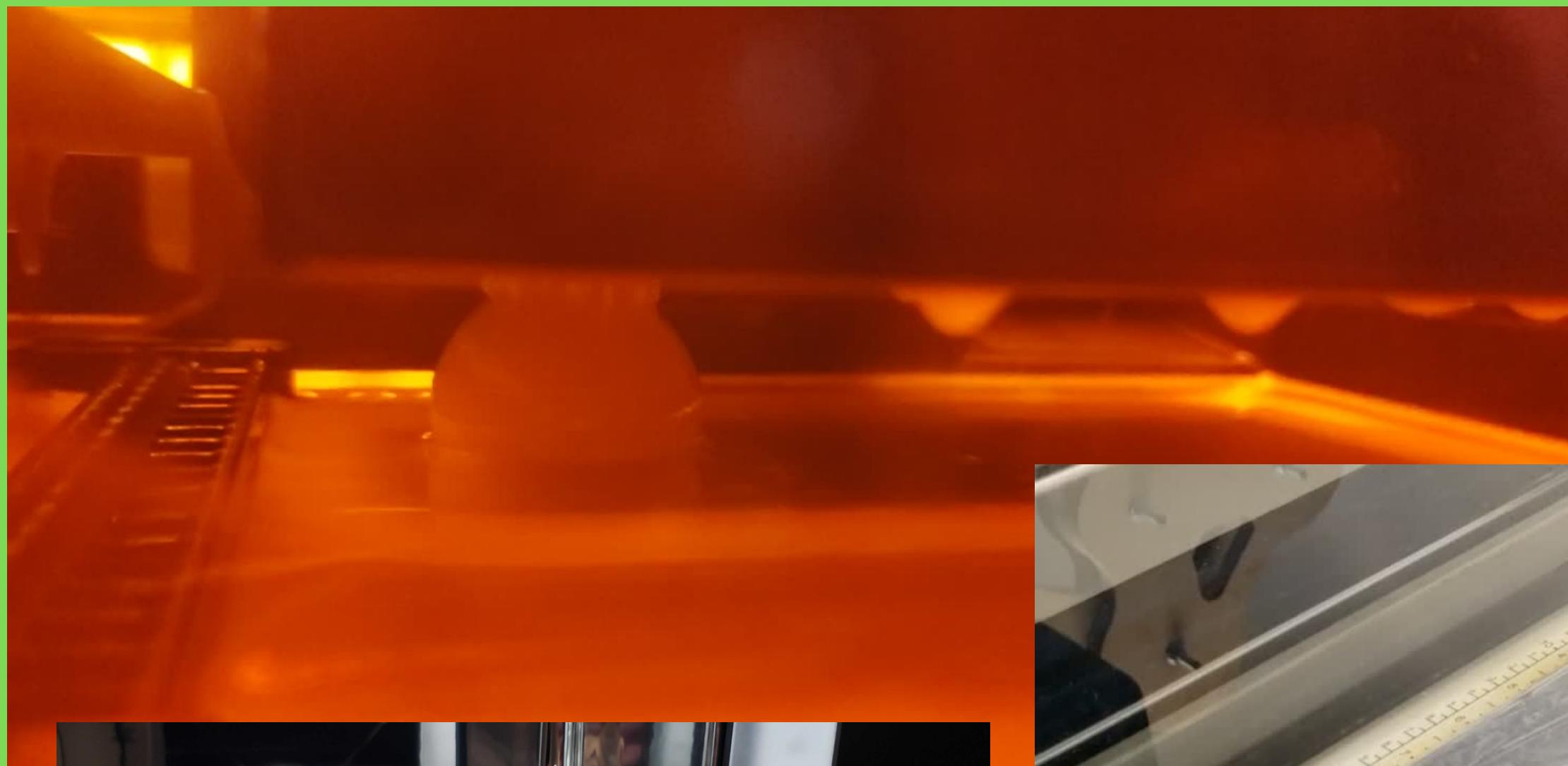
Once my design was settled I tore apart my existing board and built the new and improved smart room controller.

## CODING

Now where the magic happens. By taking parts of preexisting code we created it was time to piece the puzzle together and with a little help make it come to life!

## BUILDING

Finally, after multiple successful coding tests I am able to design and create an area to present my smart room controller!



# CHALLENGES

## DESIGN

I really toggled with using a pixel strip vs a pixel board and what it came down to what how I would manage to present it and get it to show the way I wanted. I ended up using the strip with a fancy technique.

## CODE

Being a beginner coder this project really took my learned skills to a new level with incorporating more functions, local variables and printing to the screen to work through my error messages.

## DESIGN

Even though I thought I had my box cut the way I needed I changed up my display which gave me an alternate problem of it not being able to fit. So when I demo I have to eliminate my display option.

## DESIGN

When I designed my fritzing and coding everything was in a great spot. Once I added in my display design my motion sensor was not in an ideal place which had me rethink and place it in another location.

# WHAT ARE MY NEXT PLANS?

## PRESENTATION

When you're a perfectionist show and tell is everything and I would love to update my design so that it provides a better presentation component as well as other ideas for display.

## CODE

I am still learning how to comment on my code. My plans are to keep updating my code with comment as I am able to for those as well as myself to better understand my project in its entirety.

## NETWORK

Although I was able to speak to several of my peers to gain some valuable insight I would like to research and discover what my community could benefit most from.

## DESIGN

Adding to my presentation really being able to think out my design and make the execution portion more coherent I think will add more to my project and how it is used.



# For more information

## HACKSTER.IO

<https://www.hackster.io/janelsanchez/home-office-smart-room-controller-826e41>

## GITHUB

<https://github.com/JanelSanchez/Smart-Room-Controller>

## EMAIL ADDRESS

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