



Freedom Sworn & Magic Gloves

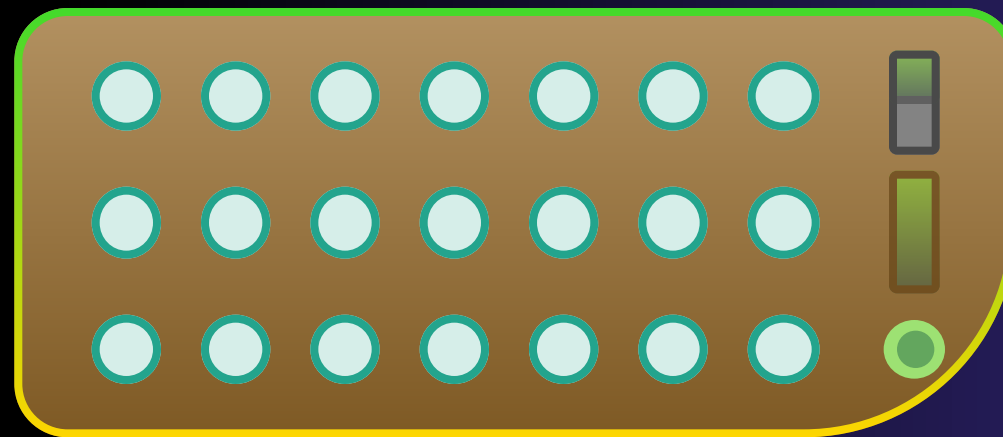
Final Project

Initial Thoughts

At the start of the final,
I had three ideas:



Magic Gloves



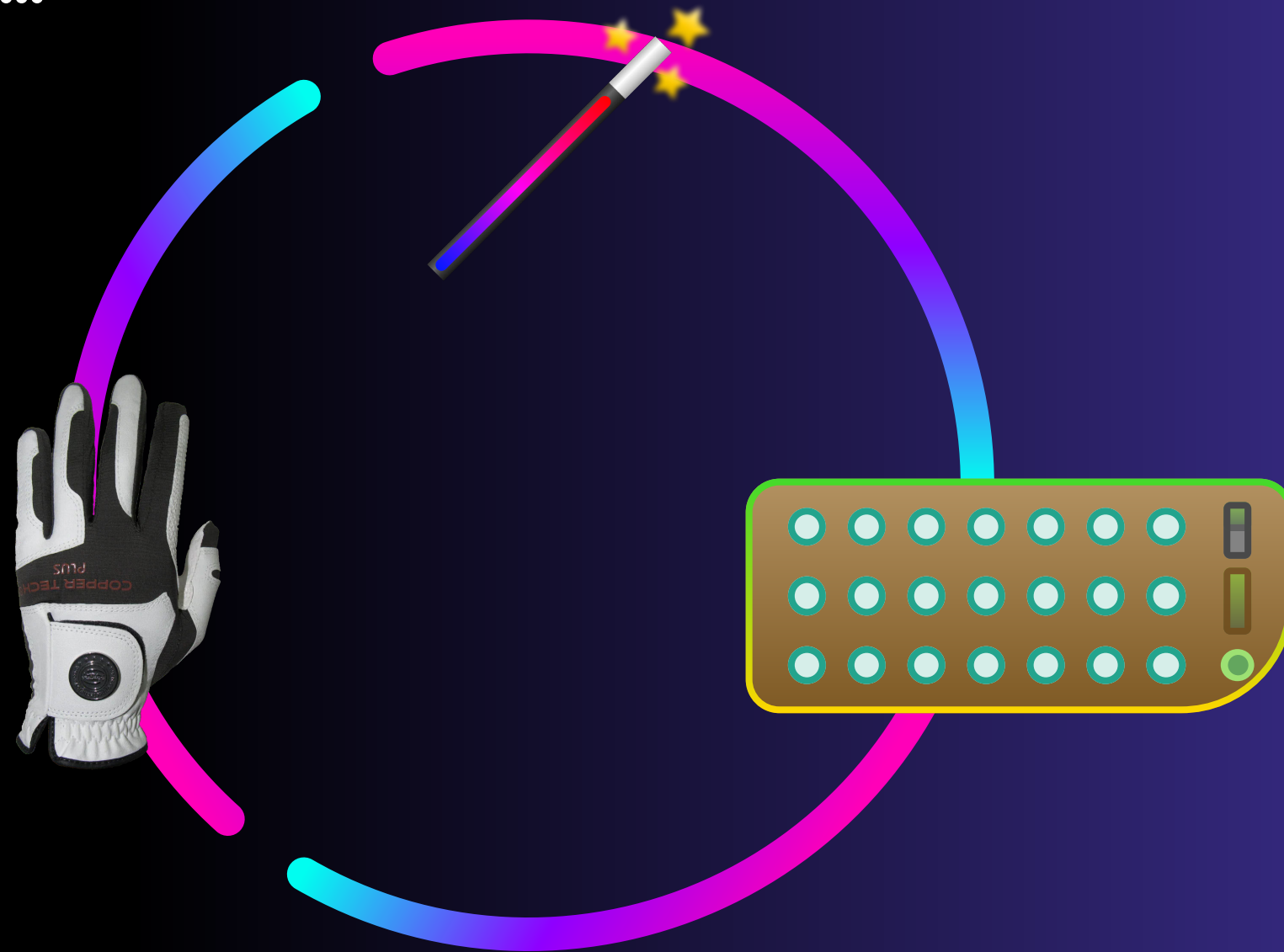
Keyboard for Game
"Genshin Impact"



Magic Wand

Initial Thoughts

After thinking about it...



Why not just combine those things together?

Final Thoughts

Since really want to explore more about all those three ideas,
I found out a way to realize all of them:

Two Items:

Glove and Sword - As Magic Wand

Same Game:

Genshin Impact

Identical Idea:

Using motion sensor, LED, and Vibration Motor



Genshin Impact Character: Kazuha wielding the sword

Final Thoughts

Magic Glove- Left Hand

The magic glove is worn on the left hand, with the bent sensor on the third finger. When you clench your fist, the bent sensor would detect the change in voltage and send the command to make the character in the game run fast. Moreover, with the pressure sensor on the thumb, when you press it, it will send the command to control the character to jump.



Freedom Sworn- Right Hand

"Freedom Sworn" is the name of a sword in Genshin Impact, and it is one of the best swords in this game and also the best matching weapon to my favorite male character: Kaedehara Kazuha.

There are three buttons on the sword to control normal attack, element attack, and elemental Burst Skills.

When you are wielding the sword, the motion sensor would also detect the movement and control the character to do normal attacks.



How it works

Jump

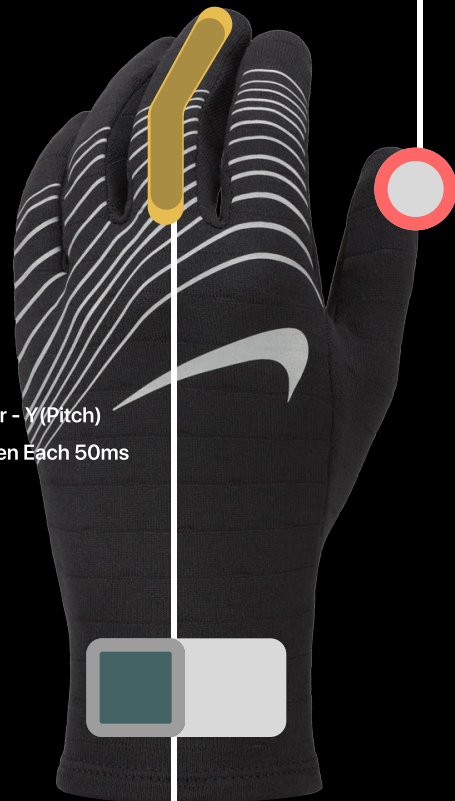
Pressure Sensor
Keyboard - Space

Run

Bent Sensor
Right Key - Mouse

Walk

Motion Sensor - Y (Pitch)
Check Between Each 50ms
Keyboard - W



- **E Talent**

Button Pin_32
Keyboard - Q

Q Talent

Button Pin_39
Keyboard - Q

Attack Effect

LED Strip

Normal Attack

Motion Sensor / Button_Pin 26(On Atom Matrix)

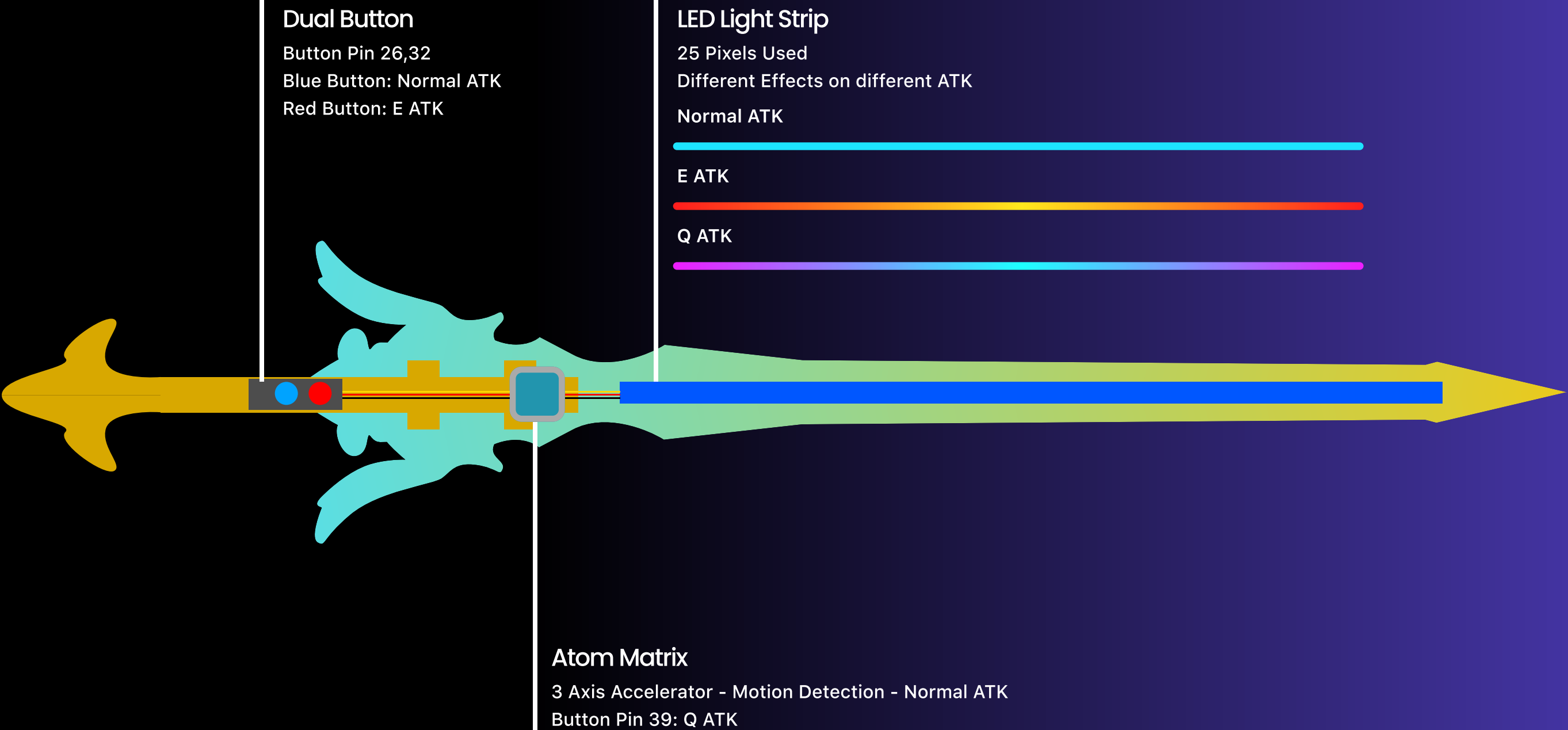
Left Key - Mouse

Check between Each 200ms

(When Button_pin3 has pressed, motion_input = 0)

(When Button_pin3 is not pressed, Attack depend on motion_input)

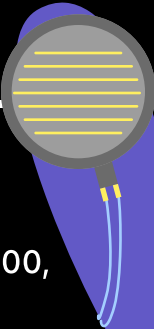
Sketch: Freedom Sworn



Sketch: Magic Glove

Pressure Sensor

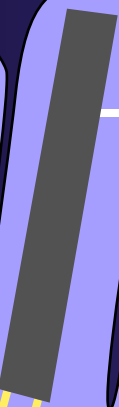
Pin 33
When the value is lower than 3800,
character jumps



Palm Side

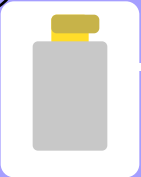
Bent Sensor

Change of resistance detected,
Character starts to Run



8800 RPM Motor

Pin 26
When Command of Jump / Run detected,
Vibrate two times, each 100ms



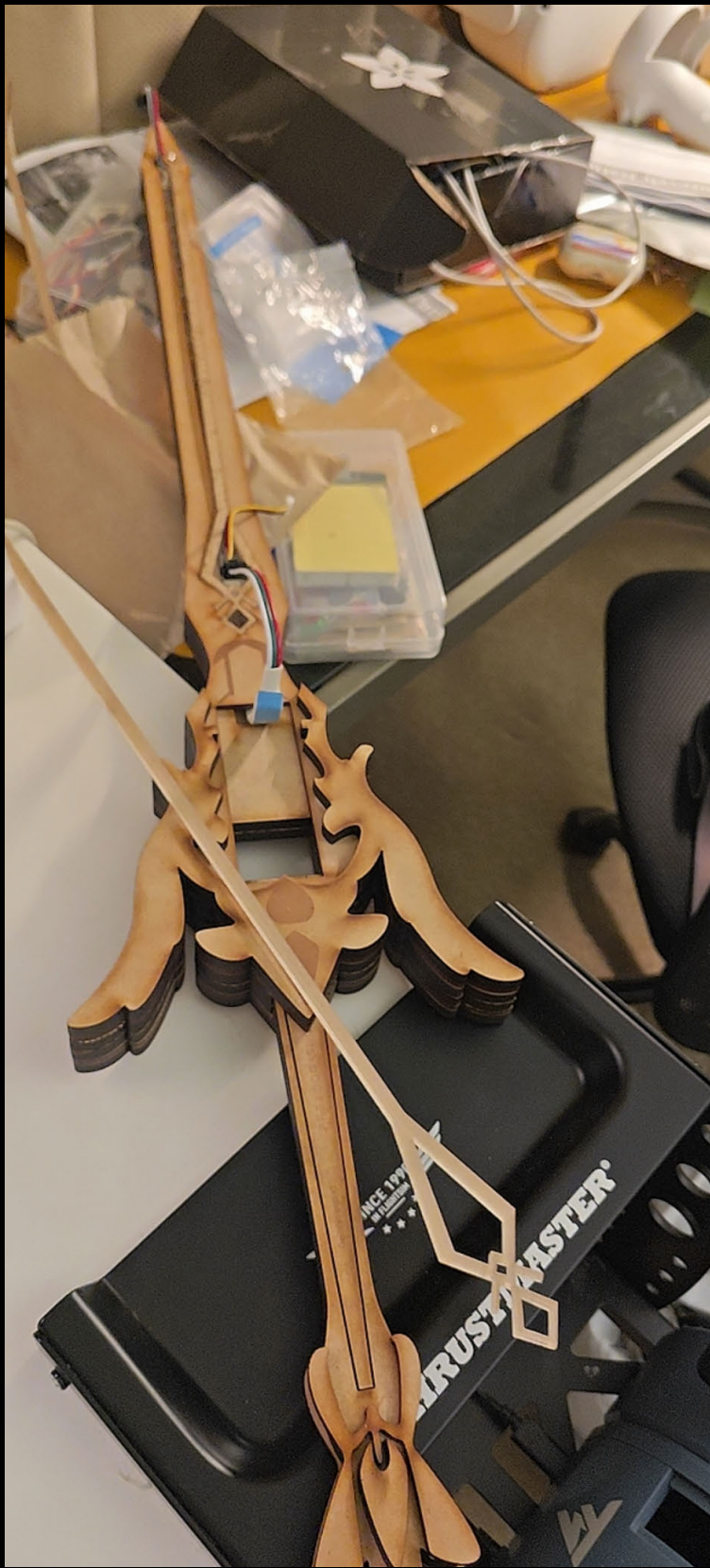
Atom Matrix

3 Axis Accelerator
When motion change detected,
character starts to walk
25-Pixel Screen
When Command of Jump / Run detected,
Play Animation

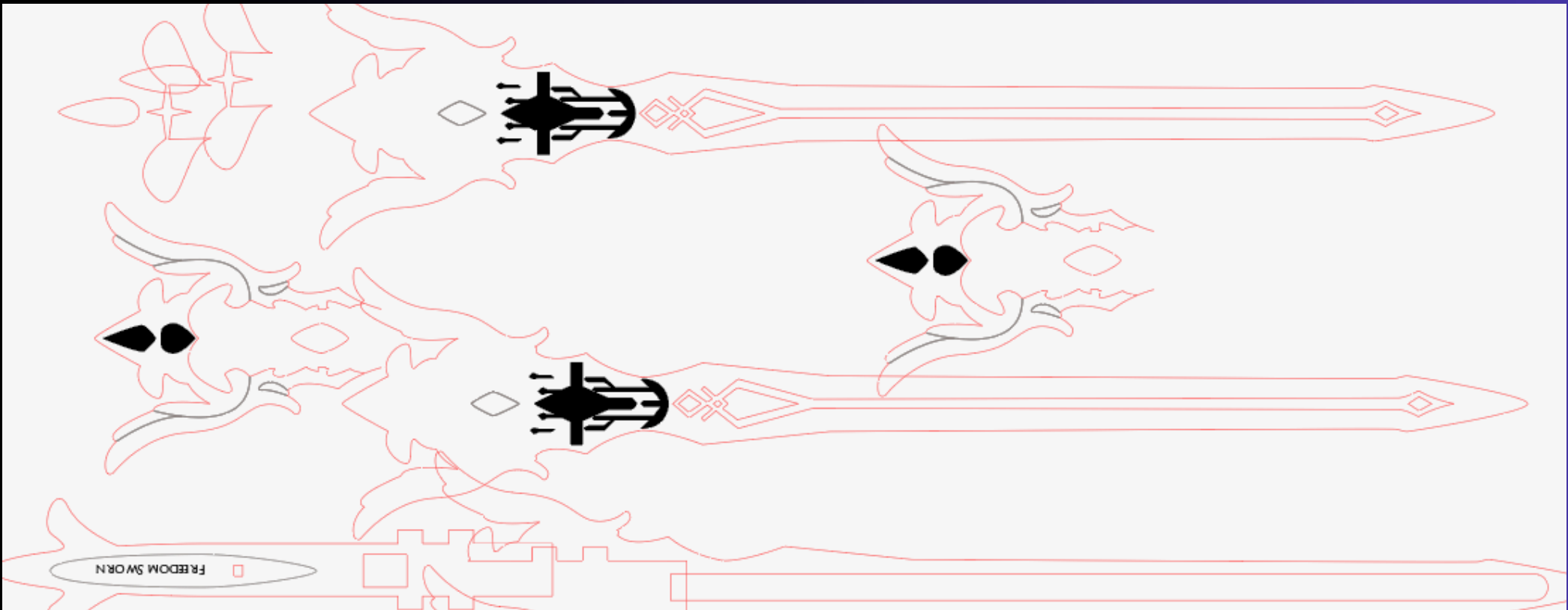


Back Side

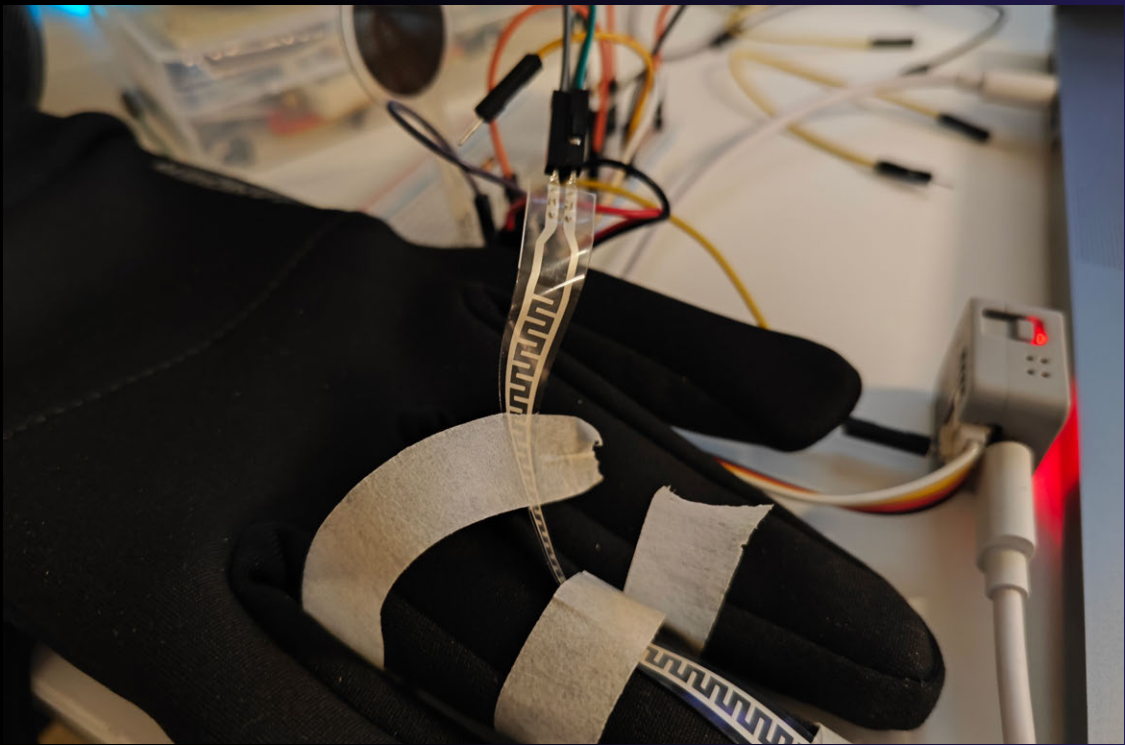
Process of Making



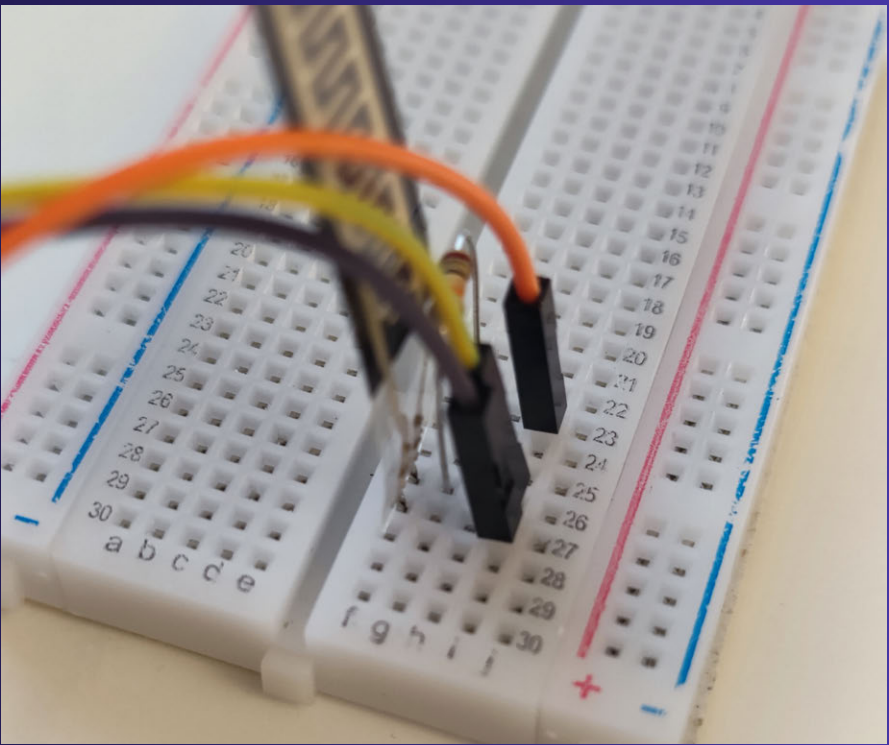
Laser Print Sword (1st Ver)



Sketch in illustrator

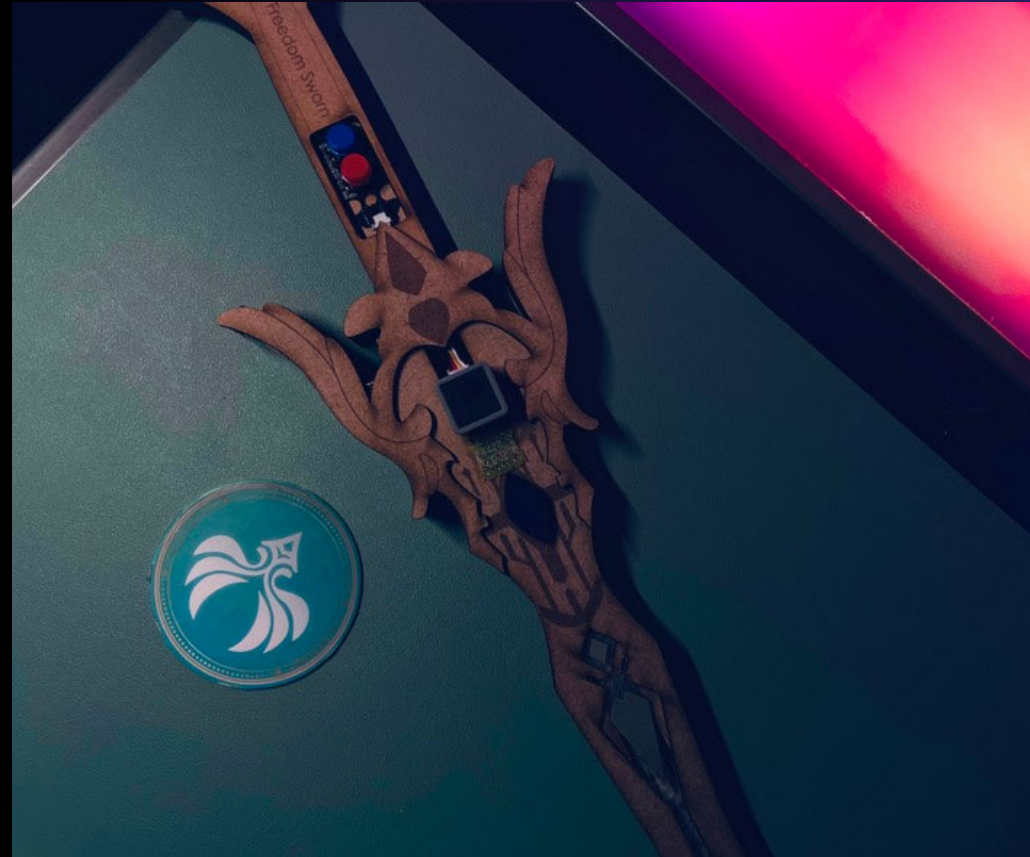


Wiring Test on Magic Glove



Breadboard Wiring Test

Prototype: Freedom Sworn



Prototype: Magic Gloves

