Portfolio of work

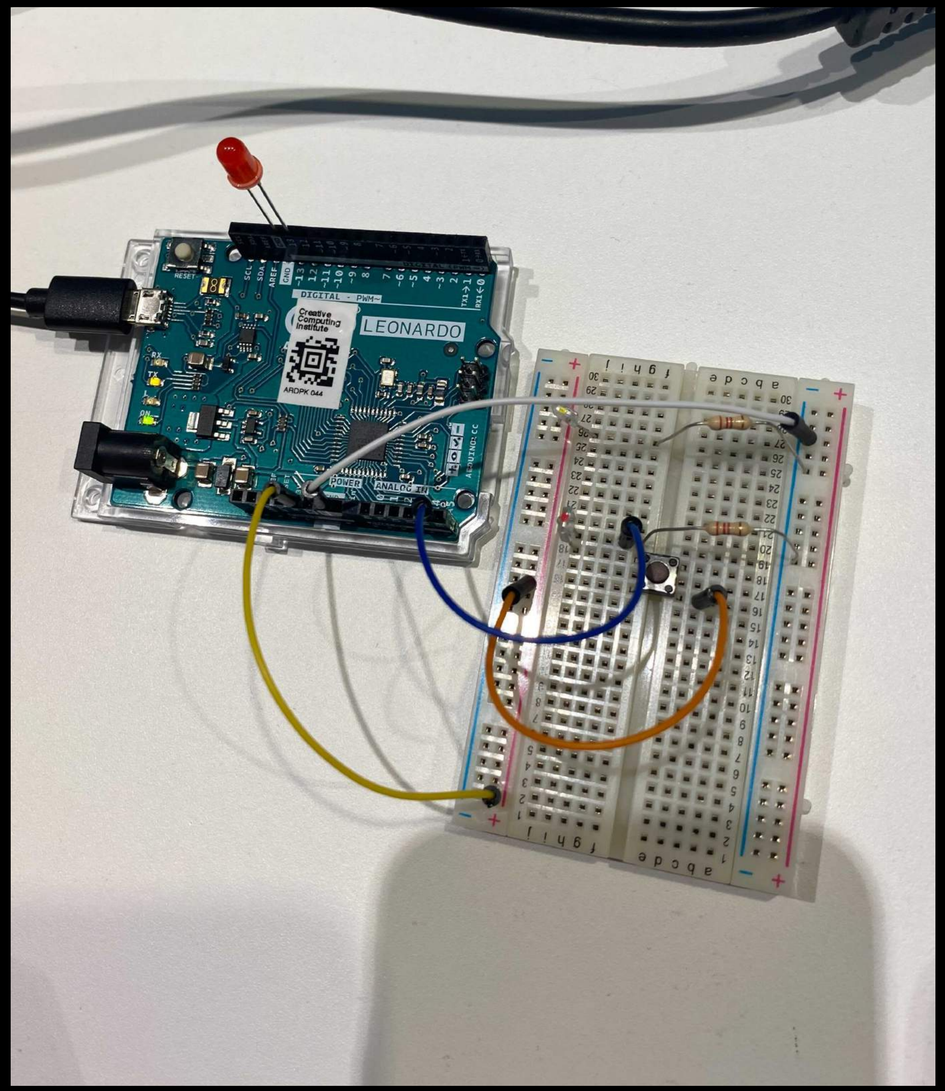
https://github.com/msc-creative-computing/p-comp-leaho

Youtube

https://youtu.be/xEnQgB87Jkkt

Github

https://github.com/msc-creative-computing/p-comp-leaho/tree/main/Week2/IRsensor



LED-IR-SENSOR | Arduino 1.8.16

LED-IR-SENSOR

```
int analog;
const int ldrPin = A4;
const int ledPin = 13;


void setup() {
  Serial.begin(9600);
  pinMode(ledPin, OUTPUT);

}

void loop() {
  // put your main code here, to run repeatedly:
  analog = analogRead(ldrPin);
  Serial.println(analog);
  if ( analog > 0 )   digitalWrite(LED_BUILTIN, HIGH);
  else  digitalWrite(LED_BUILTIN, LOW);
  delay(100);

}
```

1 Arduino Leonardo on /dev/cu.usbmodem1101

Youtube

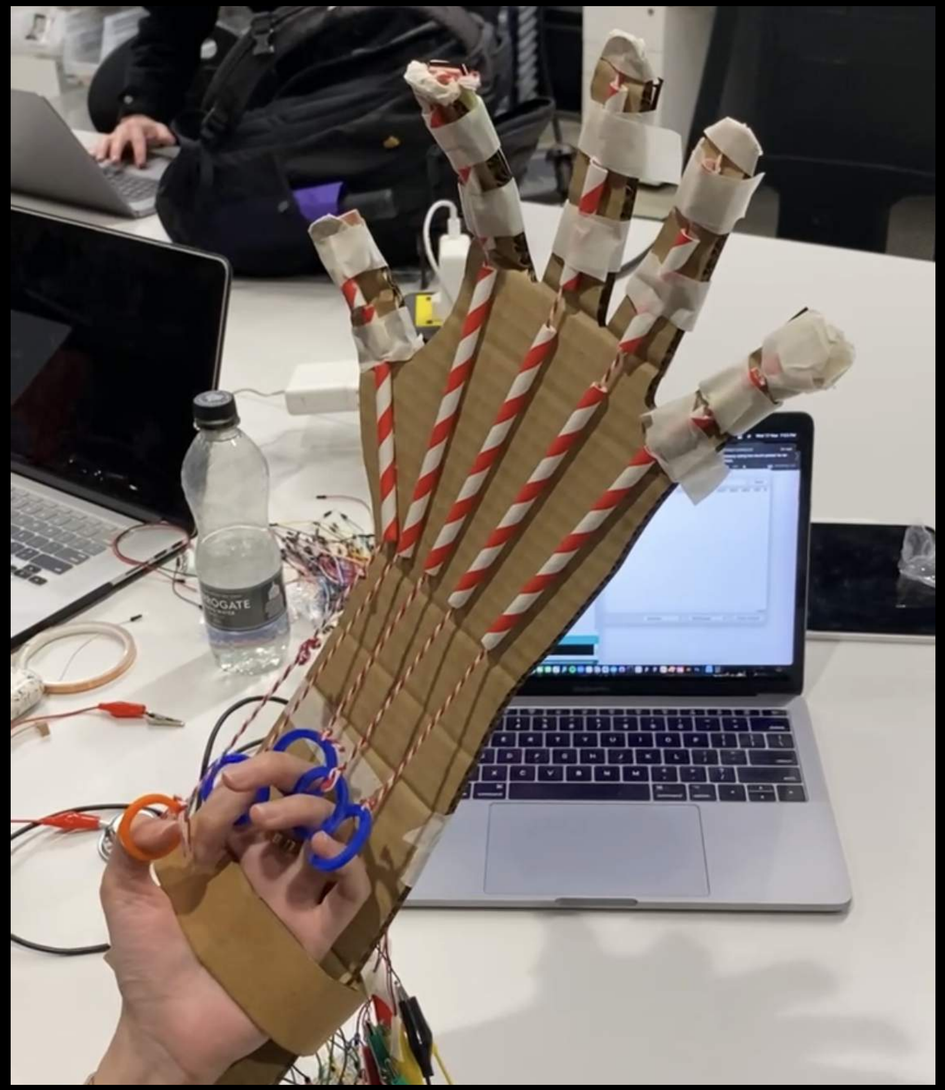
https://youtu.be/FD7TRZvblJE

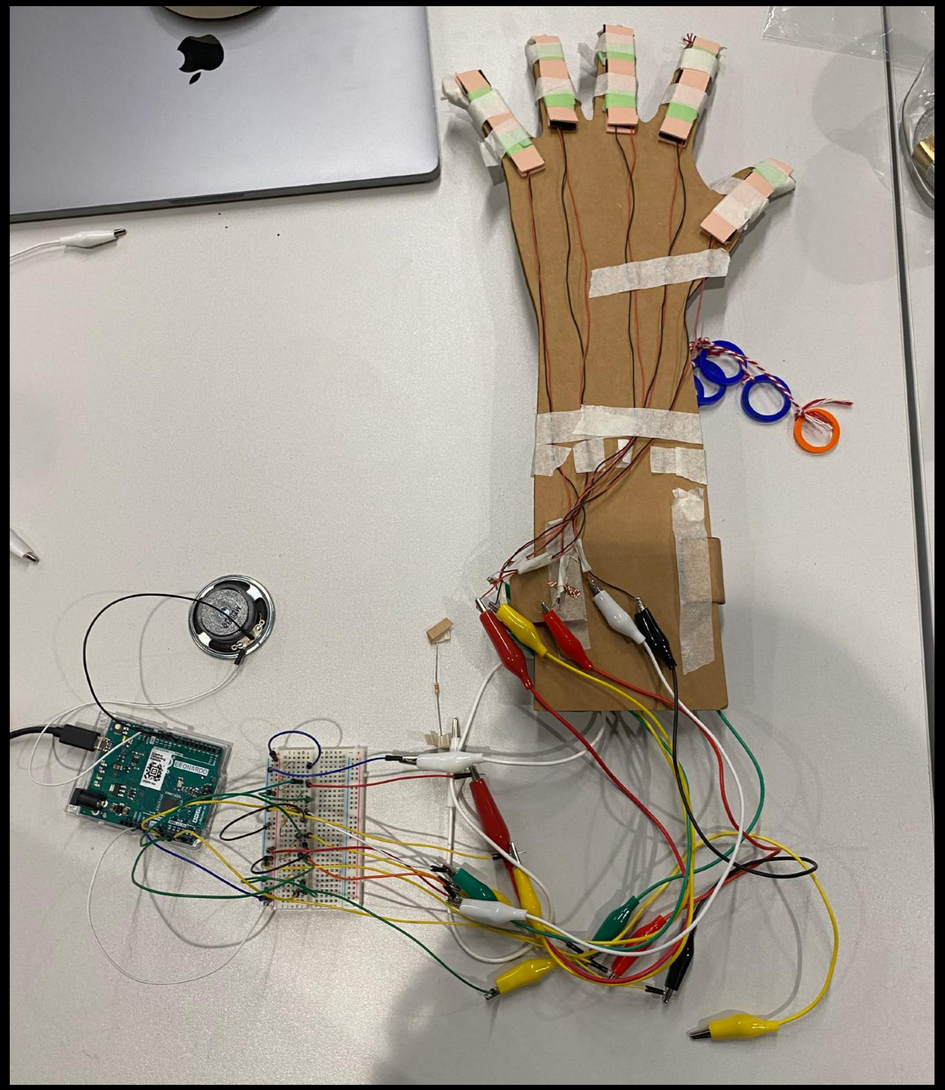
Github

https://github.com/msc-creative-computing/p-comp-leaho/tree/main/Week6/Hand

We are habitual to believing in our feelings and controlled by the body, so when I use the robotic hand in class, I cannot wholly trust this hand. Furthermore, because it is difficult to control and unable to connect with our brains, I feel frustrated and overwhelmed. After all, we don't have any emotional connection with A. I or technology.

After seeing art performances of Viktoria Modesta, she used 3-D printed nails and sensors on her wrists to trigger sound effects and shifts in lighting on her skin. This project also inspired me to think if we can feel the connection or think it is a part of our body when installing different machines on our body or treating it as tools. And how can we accept transforming our bodies with technologies?





hand | Arduino 1.8.16

hand

```
int analogPin0 = A0;
int analogPin1 = A1;
int analogPin2 = A2;
int analogPin3 = A3;
int analogPin4 = A4;

int speakerPin = 8;

int fsrReading1;
int fsrReading2;
int fsrReading3;
int fsrReading4;
int fsrReading5;


int speakerMap1;
int speakerMap2;
int speakerMap3;
int speakerMap4;


int soundSpeed;

int frequency;


void setup() {
  Serial.begin(9600);
}

void loop() {
```

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hand | Arduino 1.8.16

hand

```
void loop() {
  fsrReading1 = analogRead(analogPin0);
  fsrReading2 = analogRead(analogPin1);
  fsrReading3 = analogRead(analogPin2);
  fsrReading4 = analogRead(analogPin3);
  fsrReading5 = analogRead(analogPin4);



//  int num=fsrReading/5;
//  Serial.print("Analog reading = ");

  Serial.print(fsrReading1);
  Serial.print("  ");
  Serial.print(fsrReading2);
  Serial.print("  ");
  Serial.print(fsrReading3);
  Serial.print("  ");
  Serial.print(fsrReading4);
  Serial.print("  ");
  Serial.print(fsrReading5);
  Serial.print("  ");



  speakerMap1 = map(fsrReading1, 0, 1000, 100, 400);
  soundSpeed = map(fsrReading2, 0, 1000, 25, 500);
  speakerMap2 = map(fsrReading3, 0, 1000, 400, 800);
  speakerMap3 = map(fsrReading4, 0, 1000, 0, 1000);
 speakerMap4 = map(fsrReading5, 0, 1000, 0, 1000);
```

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hand | Arduino 1.8.16

hand

```
//  Serial.print("Analog reading = ");

  Serial.print(fsrReading1);
  Serial.print("  ");
  Serial.print(fsrReading2);
  Serial.print("  ");
  Serial.print(fsrReading3);
  Serial.print("  ");
  Serial.print(fsrReading4);
  Serial.print("  ");
  Serial.print(fsrReading5);
  Serial.print("  ");



  speakerMap1 = map(fsrReading1, 0, 1000, 100, 400);
  soundSpeed = map(fsrReading2, 0, 1000, 25, 500);
  speakerMap2 = map(fsrReading3, 0, 1000, 400, 800);
  speakerMap3 = map(fsrReading4, 0, 1000, 0, 1000);
 speakerMap4 = map(fsrReading5, 0, 1000, 0, 1000);

  if (speakerMap3 >= 500){

    frequency = speakerMap3;
  } else {
    frequency = speakerMap1;
  }
  tone(speakerPin, frequency, soundSpeed);

  delay(soundSpeed*2);
  noTone(speakerPin);
  }
```

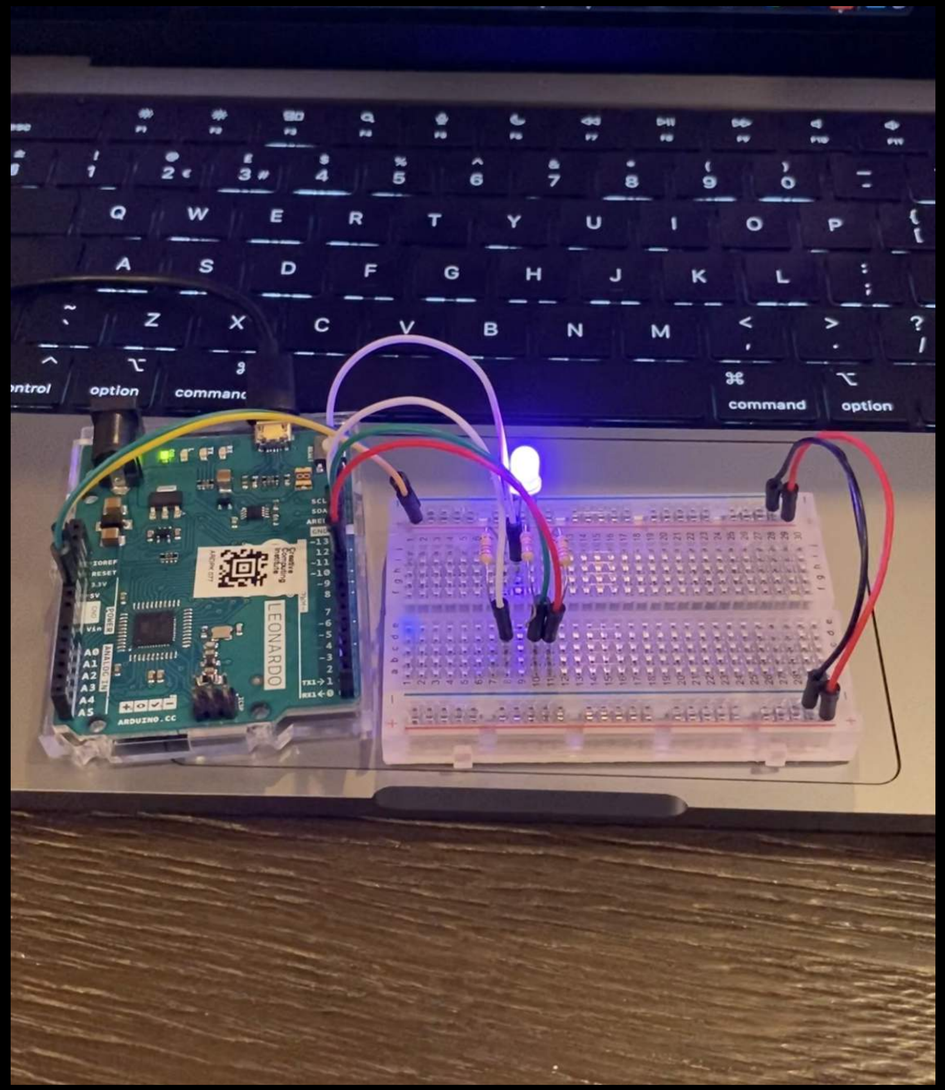
21 Arduino Leonardo on /dev/cu.usbmodem1101

Youtube

https://youtu.be/0r3BUGXMrTU

Github

https://github.com/msc-creative-computing/p-comp-leaho/tree/main/Week3/RBGled



RBGled | Arduino 1.8.16

RBGled

```
int red_light_pin= 11;
int green_light_pin = 10;
int blue_light_pin = 9;
void setup() {
  pinMode(red_light_pin, OUTPUT);
  pinMode(green_light_pin, OUTPUT);
  pinMode(blue_light_pin, OUTPUT);
}
void loop() {
  RGB_color(255, 0, 0); // Red
  delay(1000);
  RGB_color(0, 255, 0); // Green
  delay(1000);
  RGB_color(0, 0, 255); // Blue
  delay(1000);
  RGB_color(255, 255, 125); // Raspberry
  delay(1000);
  RGB_color(0, 255, 255); // Cyan
  delay(1000);
  RGB_color(255, 0, 255); // Magenta
  delay(1000);
  RGB_color(255, 255, 0); // Yellow
  delay(1000);
  RGB_color(255, 255, 255); // White
  delay(1000);
}
void RGB_color(int red_light_value, int green_light_value, int blue_light_value)
 {
  analogWrite(red_light_pin, red_light_value);
  analogWrite(green_light_pin, green_light_value);
  analogWrite(blue_light_pin, blue_light_value);
}
```

After these ten weeks in p-comp classes, I learned how to build physical prototypes using Arduino and C++ Programming Languages and learned how to learn from mistakes, teamwork, and persistence.

In the beginning, I was very interested in this program, and then I felt difficult and frustrated. There were countless thoughts of wanting to give up in my mind, but in the end, I was thankful that I persisted until this moment. Every time I can successfully create a product or a tiny part of components, the feeling of excitement reminds me to keep going. Every weekly lab also inspired me to create more different innovative designs. At first, I didn't understand what physical systems could do in my future. I could only think of techniques related to some boring daily necessities. But when I heard the introduction of other innovative works and understood the principle of each component during class, it brought me a new perspective. It inspired me with a lot of different ideas. For example, to create a training game to help my grandmother delay the deterioration of her dementia or install sensors in her necessities to remind her how to use them.

In addition, in countless nights of struggle, I also understand that maybe I am still in the foundation stage of physical computing. Still, in learning, I know that I don't need to pursue how far I can go but how much I get in the process.

Finally, I want to thank every classmate and instructor for their help. Everyone is like a different part of sensors or resistors, playing different roles and accomplishing things together.