

//Pressure sensor glove - Gymnasio Vamou 2019

#include <Wire.h>

#include <LiquidCrystal_I2C.h>

LiquidCrystal_I2C lcd(0x27,16 ,2); // set the LCD address to 0x27, set 16 chars and 2 line display

int fsr1Pin = 14; // the FSR and 10K pulldown are connected to a0

int fsr1Reading; // the analog reading from the FSR resistor divider

int fsr2Pin = 15; // the FSR and 10K pulldown are connected to a1

int fsr2Reading;

int fsr3Pin = 16; // the FSR and 10K pulldown are connected to a2

int fsr3Reading;

int fsr4Pin = 17; // the FSR and 10K pulldown are connected to a3

int fsr4Reading;

int greenLEDpin1 = 5;

int redLEDpin1 = 6;

int greenLEDpin2 = 7;

int redLEDpin2 = 8;

int greenLEDpin3 = 9;

int redLEDpin3 = 10;

int greenLEDpin4 = 11;

int redLEDpin4 = 12;

void setup() {

Serial.begin(9600);

pinMode(greenLEDpin1, OUTPUT);

pinMode(redLEDpin1, OUTPUT);

pinMode(greenLEDpin2, OUTPUT);

pinMode(redLEDpin2, OUTPUT);

pinMode(greenLEDpin3, OUTPUT);

pinMode(redLEDpin3, OUTPUT);

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pinMode(greenLEDPin4, OUTPUT);

pinMode(redLEDPin4, OUTPUT);

pinMode(14, INPUT);

pinMode(15, INPUT);

pinMode(16, INPUT);

pinMode(17, INPUT);

lcd.init();

lcd.backlight();

lcd.setCursor(0,0);

lcd.print("Gymnasio Vamou");

}
```

```
void loop() {

  fsr1Reading = analogRead(fsr1Pin);

  fsr2Reading = analogRead(fsr2Pin);

  fsr3Reading = analogRead(fsr3Pin);

  fsr4Reading = analogRead(fsr4Pin);

  Serial.print(" Analog reading1 = ");

  Serial.print(fsr1Reading);  // the raw analog reading

  Serial.print(" Analog reading2 = ");

  Serial.print(fsr2Reading);

  Serial.print(" Analog reading3 = ");

  Serial.print(fsr3Reading);  // the raw analog reading

  Serial.print(" Analog reading4 = ");

  Serial.print(fsr4Reading);

  delay(200);

  if (fsr1Reading < 50) {

    Serial.println(" - No pressure");

    digitalWrite(11, LOW);

    digitalWrite(12, LOW);

  }

}
```

```
    } else if (fsr1Reading < 300) {  
        Serial.println(" - Light squeeze");  
        digitalWrite(11, HIGH);  
        digitalWrite(12, LOW);  
    } else if (fsr1Reading < 500) {  
        Serial.println(" - Medium squeeze");  
        digitalWrite(11, HIGH);  
        digitalWrite(12, HIGH);  
    } else if (fsr1Reading > 500){  
        Serial.println(" - Big squeeze");  
        digitalWrite(11, LOW);  
        digitalWrite(12, HIGH);  
    }  
  
    if (fsr2Reading < 50) {  
        Serial.println(" - No pressure");  
        digitalWrite(9, LOW);  
        digitalWrite(10, LOW);  
    } else if (fsr2Reading < 300) {  
        Serial.println(" - Light squeeze");  
        digitalWrite(9, HIGH);  
        digitalWrite(10, LOW);  
        } else if (fsr2Reading < 500) {  
        Serial.println(" - Medium squeeze");  
        digitalWrite(9, HIGH);  
        digitalWrite(10, HIGH);  
        } else if (fsr2Reading > 500){  
        Serial.println(" - Big squeeze");  
        digitalWrite(9, LOW);  
        digitalWrite(10, HIGH);  
    }  
}
```

```
if (fsr3Reading < 50) {  
    Serial.println(" - No pressure");  
    digitalWrite(7, LOW);  
    digitalWrite(8, LOW);  
} else if (fsr3Reading < 300) {  
    Serial.println(" - Light squeeze");  
    digitalWrite(7, HIGH);  
    digitalWrite(8, LOW);  
} else if (fsr3Reading < 500) {  
    Serial.println(" - Medium squeeze");  
    digitalWrite(7, HIGH);  
    digitalWrite(8, HIGH);  
} else if (fsr3Reading > 500){  
    Serial.println(" - Big squeeze");  
    digitalWrite(7, LOW);  
    digitalWrite(8, HIGH);  
}  
  
if (fsr4Reading < 50) {  
    Serial.println(" - No pressure");  
    digitalWrite(5, LOW);  
    digitalWrite(6, LOW);  
} else if (fsr4Reading < 300) {  
    Serial.println(" - Light squeeze");  
    digitalWrite(5, HIGH);  
    digitalWrite(6, LOW);  
} else if (fsr4Reading < 500) {  
    Serial.println(" - Medium squeeze");  
    digitalWrite(5, HIGH);  
    digitalWrite(6, HIGH);  
} else if (fsr4Reading > 500){
```

```
Serial.println(" - Big squeeze");

digitalWrite(5, LOW);

digitalWrite(6, HIGH);

}

delay(200);

if ((fsr1Reading < 50) && (fsr2Reading < 50)&&(fsr3Reading < 50)&&(fsr4Reading < 50)) {

    lcd.setCursor(0,1);

    lcd.print(" No pressure ");

}

else if ((fsr1Reading < 350) && (fsr2Reading < 350)&&(fsr3Reading < 350)&&(fsr4Reading <
350)) {

    lcd.setCursor(0,1);

    lcd.print("Medium squeeze ");

}

else if ((fsr1Reading > 350) && (fsr2Reading > 350)&&(fsr3Reading > 350)&&(fsr4Reading >
350)){

    lcd.setCursor(0,1);

    lcd.print(" Big squeeze ");}

}
```