**VIBRATING FACE MASK**

**INTRODUCTION:**

IMAGINE SOMEBODY WHO IS VISUALLY IMPAIRED CAN KNOW IF SOMEBODY COMES TOO CLOSE TO HIM/HER .WE WILL SORT THIS PROBLEM OUT BY MAKING A VIBRATING FACE MASK THAT VIBRATES WHEN SOMEBODY COMES TOO CLOSE TO THE PERSON WEARING THE MASK.

**COMPONENTS REQUIRED:**

1. FACE SHIELD
2. ARDUINO NANO
3. ULTRASONIC SENSOR
4. VIBRATING MOTOR
5. BATTERY HOLDER
6. SWITCH
7. CONNECTING WIRES

**CONNECTION:**

**PROCEDURE:**

1. CONNECT WIRES FROM THE BATTERY HOLDER TO THE ARDUINO NANO “VIN” AND “GND” PIN MAINTAING THE POLARITY(“**POSITIVE**” TO “**VIN**” AND “**NEGATIVE**” TO “**GND**”).**NOTE:**CONNECT A SWITCH IN SERIES IN BETWEEN THE POSITIVE TERMINAL OF THE BATTERY AND VIN OF ARDUINO NANO.
2. CONNECT 5V FROM ARDUINO NANO TO VCC OF ULTRASONIC SENSOR AND GND OF NANO TO GND OF ULTRASONIC SENSOR.
3. CONNECT THE **TRIGGER** AND **ECHO** PIN OF ULTRASONIC SENSOR TO **D4** AND **D5** PIN OF ARDUINO RESPECTIVELY.
4. NOW CONNECT ONE WIRE OF THE MOTOR TO THE GND OF ARDUINO NANO AND THE SECOND WIRE OF THE MOTOR TO D2 PIN ON ARDUINO.
5. NOW COPY THE CODE AND PASTE IT IN YOUR IDE AND UPLOAD THE CODE.(**NOTE:-**MAKE SURE TO SELECT CORRECT BOARD AND PORT.)

**CODE:**

const int trig=4;

const int echo=5;

const int spin=2;

int y;

int x;

long duration, distance;

void setup() {

pinMode(trig,OUTPUT);

pinMode(echo,INPUT);

pinMode(spin,OUTPUT);

}

void loop()

{

digitalWrite(trig,LOW);

delayMicroseconds(2);

digitalWrite(trig,HIGH);

delayMicroseconds(10);

digitalWrite(trig,LOW);

int duration = pulseIn(echo,HIGH);

int distance = (duration/2) / 29.1;

if (distance < 50)

{

y=map(distance,0,51,255,0);

analogWrite(spin,y);

delay(300);

}

else

{

analogWrite(spin, 0);

}

}