**ARDINO CODE:**

const int trigger1 = 2; //Trigger pin of 1st Sesnor

const int echo1 = 3; //Echo pin of 1st Sesnor

const int trigger2 = 4; //Trigger pin of 2nd Sesnor

const int echo2 = 5;//Echo pin of 2nd Sesnor

long time\_taken;

int dist,distL,distR;

void setup() {

Serial.begin(9600);

pinMode(trigger1, OUTPUT);

pinMode(echo1, INPUT);

pinMode(trigger2, OUTPUT);

pinMode(echo2, INPUT);

}

/\*###Function to calculate distance###\*/

void calculate\_distance(int trigger, int echo)

{

digitalWrite(trigger, LOW);

delayMicroseconds(2);

digitalWrite(trigger, HIGH);

delayMicroseconds(10);

digitalWrite(trigger, LOW);

time\_taken = pulseIn(echo, HIGH);

dist= time\_taken\*0.034/2;

if (dist>50)

dist = 50;

}

void loop() { //infinite loopy

calculate\_distance(trigger1,echo1);

distL =dist; //get distance of left sensor

calculate\_distance(trigger2,echo2);

distR =dist; //get distance of right sensor

//Uncomment for debudding

/\*Serial.print("L=");

Serial.println(distL);

Serial.print("R=");

Serial.println(distR);

\*/

//Pause Modes -Hold

if ((distL >40 && distR>40) && (distL <50 && distR<50)) //Detect both hands

{Serial.println("Play/Pause"); delay (500);}

calculate\_distance(trigger1,echo1);

distL =dist;

calculate\_distance(trigger2,echo2);

distR =dist;

//Control Modes

//Lock Left - Control Mode

if (distL>=13 && distL<=17)

{

delay(100); //Hand Hold Time

calculate\_distance(trigger1,echo1);

distL =dist;

if (distL>=13 && distL<=17)

{

Serial.println("Left Locked");

while(distL<=40)

{

calculate\_distance(trigger1,echo1);

distL =dist;

if (distL<10) //Hand pushed in

{Serial.println ("Vup"); delay (300);}

if (distL>20) //Hand pulled out

{Serial.println ("Vdown"); delay (300);}

}

}

}

//Lock Right - Control Mode

if (distR>=13 && distR<=17)

{

delay(100); //Hand Hold Time

calculate\_distance(trigger2,echo2);

distR =dist;

if (distR>=13 && distR<=17)

{

Serial.println("Right Locked");

while(distR<=40)

{

calculate\_distance(trigger2,echo2);

distR =dist;

if (distR<10) //Right hand pushed in

{Serial.println ("Rewind"); delay (300);}

if (distR>20) //Right hand pulled out

{Serial.println ("Forward"); delay (300);}

}

}

}

delay(200);

}

**PYTHON CODE:**

import serial #Serial imported for Serial communication

import time #Required to use delay functions

import pyautogui

ArduinoSerial = serial.Serial('COM5',9600) #Create Serial port object called arduinoSerialData

time.sleep(2) #wait for 2 seconds for the communication to get established

while 1:

incoming = str (ArduinoSerial.readline()) #read the serial data and print it as line

print (incoming)

if 'Play/Pause' in incoming:

pyautogui.press('space')

if 'Rewind' in incoming:

pyautogui.press('left')

#hotkey('ctrl', 'left')

if 'Forward' in incoming:

pyautogui.press('right')

#hotkey('ctrl', 'right')

if 'Vup' in incoming:

pyautogui.press('down')

#hotkey('ctrl', 'down')

if 'Vdown' in incoming:

pyautogui.press('up')

#hotkey('ctrl', 'up')

incoming = ""