Dr.Mahalingam College of Engineering and Technology

**Members**

V.Preethi

S.Karthick Narayanan

2nd Year

Department of Electronics and Communication Engineering

Arduino Based COVID-19 Symptom Tester

**PROBLEM DESCRIPTION**

We all know that now the world is fighting against the Evil Virus Disease,The COVID-19.It is Disease that widely spreads due to the physical contact.The commonly known symptoms are Dry Cough,Viral fever,Difficulty to breathe,lack of taste.There were also headache for some of the people.Among these symptoms dry cough and viral fever were the intial symptoms.After approximiately somedays (Depends on the individual’s Immunity) symptoms such as difficulty to breathe and lack of taste begins and slowly ends in death.

Now most of the countries around the world is following the self isolation method.Although this method can decrease the range of spread,it cannot eradicate the virus.The only way to eradicate is by using vaccine .The doctors and other public servants are working continuosly for vaccines,but on the other side the COVID-19 cases are rapidly increasing.So it is the need for everyone to test for the case to know the real count,so that the spread can be reduced.

**HOW IT IS GOING TO BE REDUCED**

If we find the count of positive cases,those people were isolated and the further widespread can be reduced.In order to acheive that we are going to test each and every people.The primary symptoms are viral fever and dry cough.In order to find whether the person have fever or not ,we are going to use arduino based temperature sensor(LM35) and test the person.secondly if the person has viral fever there will be definetely an increase in Respiration rate.So we are also going to test the person whether the person has normal rate or higher.The Normal Respiratory rate for healthy person is 12-20 Breathe per minute.If there is sudden increase in this rate,we can take this as difficulty to Breathe.So here we are going to make a band based Respiratory tester using conductive Rubber Cord stretch Sensor, which is put over near the persons abdomen.The Expansion and Contraction of lungs one time can be taken as one breath.If the person have an unusal rate of respiration they should reamin isolated.The Positive cases should be isolated further in the hospital or anywhere with health support systems until he/she is recovered.

Code

**Temparature Sensor**

#include<ESP8266WiFi.h>

Const char\* ssid = “covid19”;

Const char\*password= “123”;

Float temp\_ celsius = 0;

Float temp\_ fharenheit = 0;

WiFiServer server(80);

Void setup()

{

Serial.begin(115200);

PinMode(A0,INPUT);

Serial.println();

Serial.println();

Serial.print(“connecting to “);

Serial.println(ssid);

WiFi.begin(ssid,password);

While(WiFi status()!= WLCONNECTED)

}

Delay(500);

Serial.print(“.”);

}

Serial.print(“.”);

Serial.println(“WiFi is connected”);

Server.begin();

Serial.println(“server started”);

Serial.println(WiFi.locallp());

}

Void loop()

{

temp-celsius = (analogRead(AD)\*330.0/1023.0;

temp\_fahrenheit = Celsius \* 1.8 + 32.0;

serial.print(“Temperature = “);

serial.temp(temp\_celsius);

serial.print(“Celsius”);

serial.print(temp\_ fahrenheit);

WiFiClient client = server.available();

Client.println(“HTTP/1.1 200 OK”0;

Client.println(“content-Type:text/html”);

Client.println(“connection: close”);

Client.println(“Refresh: 10”);

Client.println();

Client.println(“<!DOCTYPE HTML>”);

Client.println(“html>”);

Client.println(“<p style=’text-align: center;’><span style=’font-size: x-large;><strong>Digital Thermometer</strong></span><\p>”);

Client.println(“<p style=’text-align: center;’><span style=’color: #0000ff;’><strong style=’font-size: large;’>Temperature (\*c)= “);

Client.println(“<p style=’text-align: center;’><span style=’color: #0000ff;’><strong style=’font-size: large;’>Temperature (\*f)= “);

Client.println(temp\_celsius);

Client.println(“<p style=’text-align: center;’><span style=’color: #0000ff;’><strong style=’font-size: large;’>Temperature (\*f)= “);

Client.println(temp\_fahrenheit);

Client.print(“</p>”);

Client.print(“</html>”);

delay(5000);

}

**Respiration Rate Sensot**

Int sensorPin = A0;

Int sensorValue = 0;

Int fadeValue = 0;

Int DownValue = 4;

Int scaleValue = 4;

Int newArray[6];

Int downArray[3];

Void setup()

{

Serial.begin(9600);

}

Void loop()

{

sensorValue = analogValue(sensorPin)

fadeValue = sensorValue/scaleValue;

downArray [2] = downArray [1];

downArray [1] = downArray [0];

newArray [5] = newArray [4];

newArray [4] = newArray [3];

newArray [3] = newArray [2];

newArray [2] = newArray [1];

newArray [1] = newArray [0];

newArray [0] = fadeValue;

if (((newArray [0] > newArray [2]) && ((new array[4]))||((newArray [1] > newArray [3] && (newArray[3] > newArray[5])))

{

downArray [0] = 1;

serial.println(“down”);

}

if (((newArray [0] > newArray [2]) && ((new array[4]))||((newArray [1] > newArray [3] && (newArray[3] > newArray[5])))

{

downArray [0] = 1;

serial.println(“up”);

}

if (((newArray [0] > newArray [2]) && ((new array[4]))||((newArray [1] > newArray [3] && (newArray[3] > newArray[5])))

{

downArray [0] = 0;

serial.println(“hold”);

}

else

{

Serial.println(“.”);

}

/\* else

{

If ((downArray [0]== 1)|| (downArray [2] ==1))

{

Serial.println(“down2”);

}

downArray [0] = 2;

serial.println(“hold”);

}\*/

Delay(70);

}