ARDUINO CODE:

```cpp
#include <LiquidCrystal_I2C.h>

#include "MAX30100_PulseOximeter.h"

#include <Servo.h>

Servo servo;

LiquidCrystal_I2C lcd(0x27,16,2);

#define REPORTING_PERIOD_MS 1000

#define ONE_WIRE_BUS A0

OneWire oneWire(ONE_WIRE_BUS);

DallasTemperature sensors(&oneWire);

PulseOximeter pox;

uint32_t tsLastReport = 0;

float t=0;

int sp = 0;

int hb;

int ir,i=0;

const int IRR=12;

void onBeatDetected()

{

Serial.println("Beat!");

void setup()

}

{

Serial.begin(9600);

servo.attach(7);

servo.write(90);
```

```
lcd.init();

lcd.backlight();

lcd.clear();

lcd.setCursor(0,0);

lcd.print("Covid Door Lock ");

lcd.setCursor(0,1);

lcd.print(" Welcome ");

pinMode(IRR,INPUT);

pinMode(8,OUTPUT);

digitalWrite(8,HIGH);

pox.setOnBeatDetectedCallback(onBeatDetected);

pox.begin();

pox.setIRLedCurrent(MAX30100_LED_CURR_7_6MA);

void loop()

}

{

lcd.clear();

lcd.setCursor(0,0);

lcd.print("Covid Door Lock ");

lcd.setCursor(0,1);

lcd.print(" Welcome ");

delay(1000);

ir=digitalRead(IRR);

if(ir == 0)

{

digitalWrite(8,LOW);
```

```arduino
lcd.clear();

lcd.setCursor(0,0);

lcd.print(" Please Place ");

lcd.setCursor(0,1);

lcd.print("Finger On Scaner");

while(i <= 8)

{

pox.update();

if (millis() - tsLastReport > REPORTING_PERIOD_MS)

{

hb = pox.getHeartRate();

sp = pox.getSpO2();

Serial.print("Heart rate:");

Serial.print(hb);

Serial.print("bpm / SpO2:");

Serial.print(sp);

Serial.println("%");

tsLastReport = millis();

if(sp >0 && hb > 0)

{

i = i+1;

lcd.clear();

lcd.setCursor(0,0);

lcd.print("Scanning.....");

}

}
```

```
while(i > 8 && i < 15)

}

{

sensors.requestTemperatures();

t = sensors.getTempCByIndex(0);

t=(t* 9.0) / 5.0 + 32.0;

Serial.println("Temperature is: ");

Serial.println(t);

i = i+1;

delay(1000);

}

lcd.clear();

lcd.setCursor(0,0);

lcd.print("HB: SP2: ");

lcd.setCursor(3,0);

lcd.print(hb);

lcd.setCursor(13,0);

lcd.print(sp);

lcd.setCursor(0,1);

lcd.print("Temp: 'F");

lcd.setCursor(6,1);

lcd.print(t);

delay(5000);

if(t<100 && sp > 94)

{

Serial.println("Granted");
```

```
lcd.clear();

lcd.setCursor(0,0);

lcd.print(" Access Granted ");

lcd.print("!!Door Opened!!!");

servo.write(0);

delay(2000);

servo.write(90);

}

else

{

Serial.println("Denied");

lcd.clear();

lcd.setCursor(0,0);

lcd.print("!Access Denied!!");

lcd.setCursor(0,1);

lcd.print("!!Door Closed!!!");

servo.write(90);

delay(5000);

}

if(i==15)

{

i=0;

hb = 0;

sp = 0;

}

}
```

```
else

{

digitalWrite(8,HIGH);

}

}
```