Source code:-

//Sanitizer controlled door

```
#include <Servo.h>
#include <LiquidCrystal.h>
int Contrast=75;
LiquidCrystal lcd(12, 11, 9, 4, 3, 2);
int angle = 0;
#define trig 7
#define echo 8
Servo servo;
const int sensor = 10;
const int Relay = 13;
int state;
int value;
long duration;
int distance;
void setup()
{
 Serial.begin(9600);
  analogWrite(6,Contrast);
  lcd.begin(16,2);
  lcd.print("before you enter please sanitize");
  servo.attach(5);
 servo.write(0)
  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
```

```
 pinMode(sensor, INPUT);
 pinMode(Relay, OUTPUT);
}
void loop()
{
 digitalWrite(trig, LOW);
 delayMicroseconds(5);
 digitalWrite(trig, HIGH);
 delayMicroseconds(10);
 digitalWrite(trig, LOW);
 value = digitalRead(sensor);
 duration = pulseIn(echo, HIGH);
 distance= duration*0.034/2;
 delay(1000);
 if (distance > 1 && distance < 15)
 {
  lcd.clear();
   lcd.setCursor(1, 0);
   lcd.print("Hands detected");
   lcd.setCursor(0, 1);
   lcd.print("wash hands - 20s");
   digitalWrite(Relay, HIGH);
   state = 1;
   delay(2000);
   lcd.clear();
   lcd.print("You are safe now");
 }
```

```
  else
  {
    digitalWrite(Relay, LOW);
  }
  if ((state == 1) && (value == LOW))
  {
    lcd.clear();
    lcd.setCursor(1, 0);
    lcd.print("you may go in");
    state = 1;
    delay(1000);
    lcd.clear();
    lcd.print("you are safe now");
  }
  else
{
    digitalWrite(Relay, LOW);
  }
  if ((state == 1) && (value == LOW))
  {

  lcd.clear();
    lcd.setCursor(1, 0);
    lcd.print("you may go in");
    lcd.setCursor(1, 1);
    lcd.print("10 seconds left");
    servo.write(180);
```

```
    delay(10000);
    servo.write(0);
    lcd.clear();
    lcd.print("wash your hands");
    lcd.setCursor(0, 1);
    lcd.print("before you enter");
    state = 0;
  }
 else if ((state == 0) && (value == 0))
 {
    lcd.clear();
    lcd.print("wash your hands");
    lcd.setCursor(0, 1);
    lcd.print("to grant access");
  }
}
```