ELECTRO-INFINITY

IOT MID EVALS

IDEA AND MOTIVATION

Our idea is to make a covid smart mall model where when the people come to the mall , they will first have to connect to the local arduino bluetooth server and then open the Blynk App.
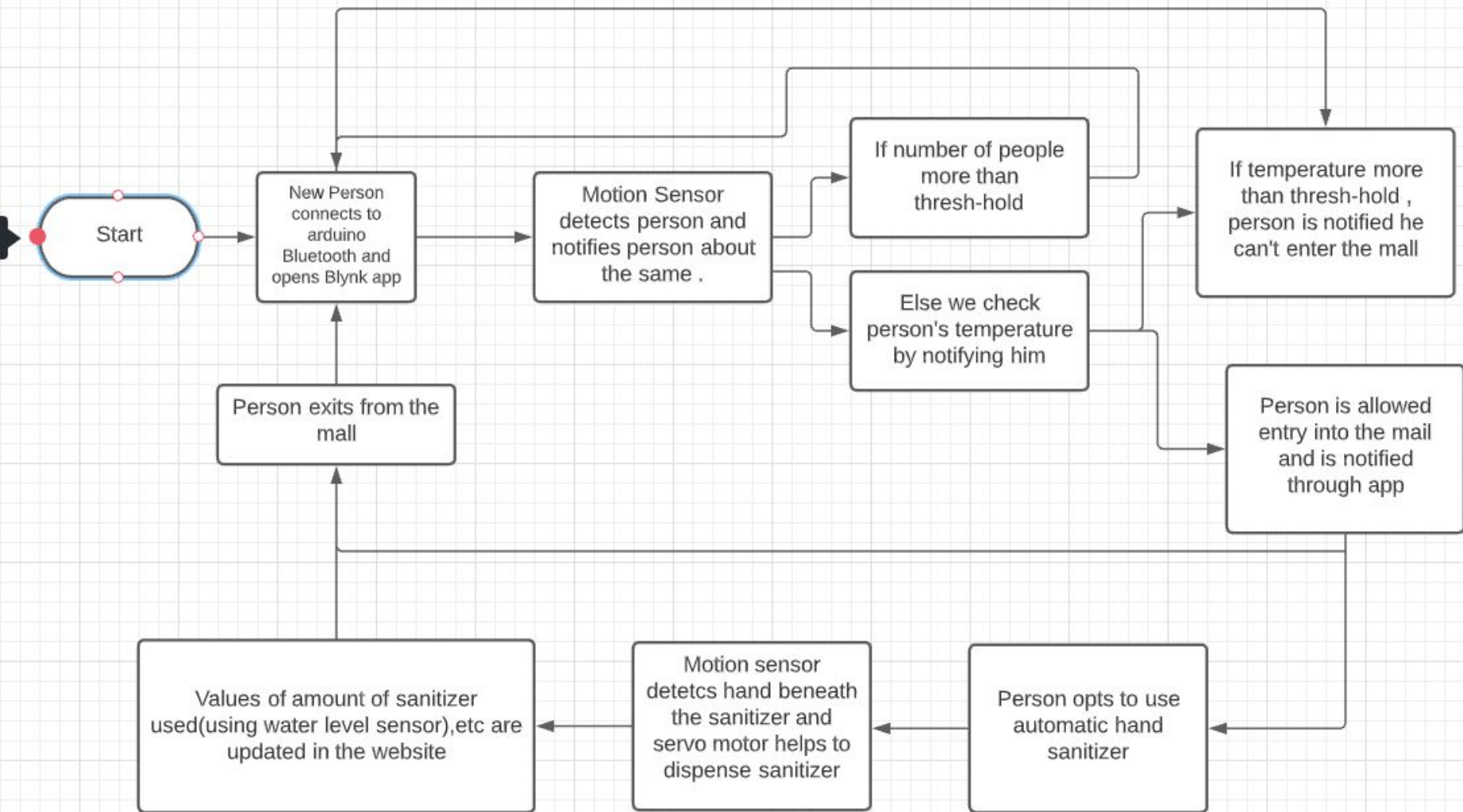
The main points in our project are as follows :

-Our motion sensor deployed at the entrance of the mall will detect the motion , then it will check whether the number of people in the mall currently is below the designated threshold or not .

-If number of people is more than the threshold , then they will be denied entry and they will be notified about the same through the blynk app , else they will be asked to record their temperature .

-It the recorded temperature is more than the threshold value , again they will be denied entry and would be notified about the same , else if both these values are below threshold they will be allowed to enter the mall and again would be notified the same through the app .

- After they enter the mall , they will be able to sanitize their hands using a automatic hand sanitizer which will dispense handwash automatically when we keep the hand below the system (this will be achieved using Ultrasonic Distance sensor) , when this happens a LED will also light up showing that someone is using the sanitizer . Also , we will maintain the amount of sanitizer being used using a water level detector sensor .

- When the person exits from the mall he will again receive a notification using bylnk from mall authorities thanking the person for visiting the mall .

- Apart from all this , we will also maintain a website which will have info about the people who are in the mall currently . This information can be used by mall authorities to keep track of how many people are present in the mall on average , frequency a visit .
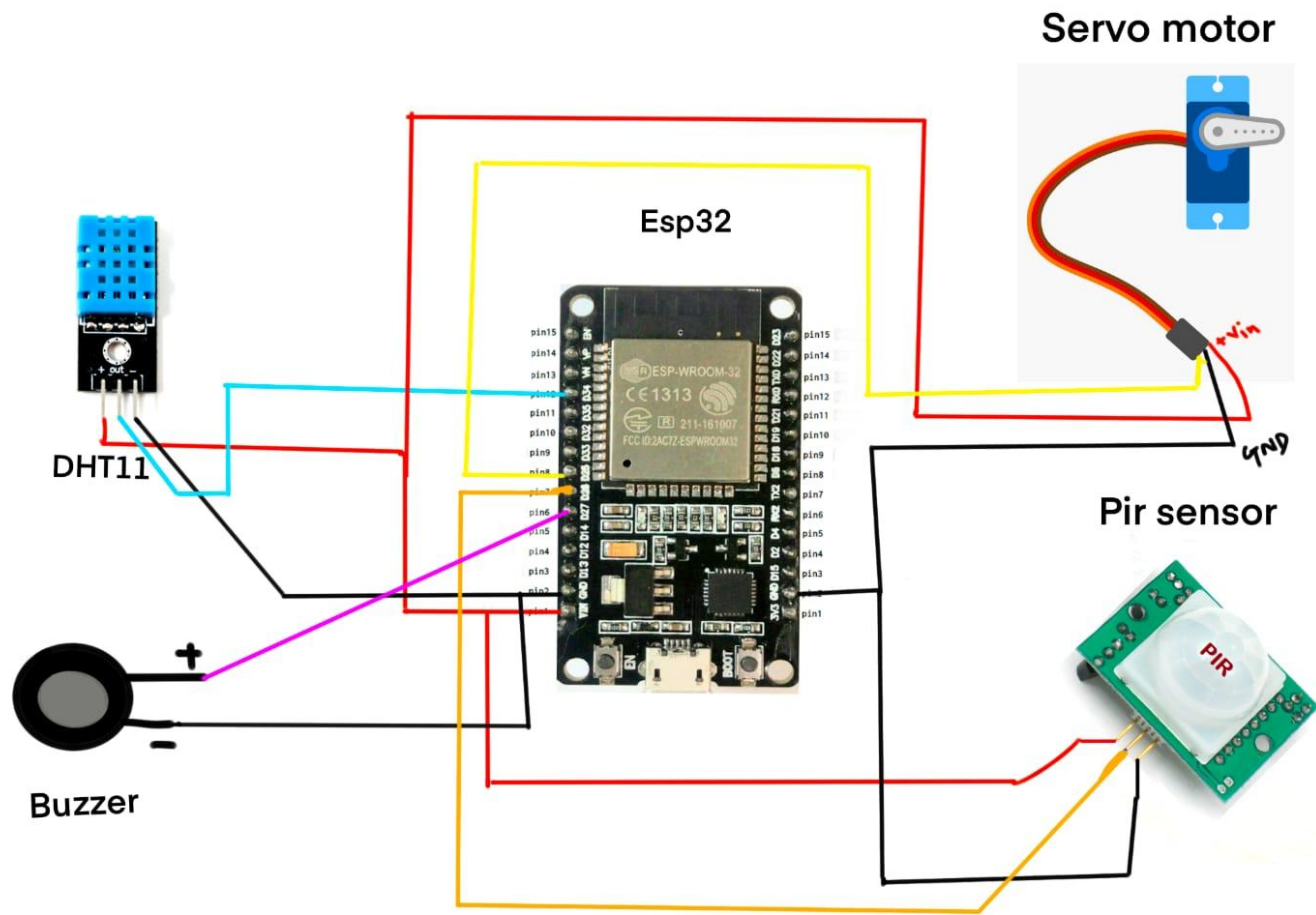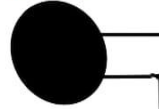
CODE FLOW

```mermaid
flowchart

Start --> A[New Person connects to arduino Bluetooth and opens Blynk app]

A --> B[Motion Sensor detects person and notifies person about the same .]

B --> C[If number of people more than thresh-hold]

B --> D[Else we check person's temperature by notifying him]

C --> E[If temperature more than thresh-hold , person is notified he can't enter the mall]

D --> E

D --> F[Person is allowed entry into the mail and is notified through app]

F --> G[Person opts to use automatic hand sanitizer]

G --> H[Motion sensor detetcs hand beneath the sanitizer and servo motor helps to dispense sanitizer]

H --> I[Values of amount of sanitizer used(using water level sensor),etc are updated in the website]

I --> J[Person exits from the mall]

J --> A
```

CIRCUIT DIAGRAM

Servo motor

Esp32

DHT11

Buzzer

Pir sensor

Buzzer

Servo motor

ESP 32

Water sensor

Led

Sanitizer model

01:39
Sun, 14 Nov

Alerting notifications

B Blynk • 5 minutes
test
Entry Success!!

B Blynk • 5 minutes
test
Enter the email_id through app !!

B Blynk • 5 minutes
test
Check temperature

test
Entry Success!!

GAUGE

2

0   100

BODY TEMPERATURE

23.800°C

test
Check temperature
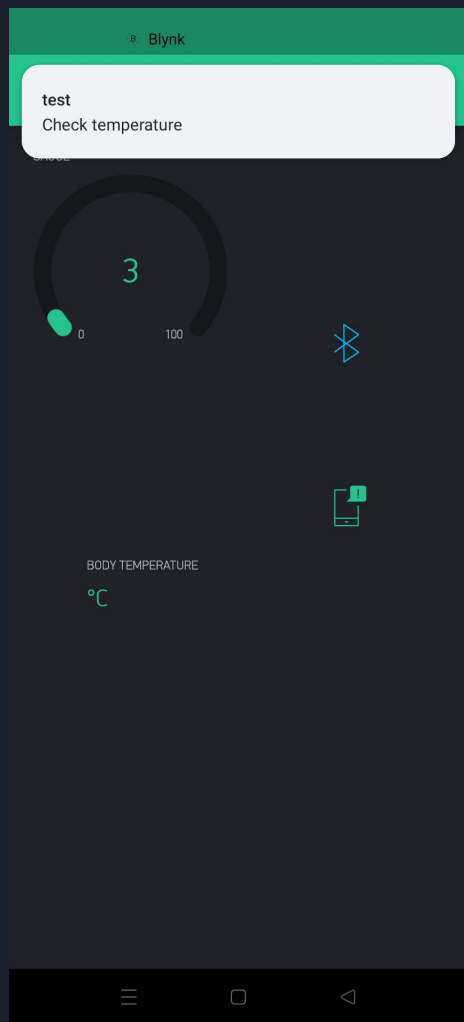
GAUGE

3

0   100

BODY TEMPERATURE

℃
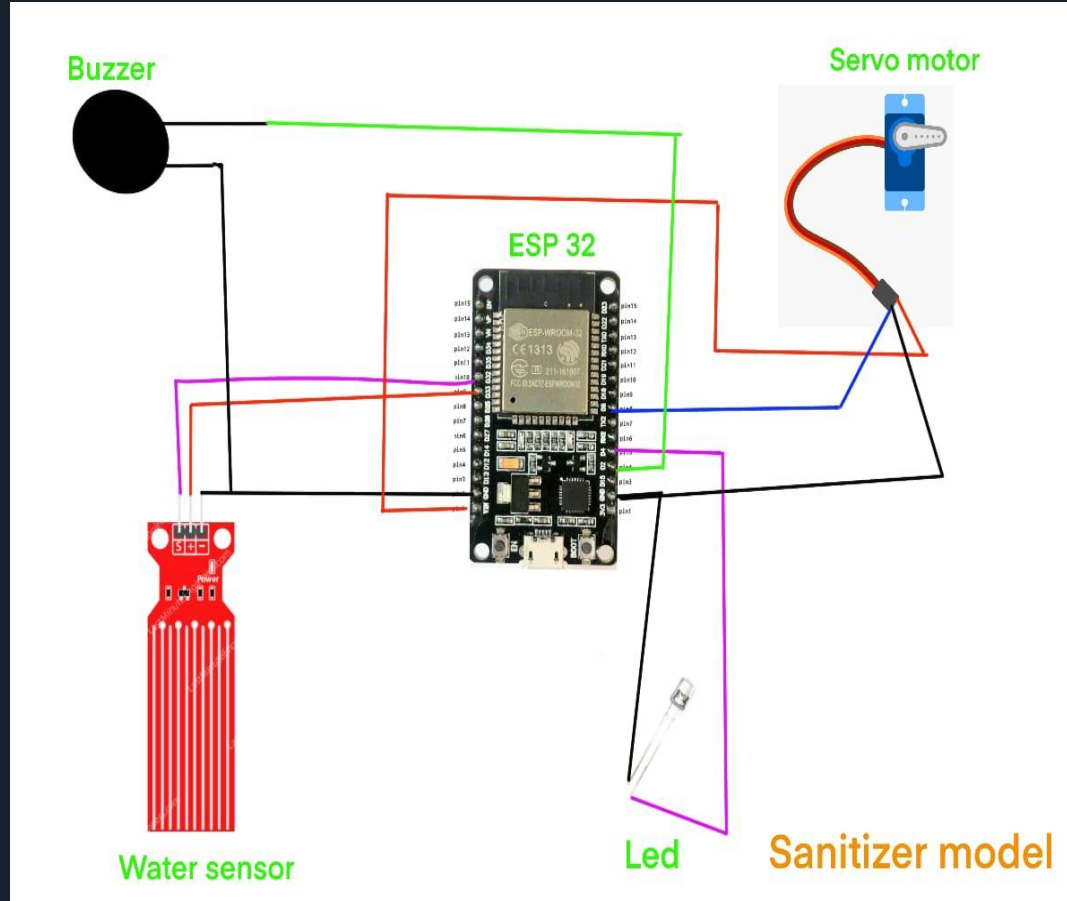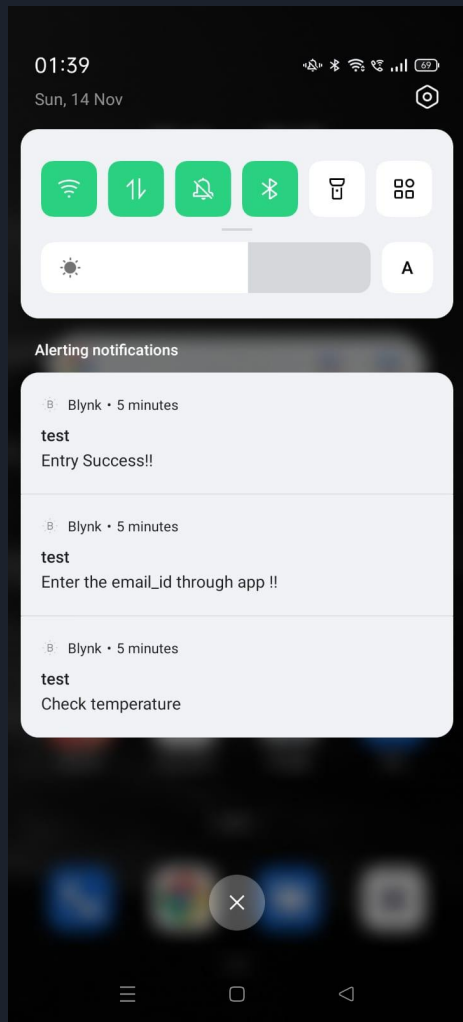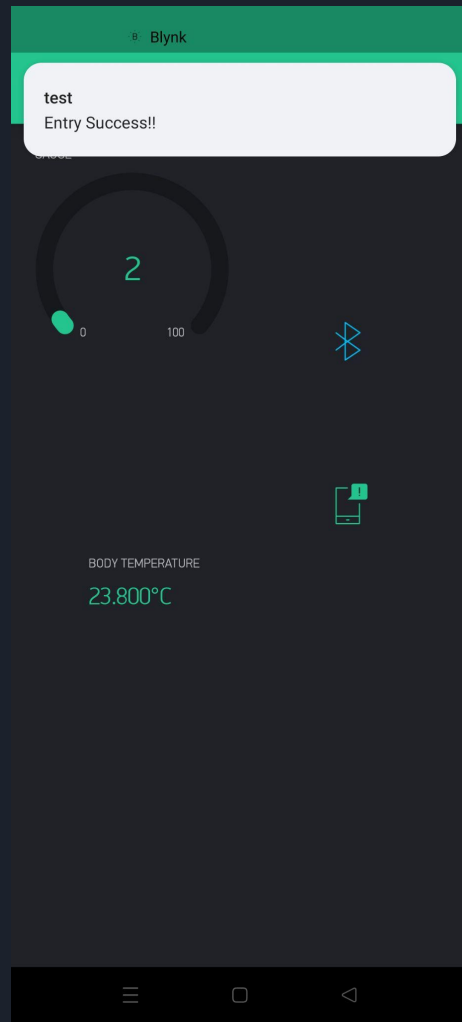
Backend Data for AHAK Mall
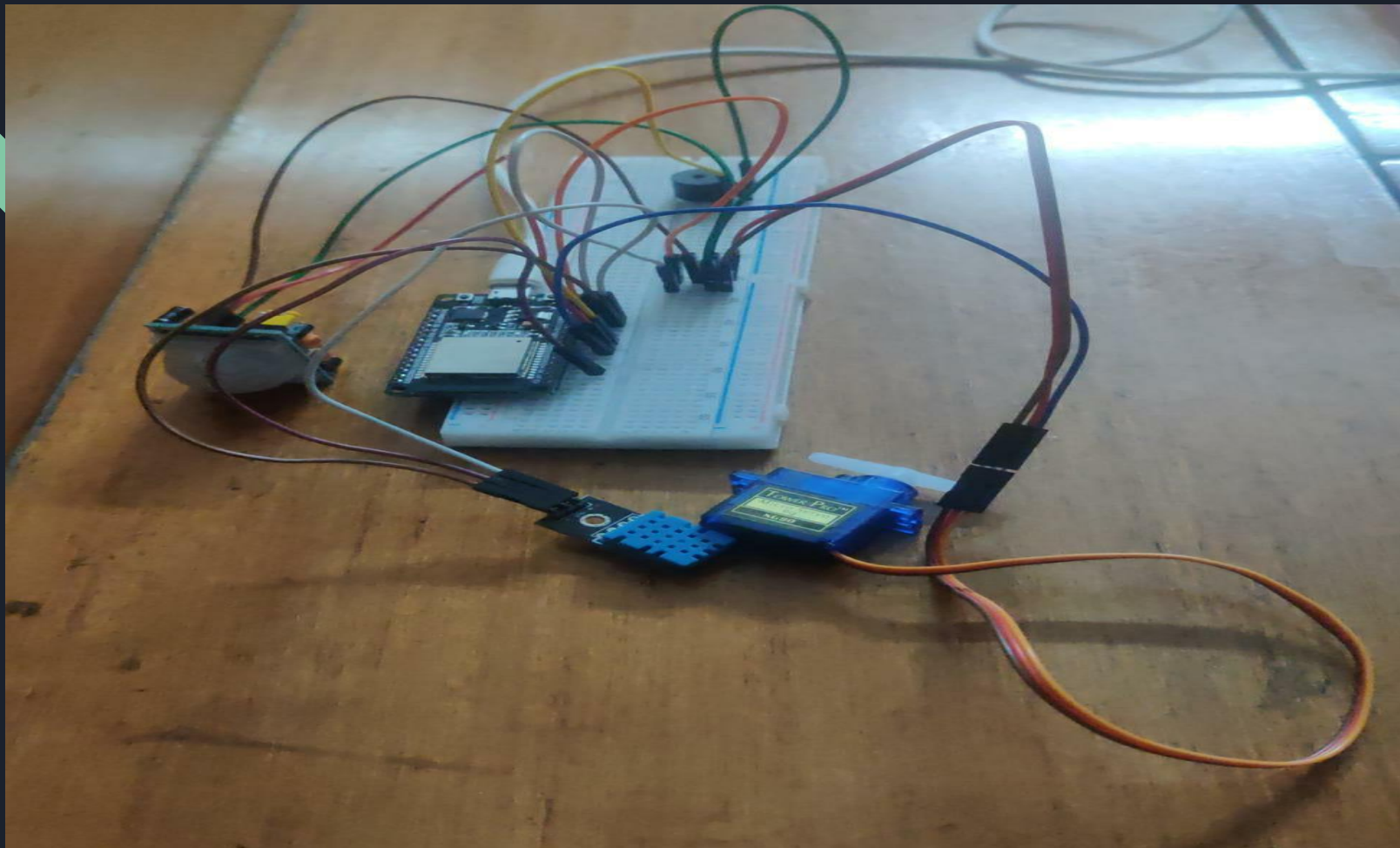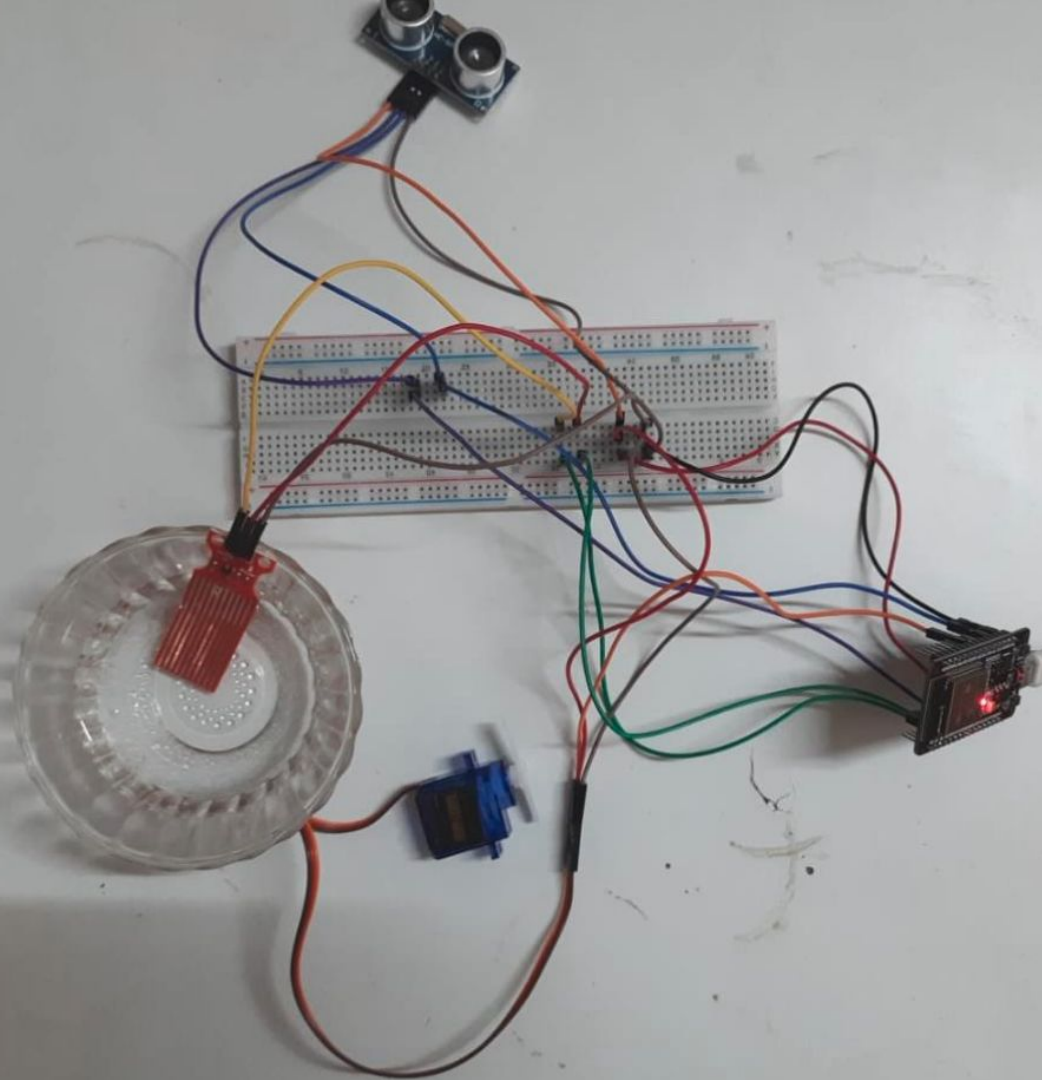
Current Level of sanitizer

500mL

BUTTON1

Amount of Sanitizer used:

600mL

BUTTON1

Video link for Blynk :

https://drive.google.com/file/d/1bWBT4ve6Qe3u1YHVE7QhPacJebTJvzWl/view?usp=drivesdk

What's Completed

- We completed the blynk app part in which people visiting the mall will be notified of their visit , asked to record their temperature and told whether they are granted entry or not.

- Smart Hand-Sanitizer part is almost done where we will first detect a person and then also maintain how much sanitizer has been used . We just need to update the part where we post http request to website to update the values of sanitizer used and left in the dispenser.

What's not Completed

- We have to do the website part of keeping track of all the people in the mall currently .

- We have to complete the remaining part of integration of circuit

- We have to complete the part where we are notifying the users about their exit from the mall and thanking them from their visit .

Problem's Facing

- Should we implement the exit and entry part code using separate arduino or should we integrate them into one and what can help us to achieve the task of implementing them separately .

- How should we maintain the amount of time a person a spend in the mall .