Covid Protection System

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Problem statement

A safe,feasible and efficient method is needed for any establishment to check for covid symptoms and manage traffic congestion such that infectious spreading of covid remains minimal.

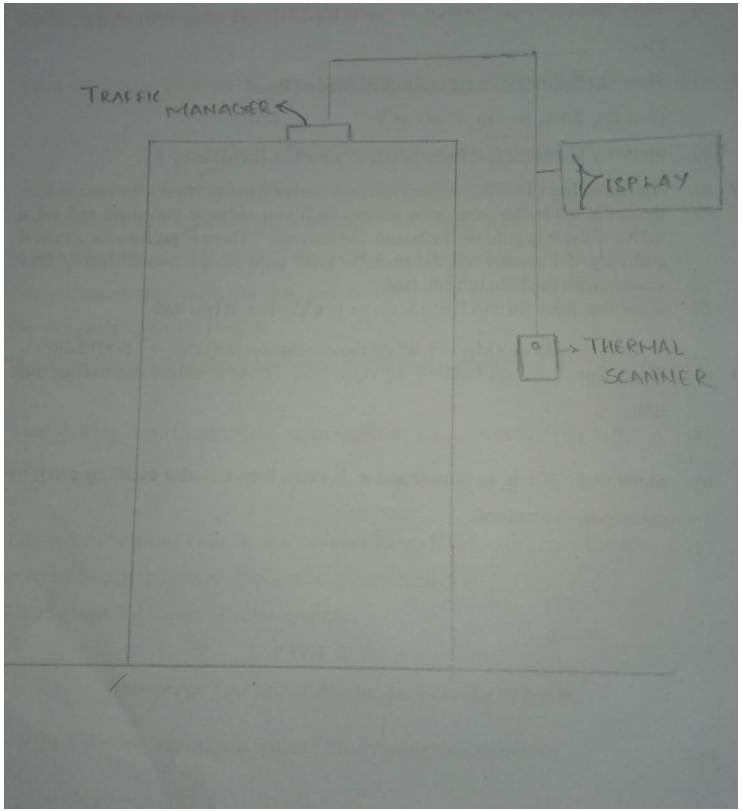
Contactless covid protection system :

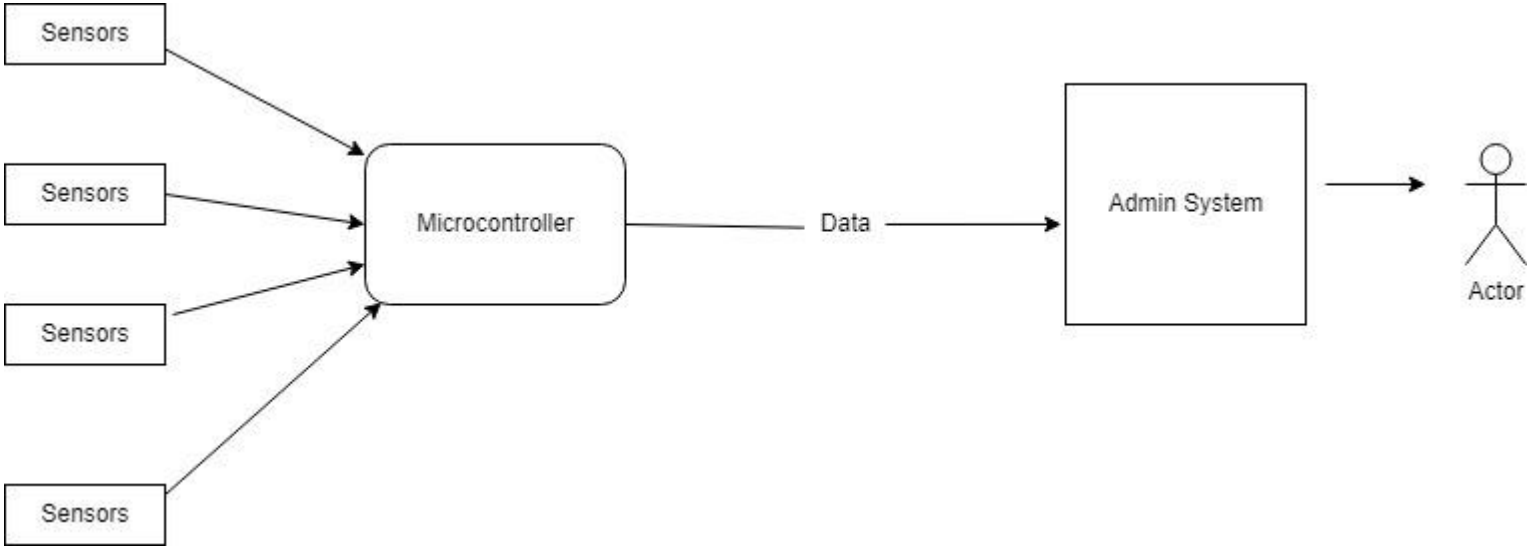
The system allows establishments to work efficiently with minimal risk of person to person covid transmission.

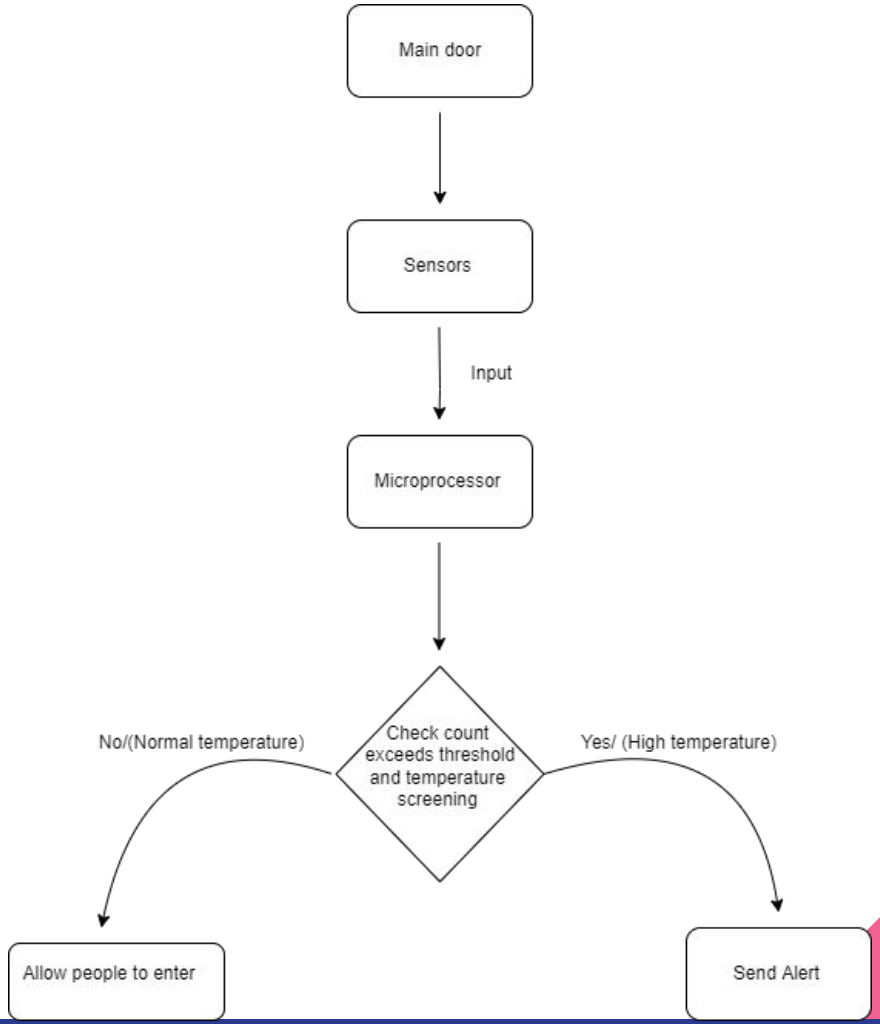
The base plan contains two defining features.

1) Contactless thermal scanning.
2) Traffic management.

Concept Sketch




Sensors
Sensors
Sensors
Sensors
Microcontroller
Data
Admin System
Actor


Main door
Sensors
Input
Microprocessor
Check count exceeds threshold and temperature screening
No/(Normal temperature)
Yes/ (High temperature)
Allow people to enter
Send Alert

Traffic manager (Our Prototype)

It’s an isolated attachable device to be placed appropriately near the entrance/exit of an establishment.

It keeps count of the people inside the establishment and relays the info to a display unit.

If the value goes beyond established limit a warning alarm/beep is triggered.

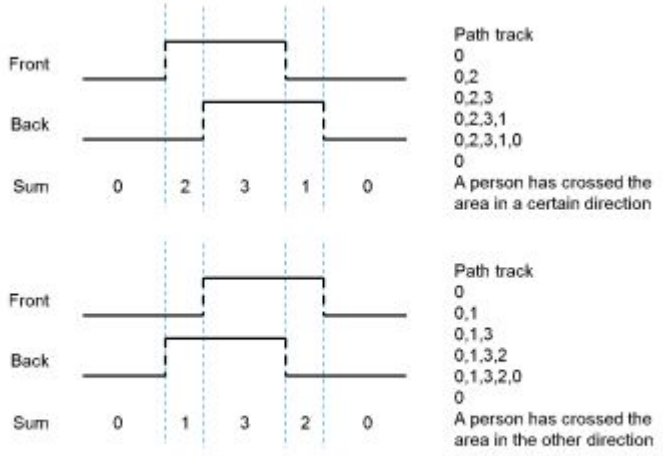
Algorithm for Counting Entry

If we consider that a person detected in the front zone equals 2, and a person detected in the back zone equals 1, the algorithm adds the value of the two states and stores the result as soon as it changes.

Eventually, if the consecutive states in the list are 0, 1, 3, 2, 0 or 0, 2, 3, 1, 0 this means a person has been detected in one direction or the other, as described in the figures below.

Figure 3. **Front and back zones**

Figure 4. **List of status vales**



Components required

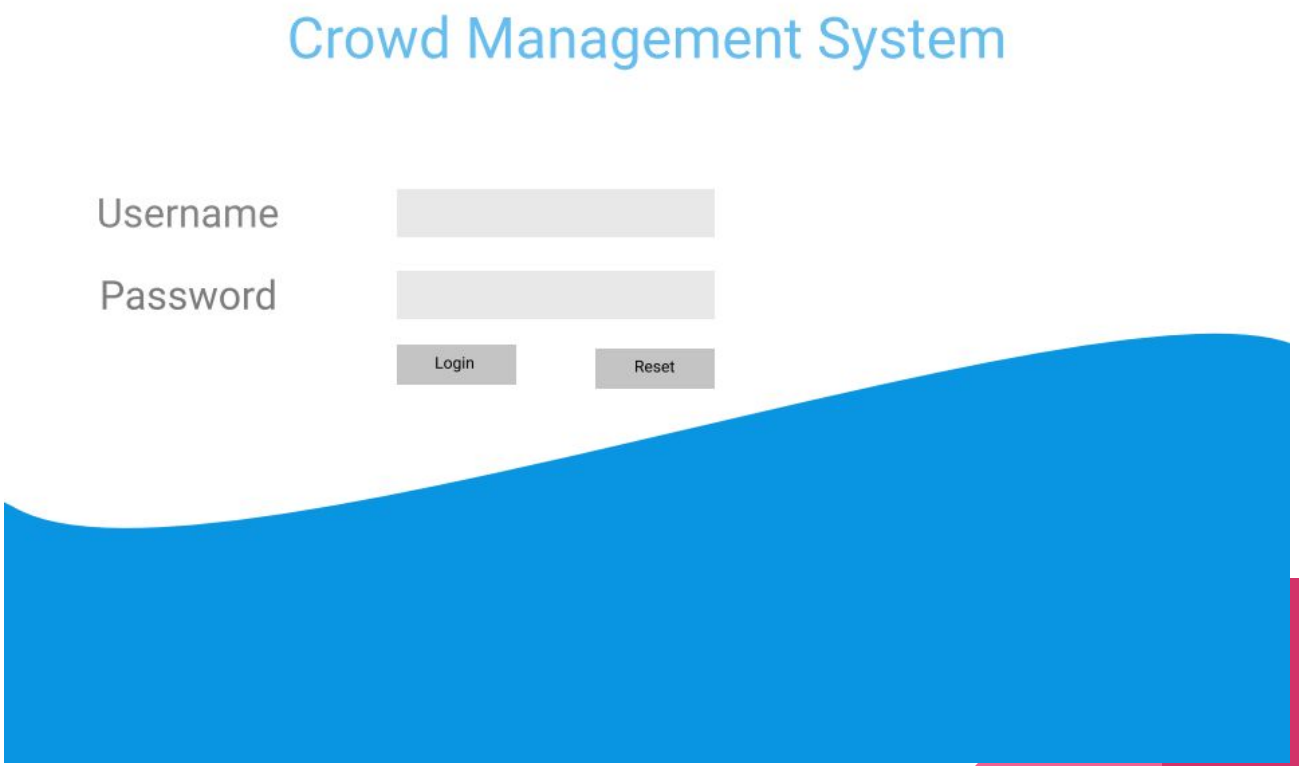
PIC Series Microcontroller

PIR Sensor

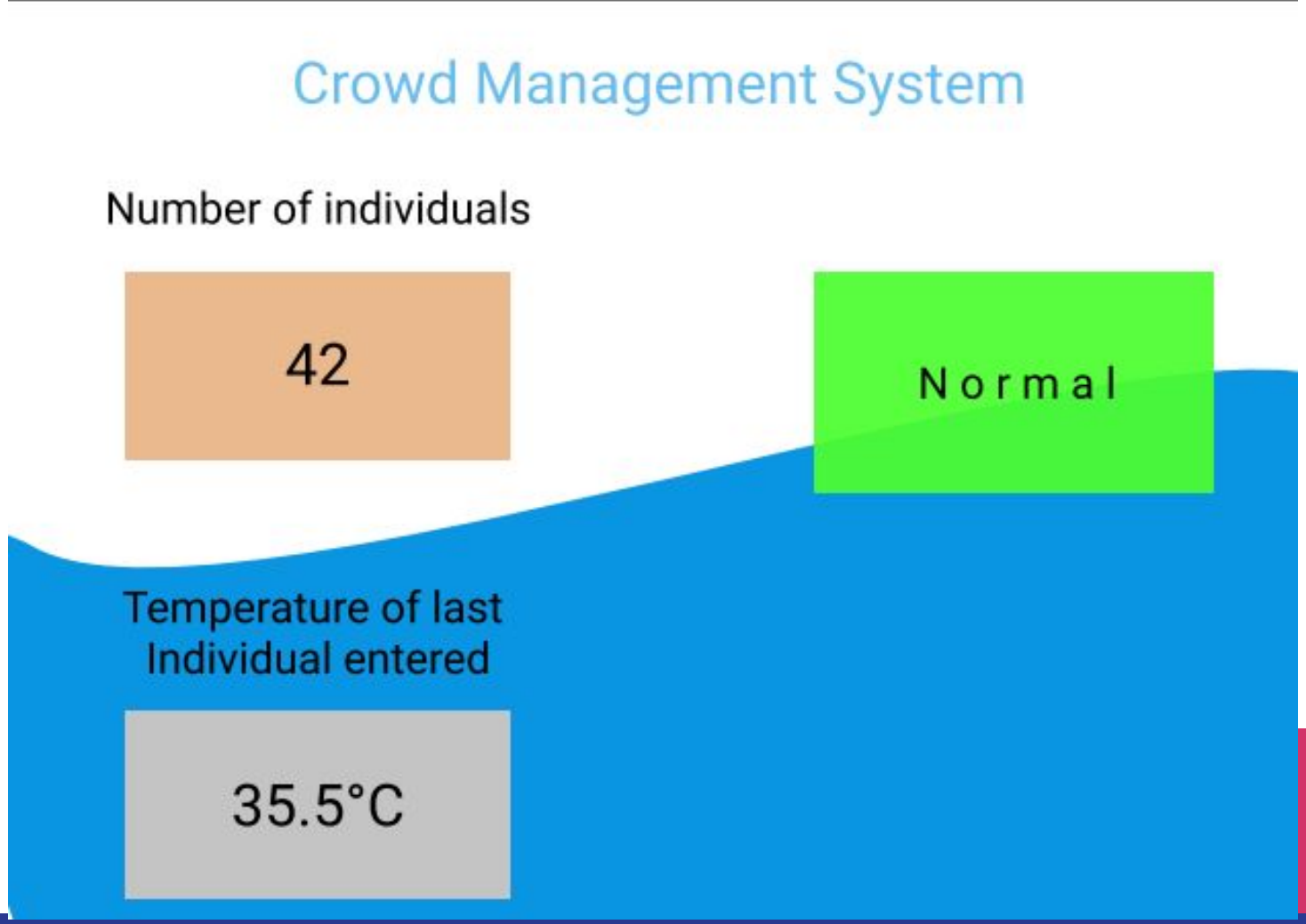
9V Battery

RGB Backlight LCD

UI Design



Crowd Management System



Crowd Management System

Number of individuals

54

ALERT

Temperature of last Individual entered

38.2° C

THANK YOU !!