Report on

'People Counter'

By

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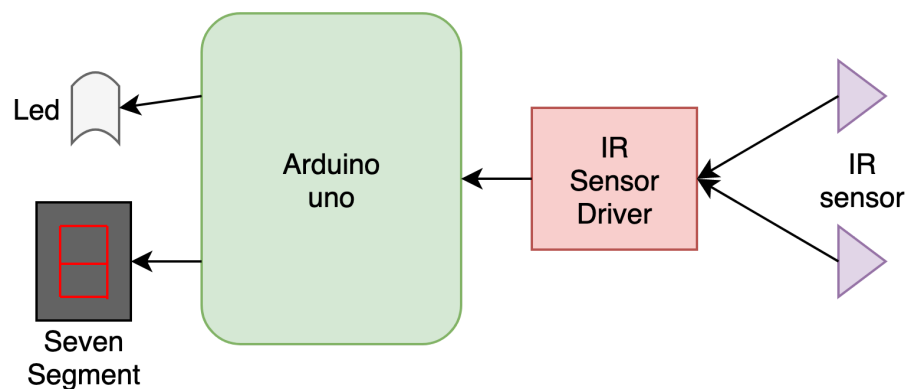
Objective:

To construct a people counter device which is used to counter the number of people entered into a room.

Description:

This project is used to count the number of people entered a room. It also counts (subtracts) the number of people exits the room. We can save electricity by counting the number of people and if it is zero, light or fan will be switched off. For the small scale implementation of this project, I have used an LED instead of a tube light or fan. And as a limit, this project can only count up to 9 people.

Block Diagram:

System Requirement Specification

Hardware Requirement:

- Seven Segment

- IR Sensor Driver

- Arduino Uno

- IR sensor

- LED

- Jumper cable

Software Requirement:

- Arduino IDE

Working Principle:

I have used two IR sensors, IR1 and IR2. These two are placed at a gap of 10 to 20cm. When a person enters a room, IR1 is triggered first and IR2 is triggered second. This makes Arduino count one person entered the room and is updated in the seven segment display and LED is switched on. This way Arduino counts the number of people entered the room. If IR2 is triggered first and IR1 is triggered second, it means a person has exited the room, so Arduino decrements its count by one and updates the seven segment display and switches off the LED if the count is zero.

Circuit Connections:

- Connection of Arduino to IR Sensor:
    - 5v - Vcc
    - 5 - Signal of IR1
    - 4 - Signal of IR2
    - Gnd - Gnd
- Connection of Arduino to Seven Segment:
    - 2 - Seven Segment1
    - 7 - Seven Segment2
    - 8 - Seven Segment3
    - 9 - Seven Segment4
    - 10 - Seven Segment5
    - 11 - Seven Segment6
    - 12 - Seven Segment7
    - 13 - Seven Segment8
- Connection of Arduino to LED:
    - 3 - LED
    - Gnd - Gnd

Result:

The result of the project people counter is verified and it satisfied all my requirements without any exceptions.