

# **Automatic Room light Controller with Visitor Counter**

## **ABSTRACT**

The "Digital Visitor Counter" project leverages various components, such as sensors, motors, and an Arduino microcontroller, to track the number of people entering and exiting a specific area. The system is designed to count people in both directions, allowing for accurate monitoring of entrances and exits. It can be implemented in various locations like halls, malls, offices, homes, or even parking areas. By detecting movements through strategically placed sensors, the counter can increment when a person enters and decrement when they exit, providing a dynamic and real-time count. The system consists of four main components: sensors, the controller (Arduino), counter display, and gate. The sensors are responsible for detecting interruptions in their range, such as a person passing through the gate. These interruptions trigger signals that are sent to the controller, which processes the data and adjusts the counter accordingly. Depending on the sensor placement, the system can distinguish whether a person is entering or leaving and update the count in real-time. The system could use infrared or ultrasonic sensors, both of which are reliable for motion detection in such applications. The counter display is handled by a 16x2 LCD connected to the Arduino, providing a clear visual representation of the number of people in the monitored area. As people enter or exit, the count is updated and displayed on the screen. This feature is crucial for user feedback and helps maintain accurate records of visitors. Additionally, the gate, whether manual or motorized, can be integrated into the system to trigger further actions or alerts based on the visitor count. With the flexibility in sensor placement and the Arduino's capabilities, this project offers a versatile solution for counting people in various public and private spaces.

**KEYWORDS:** Embedded Software, Fault Analysis, Side Channel Analysis, sensors, led, Arduino, Relay, Signal, Analog, Digital, Input, Output, etc.,

**Batch:** B2

**Batch Members:**

- |                           |                     |
|---------------------------|---------------------|
| <b>1. A. SURESH</b>       | <b>- 21JE1A0467</b> |
| <b>2. P. PRANEETH</b>     | <b>- 21JE1A0480</b> |
| <b>3. T.S.L.S. ANUSHA</b> | <b>- 21JE1A0453</b> |

**SIGNATURE OF THE GUIDE**