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**ABSTRACT**

This project titled “An Internet of Things (IoT) based Automated Passenger Counter Using IR Sensors” is designed and presented in order to count the visitors of an auditorium, hall, offices, malls, sports venue, etc. The system counts both the entering and exiting visitor of the auditorium or hall or any other place, where it is placed. This system can be economically implemented in all the places where the visitors have to be counted and controlled. Our objective is to count the objects (persons) entering and exiting the room so we need some sensors to detect the objects and a control unit which calculates the object. In recent times, people tend to travel without buying tickets, especially by rail. This results in many problems like over-crowding and also incurs loss to the Government. To avoid such situations and to have a check on the number of passengers travelling, we have developed an automated passenger counter using IR sensors. They are inexpensive and can be easily installed at every entrance on all coaches.

Two IR sensors are connected to a NodeMCU module programmed for Firebase database. The Firebase Realtime Database is a cloud-hosted database. Data is stored as JSON and synchronized in real-time to every connected client. When you build cross-platform apps with their iOS, Android, and JavaScript SDKs, the clients share one Realtime Database instance and automatically receive updates with the newest data. So, it is convenient and useful in many places for security.

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