# Abstract:

An Internet of Things system is developed with the help of microcontroller and sensors to calculate the number of people in a company’s reception room and give the information to the user.The number of people entering and exiting the room is calculated and the number of people in the room is also displayed .The information regarding the people’s count is sent to the user via wifi module.When the number of people in the room exceeds a particular limit a warning is given regarding the situation to the user.Also when the count is down to zero ,the message is given.

The following components have been used in developing the room counter,

* Arduino Mega(MEGA 2560) – This micro-controllers forms the major part and it is used to control the functions of the embedded system
* Sensors:
  + motion sensors
    - * PIR-Passive Infrared – Used to detect the motion inside the motion range.
  + UltraSonic sensors – Used to measure the distance of a target object by emitting ultrasonic sound waves.
* Arduino WiFi Module
* LED
* Display
* Arduino IDE for program implementation
* And other required Tools

When a person enters the room,the entry is detected by the motion and the ultrasonic sensors,and the Arduino microcontroller detects it and the counter keeps track of the entry(increments).While a person exits the room,the entry is detected similarly and the microcontroller detects it and the counter keeps track of the entry (decrements).The info regarding the number of people is displayed and the message carrying the info is sent to the user through wifi.When the number of people gets down to zero, an led glows and it gives out a warning to the user.

The project helps in managing the people load in the rooms,it helps to organize the people occupancy in the room efficiently.Also it can be very useful in maintaining the distancing norms effectively.

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