



INTELLIGENT ROOM LIGHT
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ABSTRACT

The purpose of this project is to design a circuit which is capable of detecting number of persons in a room and switches on room light in presence of persons and in absence of persons in room turns off light automatically. This is a pioneer project and therefore the development of the circuit had to be initiated from the very basic steps. The project was started from the brain storming phase together with the research phase and then proceeded into the conceptualization or designing phase.

The ideas and concepts from the theoretical stages are shaped into the physical hardware components by fabrication of a prototype and then software programs are integrated into the system so as to test and experiment the concepts that had been developed.

In this project we have used two sets of IR sensors one outside the gate and other one just inside the gate. When the IR sensor gives analog output, this signal is converted in digital signal using op-amp LM324. When any of the sensors is cut the gate opens. And the gate is opened till the other sensor is not cut. We have used this procedure to count the number of person. If outside sensor is cut before then the counter is increased and vice versa.

There is LDR sensor also provided which measures the intensity of light inside. This signal is also an analog signal we have to convert it into digital signal using same Op-amp LM324. If there are persons inside and the intensity of light is below a certain limit then the light inside is switched on. The dc bulb is connected to the motor driver. We have used the left out H-bridge of the motor driver.