

# AN REVIEW ON LAMP ILLUMINATION CONTROL BY MOBILE PHONE

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## Abstract

This world is full of different kinds of light sources; some are natural ones while others are man-made light sources. The man-made light sources have only two modes of operation that are switch on and switch off. There is no intermediate level that can be set according to the surrounding lighting condition and at the end everything needs to be controlled manually.

**Keyword-**DTMF Decoder, Microcontroller, Embedded system, mobile Phone

## Introduction

Scientific discoveries delivered us luxury and comforts. Technology has become vital and essential part of our lives. Tremendous advancement in technology is succeeded in last few years. Electrical energy has become a crucial part of human life. In recent years the people are looking forward for the automation in their day to day life, and even now the people are excited to save energy consumed to reduce the expenditures. People are becoming lazy to switch off the lights while leaving the room, so the large amount of energy is wasted if the light is remain ON in the absence of human being. Generally, in public and private sector companies, offices, school and colleges most of the people are not interested to switch OFF the electronic machines like fan, light, etc., while going out of the room.

## Literature Review

Controlling lighting system by means of LDR and Arduino together is relatively a new concept. After going through many research papers which were related to field of lighting system, I found that there are papers only about street light system and that too most of them are Passive Infrared receiver based and few are LDR based but they are controlled by means of timers and analog circuits. Some were controlled by wireless GSM/GUI networks .That being said they are no papers which coin all the lighting system under one umbrella and use LDR and Arduino system as their fundamental architecture to control it. Automatic Room Light Controller using Arduino and PIR Sensor

Automatic room light controller using Arduino and PIR sensor can be used to turn ON and OFF the illumination system of home / office routinely by sensing the existence of human. Such Automatic Room Lights systems can be implemented in your human. Such Automatic Room Lights systems can be implemented in your Classrooms, faculty cabins, garages, staircases, bathrooms, etc. where we do not need constant light but only when individuals are existing. Also, with the assistance of this system, we can save the energy bill as power will be consumed only when human is present i.e. when required lights will be spontaneously turned ON or OFF.

This paper proposed system of Automatic room light controller using Arduino and PIR sensor and relay module. PIR sensor will spot the human activity and based on response of PIR sensor unit will control the switching action. Automatic Streetlights that Glow on Detecting Night and Object using Arduino

The proposed work is accomplished by using Arduino microcontroller and sensors that will control the electricity based on night and object's detection. Meanwhile, a counter is set that will count the number of objects passed through the road. The beauty of the proposed work is that the wastage of unused electricity can be reduced, lifetime of the streetlights gets enhance because the lights do not stay ON during the whole night, and also helps to increase safety measurements. We are confident that the proposed idea will be beneficial in the future applications of microcontrollers and sensors etc.

The main objective of the paper is to save electrical energy automatically used in powering lights by the application of power-saving elements. This power saved can be used in other applications, such as in irrigation, lighting villages, towns, and many other industries. We have used Arduino in this intelligent system, designed to control the

lighting. The designing of a new system must not lead to consumption of massive amount of electricity or illuminate a large area with highest intensity of light unnecessarily. Providing lighting is one of the most important and expensive expenditures on electricity for a city. Lighting can account for 30-50% of the total energy expenditure in typical cities worldwide. Inefficient lighting wastes a significant amount of capital every year, and poor lighting also leads to accidents. The use of energy-efficient systems can reduce the cost of lighting drastically and also provide excellent efficiency. So, in this paper, we propose an intelligent light control system with the help of PIR, LDR, and Arduino. This system can be implemented in workplaces, museums, libraries, etc. As stated earlier, to provide an efficient & energy-saving lighting system by evaluating the external lighting condition and then adjusting the lights accordingly, sensors are used.

Automatic Switch is a device that detects the presence of a human in a predefined area and can turn on the lights or any electrical appliances that we want. The device will automatically turn off the lights or electrical appliance if nobody is presence in the area. PIR sensor is used to detect the presence of a human. Brain of the system is Arduino PRO mini which will drive the PIR sensor and electrical appliances.

### Methodology

#### Applications

1. Use for home and industry load control automation
2. This project can be used in Industries to control various devices from a remote distance.
3. This project can be used in home for domestic use.

#### Advantages

1. This project is simple and easy to access.
2. It can be accessed from remote areas.
3. There is low power consumption.
4. It can be operated from a long range

### Conclusion

smart approach for home automation which unifies new technologies available in the market. The LED'S used here are for the on/off and intensity control conditions for DC supply purpose. It can be further upgraded with different wireless modules like GPRS, Zigbee, Z-wave etc. The kit can also be advanced by connecting through GPRS and update the usage duration and controlling details maintaining a server. Additional modules for AC circuits can also be added which are with 230v power supply and support up to 600 watts output like (fans, television) etc.

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