

Home Automation Using Internet Of Things

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Abstract- With advancement of Automation technology, life is getting simpler and easier. With the rapid increase in the number of users of internet and IOT is the latest and emerging technology of internet. Internet of things is a growing network of everyday object from industrial machine to consumer goods that can share information and complete task while you are busy in the other activities. Home automation system using IOT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet. An automated home sometimes called a smart home. It is mean to save a time, power and energy. In this paper we present a Home Automation System using wireless communication, to provide the user with remote control of various lights, fans and appliances within their home. This system is designed to be controlled to be low and expandable allowing a variety of devices.

Keywords- Home automation system, Internet of Things(IOT), Wi-Fi network.

I. INTRODUCTION

In 21st century, homes will become more and more self-controlled and automated due to comfort it provides. A home automation system is a mean that allow users to control an appliances of varying kind.

In many, well established home automation systems are based on wired communication. This does not causes a problem until the system is planned well in advance and installed during the physical construction of building, but for already existing building the implementation cost goes very high. Wireless system can be of great help for Automation systems. With the advancement of wireless technologies such as Wi-Fi, cloud networks in recent past, wireless systems are used every day and everywhere.

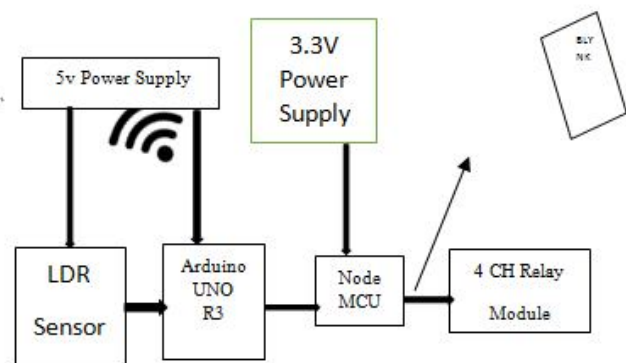
II. HARDWARE COMPONENTS

- Node MCU(ESP8266)
- Arduino UNO R3
- LCD Display
- Relay Module
- Sensors

Smart home networks which are supposed to be monitored and controlled in a typical home. In this the

controlled unit is Arduino UNO R3. And the Node MCU connect to this processor for transmitting and receiving of data bi-directionally. Normally the firmware uses the Lua scripting language. But in our project we are using Arduino IDE. Node MCU connected to BLYNK mobile application Via internet .in this project we are using two sensor which is connected to analog pin of Arduino. The sensor give command to Arduino and Arduino response it.

III. SYSTEM ARCHITECTURE



IV. SOFTWARE APPS

1. Blynk mobile app
2. Arduino IDE
3. ESP8266 Board Manager for Arduino IDE

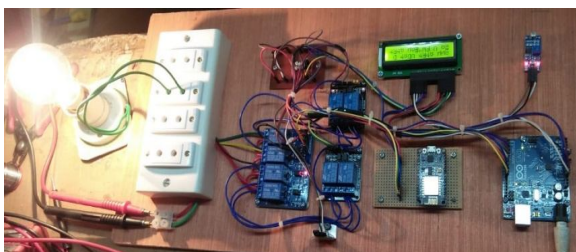
Now we see the information regarding to software which is used in our project. The blynk app is open source mobile application it has its own server. Actually its technique for manually handling the electrical appliances. The program for blynk application which is done in Node MCU. Arduino IDE software use for coding to Aduino board.

V. PINS

Node MCU provides access to the GPIO(General Purpose Input/Output) and a pin mapping table is part of the API documentation.

Table No.1

Index	I/o	ESP8266 Pin
0[*]		GPIO16
1		GPIO5
2		GPIO4
3		GPIO0
4		GPIO2
5		GPIO14
6		GPIO12
7		GPIO13
8		GPIO15
9		GPIO3
10		GPIO1
11		GPIO9
12		GPIO10



VI. ADVANTAGES

In recent years, wireless system like Wi-Fi have more common in home networking. Also in home and building automation systems, the use of wireless technologies gives several advantage.

- 1) Reduced installation cost: First, installation costs are significantly reduced since no cabling necessary.
- 2) Consume time: Most of the time consumes Automation system.
- 3) Low power: It takes low power.
- 4) Consume time: Most of the time consumes Automation system.
- 5) Low power: It takes low power.

VII. CONCLUSION

The Home automation using Internet of Things has been experimentally proven to work by connecting simple appliances to it and appliances successfully controlled through internet.

VIII. FUTURE WORK

- Using this system, the system can be expanded to include various other options which could include home security feature like capturing the photo of the person moving around the house and stored it. This will reduce the data storage than using CCTV camera which will record the time and store it.
- This system with respective changes can be implemented in hospitals for disable people and also can be implemented for environmental monitoring.

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