**IOT based voice controlled home automation using Nodemcu and Power management**

**ABSTRACT**

Home automation has become a widely popular application of embedded systems. Automation mostly involves sensor based automated systems where user has no control or control is still through conventional appliance control methods. This paper presents a system that can control all the appliances through voice commands. This mode of controlling is very convenient for a disabled or elderly person. Even though the main focus of this paper is not for designing a system for a specific social class still it is helpful for all the variety of people. This system can be implemented using Nodemcu controller board that has an inbuilt WIFI module called ESP8266. An android mobile application can be used for sending voice command to Nodemcu. This application will record voice commands and convert it into text and this text command can be sent Nodemcu using Wifi communication.. This system also uses IOT to measure the power consumed by the active appliance through current sensor and the power consumption information is displayed by the webserver.

**INTRODUCTION**

For some class of people life hard because they cannot go on with their life like normal people this class includes disabled people or elderly people. An example of this difficulty is evident when it comes to controlling home appliances. This can be solved by introducing a voice controlled appliance control system. The advantage of this system compared to any other system is that it does not involve any body movement based control system so a fully paralyzed person can use this system very easily. This system also include a IOT based monitoring for intruder detection.

**EXISTING SYSTEMS**

* Sensor based home automation
* Gesture based device control
* Conventional switch board control

**PROPOSED SYSYTEM**

* This systems can control home appliances through voice control
* This system uses Bluetooth application for sending voice commands
* Current system also includes an IOT based mail alert
* System is designed around Nodemcu controller board
* This board can connect to internet using any WIFI network
* This system is very helpful for disabled and elderly people

**BLOCK DIAGRAM**

**Android Mobile Phone**





**Nodemcu**

**ADC**

**GPIO**

**UART**

**Current Sensor**

**Motor**

**BULB**

**P W M**

**Power Supply**

**FAN**

**BLOCK DIAGRAM EXPLANATION**

* Nodemcu is the central part of the block diagram
* The appliances connected to Nodemcu via Relays
* The speech command send via smart mobile to Nodemcu using Internet
* The relay will switched according user sppech command
* The power consumption of the appliances measured using current sensor

**CONCLUSION**

This paper presents a voice controlled home automation system. This system has been implemented and tested and proves to be very helpful. It can be implemented in any environment regardless of the name home automation. This system is very general in its working. This can implemented to a home very easily.