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Home Automation Using (IOT)

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Abstract:-IoT stands for Internet of things is becoming an increasingly growing subject nowadays. It's a concept that has the potential to change the way of living and work. Basically the idea of automating home comes from Internet of things. The internet of things gives idea to do stuff which we do in our day-to-day life with the help of internet .Home automation is one of the approach to "internet of things". The component used in this technology are Arduino Uno, Relay Board, Ethernet Controller, Blynk Application.

Keywords:-Home automation,Ardunio uno,Relay Board,Ethernet Controller,Blynk Application,IOT,Automating.

I. INTRODUCTION

Home Automation using IOT, The word "IOT" itself telling that Internet of things means this technology will work with the help of Internet. So here we present you a technology that will control your home appliances with help of your smart phone .There will be no need to get up for switching on and off the home appliances. You will only need an Application That is blink ,this is application which will act as remote control of your home appliances.by which you can control the home appliance from anywhere We have one plus point we also add the technology by which you can control the home appliance with your voice .This will be beneficial for the disabled persons ,the one who can't walk and hear. These all things we can do by this small application or a technology

II. WORKING

In this technology we have use a components they are as follows: Arduino Uno Board , Ethernet controller , Relay board , blink app ,Google Assistant. By adding these components we can create the smart home with a low cost . So now we come to the working ,In this technology firstly a Ethernet controller is setup on the arduino board and Ethernet is connect to the internet with the help of Ethernet cable, all the pins are connect to their appropriate wires and then the arduino is get connect to the relay board which is use for switching the buttons of the to their appropriate wires and then the arduino is get connect to the relay board which is use for switching the buttons of the appliances . For this the arduino transfer the 5Volts of power supply to the Relay Board and Relay board switch the buttons and provide the actual require power of the appliance .

III. COMPONENT AND SOFTWARE

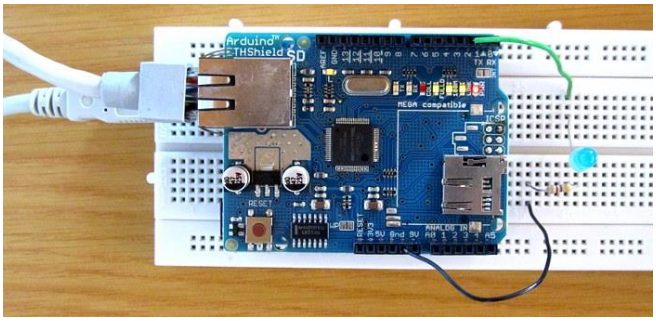

Fig.1. Connection

- Arduino UNO
- Ethernet Controller
- Relay

These are the three component which are used in this technology, By using these components one can create his or her home into smart home.

- *Arduino UNO*

Basically Arduino UNO is used to communicate with Realy board .Arduino uno get the command from the user through the Ethernet controller. That is Ethernet controller pass the commands which is given by the user to the arduino and then arduino uno provide the 5 volts power current to the relay and relay provide the power supply to the home appliances.

Fig.2. Ardunio UNO

- *Ethernet Controller*

Ethernet controller is basically used as a interfaced between Arduino and the Blink Application. which helps the application to transfer the command input by the user.

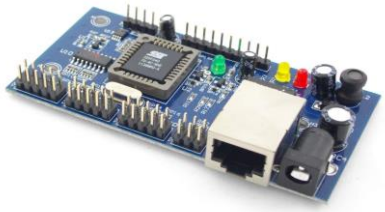

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Fig.3. Ethernet Controller

- Relay

It is a component used for switching on and the switch off the home appliances it is done with the application called as blynk. Relay provide the power supply to the each home appliances as per requirement.

Fig.4. Relay board

- Blynk

It is a application used as for giving command to the arduino uno by which we can switch on/off the home appliances

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Fig.5. Blynk Application

IV. APPLICATIONS

Yet there is an increasing demand for smart homes, where appliances react automatically to changing environmental conditions and can be easily controlled through one common device.

This wireless technology is especially useful in home environment, where there exists hardly any infrastructure to interconnect intelligent appliances. The main advantage of "Home Automation Using IOT" is that the "Physically Challenged and Disabled People". This Replace television, air conditioner etc. remotes for sleep mode. This make a simple home to a smart home. and also makes people more comfortable and To be relaxed in their homes because of this utltra high efficient technology and its use.

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V. TECHNOLOGY USED

Front End: Android
Application/software: Google assistant and BLYNK.
Back End/hardware: Arduino UNO, Ethernet.
Controlled by: Switch and Relay.
Output method: Any electrical device.
Voice Processing and AI base : Google assistant.
Input method: Google assistant and BLYNK

VI. CONCLUSION

This paper described the various components and technologies used in a prototype system to monitor and control home appliances and devices remotely using a mobile phone. This project is intended to bring people a step closer toward a smart home where all appliances and devices are efficiently controlled and monitored remotely. It integrates a number of technologies to build the complete hardware and software system.

VII. ACKNOWLEDGMENT

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