

A NOVEL TECHNIQUE TO CONTROL ELECTRICAL AND ELECTRONIC DEVICES USING WHATSAPP BOT MANAGER

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Abstract -

IoT refers to the devices or things which are connected to the internet, so that one device can share or monitor the data with another device over the internet. Our project aim is to provide the home automation using the WhatsApp bot manager through IoT. This project is directed towards a sensor approach and an ontology modeling of the smart home. In this we are able to provide the controlling and monitoring of home appliance's by sending a message or giving the voice command through WhatsApp.

KEYWORDS: Node MCU, Whatsapp bot Manager, Relay, 230v AC power supply, Two-way-switch Arduino IDE Tool, Loads.

I. INTRODUCTION

This project introduces a thought or an idea for home computerization voice acknowledgment, also the development of a prototype for controlling smart homes devices through IoT and controlling of dumb devices through IoT by the means of Wi-Fi driven chipset solution – ESP8266.

This is also acknowledged by the need to give frameworks which offers help to matured and physically impaired individuals, particularly individuals who lives alone.

Smart home or home automation can be said as the residential extension of building automation, it also involves the automation and controlling of lightings, ACs, ventilation and security which also includes home appliances such as dryers/washers, ovens or refrigerators/freezers which uses Wi-Fi for monitoring via remote for ease of use. Now a day's speed of the processing and common through smart mobile devices at very affordable costs, to improve the life style concept relevant to smart life, like smart T.V, Smart cities, smart phones, smart life, smart school and Internet of Things.

What is IOT?

Internet of Things (IoT) is an ideal buzzing technology to influence the Internet and communication technologies. IoT allows people and things to be connected

anytime, anyplace, with anything and anyone, by using ideally in any path/network and any service.

Why IOT Technology is important?

The term "Internet of Things" has come to describe a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects.

The term "Internet of Things" has come to describe a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. The Internet of Things, also called The Internet of Objects, refers to a wireless network between objects.

From any time, any place connectivity for anyone, we will now have connectivity for anything.

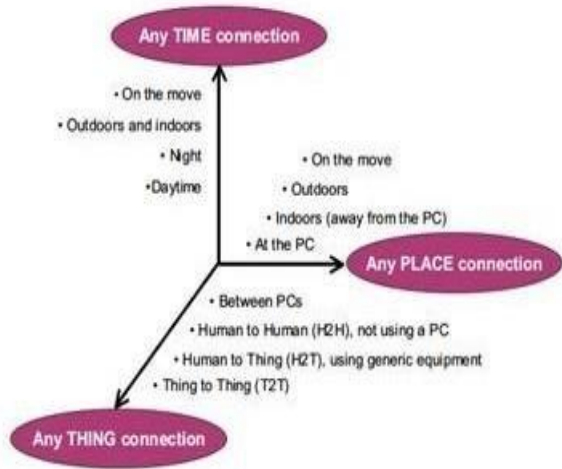


Figure.1: IOT Technology

The Internet of Things represents an evolution in which objects are capable of interacting with other objects. Hospitals can monitor and regulate pacemakers' long distance, factories can automatically address production line issues and hotels can adjust temperature and lighting according to a guest's preferences, to name just a few examples.

II. LITERATURE SURVEY

Home Automation System Using Voice Recognition Module HM2007:

The main feature of this system is that the peoples with hands disability can use this system by voice recognition this feature makes this a totally hands free home automation system. This is mainly used system by handicaps and elders who are suffering from hands disability or those who cannot move their limbs frequently. This is an affordable, easy to use system. Initially the system takes input as voice signals and stores these voice signals in the systems memory.

Then the user want to control a specific device then system again take an voice input and compare the input with the already saved directory and if matches then PIR sensor activated for checking the presence of any human if human presence test passes then it activates the relay that is responsible for to perform user intended operation.

IOT Based Home Automation System Using Intel Galileo Board

Basic Intention behind adaptation of home automation system is for the sake of Energy Efficiency, Ease in life and for the Security. Home Automation system is a step forward to increasing the Comfort in life and to improve quality of life. This system is proposed for the disabled persons. This system provides the means of comfort and security for the persons with a certain disability and for elder persons.

This system uses the Intel Galileo Board for achieving the information like temperature, humidity, gas, smoke, motion and fire and for controlling of the different home appliances attached with the system. In case if the achieved information value increase highly then system is capable of activating the required safety system. Another feature of the system is that by means of internet one can monitor and control his home appliances from anywhere in the world.

Home Automation System Using Speech Recognition and Machine learning Artificial Intelligence

This is the art in computer science through which we want the computer system to perform that action which involved intelligence. In response to these actions the machines react on the basis of past experiences. To explore the idea of artificial intelligence lets have some examples like Self-driving Cars, Face recognition, Web searches, Industrial robots, Missile guidance and tumor detection.

Like many more complex problems are already solved by using Artificial Intelligence. Due to interdisciplinary nature of Speech recognition, it makes this as most complex area of computer science. Naturally the speech is dynamic. Artificial Intelligence has a special impact in home automation with the new emerging technologies and learning methods.

It is a highly beneficial for the disable person if the home automation system works on the basis of voice/speech recognition. Ant colony Optimization found very helpful in solving many issues regarding decision trees. This system helps the disabled persons to perform their routine tasks efficiently.

Home automation system using Electro-Oculography (EOG) Signal

Many of the Systems designed for Disabled peoples become useless when it comes to a case that anybody which is not capable of moving their hands and also unable to speak. If someone succeeded in achieving the directional

discrimination of eye moment then disable persons may be able to handle the smart home appliances and this system will be helpful in improving the quality of their life.

An EOG Bio-potential amplifier is designed and develop in order to obtain the eye signal moment. This amplifier can obtain the low frequency value ranging from 0.01-10HZ.

III. EXISTING SYSTEM

In olden days there was no home automation. The man should keep efforts in home to control all appliances. But after coming the home automation there are some many advantages and also disadvantages. Before the home automation human efforts is more, power consumption is more, no safety etc. But after coming home automation we can reduce the human efforts, less power consumption, safety, security .in home automation there are some technologies, such as, Bluetooth system, IoT system, Raspberry pie etc. But in this project, we are going to using IoT technology.

Because we can control our home appliances from anywhere, but it is not possible in Bluetooth system because the Bluetooth range is 150 m only, it is the big disadvantage in Bluetooth system. we can control our home appliances around 150m only. But in IoT we can control from any place. For e.g.: -In olden days we went tour for 1 week and forgot to off the light in bed room there is loss of power consumption, But now with the help of "NODE MCU". We can control from any place there we can save the power.

IV. PROPOSED SYSTEM

The system is proposed on the basis of the given ESP8266 (currently ESP8266EX) is a chip which is a highly integrated Wi-Fi SoC solution where in the Internet of Things industry, the users overcome the efficient power usage efficiently, design and performance also provides networkable foundation of networkable foundation for facilitating end-point IoT developments.

The proposed system allows the user to take control over the electronic devices remotely and make it easy to operate every device on the home. In this proposed system we can provide the availability and feasibility of controlling the devices, the user with his internet connected device can handle the ON and OFF operations of the electronic devices in the home.

After the careful connections and connecting the android application to the hardware the user has to shoot the commands via in the form of text messages in the android application so that the user can monitor the status of the electronic devices and can control them from anywhere. This can be done by using microcontroller, relays, android application and other components.

V. SOFTWARE

For developing this project, we mainly used software is Arduino IDE 1.8.19. The Arduino IDE is an open-source software, which is used to write and upload code to the Arduino boards. The IDE application is suitable for different operating systems such as Windows, Mac OS X, and Linux. It supports the programming languages C and C++. Here, IDE stands for Integrated Development Environment.

VI. METHODOLOGY

A smart home automation is a home it gives its residents the consolation, amenity and ease of operation of system at all, randomly of where the operation actually is in the home. A smart house usually having of electrical instrument such as air conditioners, lighting, fans, room-heaters, air-coolers and microwave oven, T.V, etc.; and electronic gadgets such as personal computers, music systems, laptops, audio-systems and mobile phones etc. These all gadgets and appliances can be controlled and connected as remotely, using over a secure channel net with software application, from anywhere of the house.

A smart house having of three things: (1) home network internally, (2) intelligent controlling and (3) Automation with wireless or wired. These frameworks methods and gadgets inside a home can likewise be overseen either from inside home, or can be connected to administrations and frameworks from outside the home. These apparatuses and devices are for the most part associated with specific sensors, in order to make these naturally adjusted to specific circumstances and thus influence the tenants to feel good. A versatile savvy home would be the one that uses machine learning strategies to find designs in the occupants' day by day exercises, and create robotization decides and activities that copy these activities.

The figures below show us the basic concept of the smart home. From here its known as automated homes, intelligent buildings, and integrated home systems are a

recent design development. Smart homes incorporate common devices that control features of the home. Originally, smart home technology was used to control environmental systems such as lighting and heating, but recently the use of smart technology has developed so that almost any electrical component within the house can be included in the system.

Moreover, smart home technology does not simply turn devices on and off; it can monitor the internal environment and the activities that are being undertaken whilst the house is occupied. The result of these modifications to the technology is that a smart home can now monitor the activities of the occupant of a home, independently operate devices in set predefined patterns or independently, as the user requires.



Fig. Smart Home Concept

ADVANTAGES

- Reduces human efforts
- Power savings
- Safety
- Time Saving
- Remote Control
- Flexibility and Convenience

APPLICATIONS

We categorize the applications into four application domains:

1. Personal and Home
 2. Enterprise
 3. Utilities
 4. Mobile
- The applications are limited only by your imagination.
 - Turning lights down/off at night.
 - Operating outside lights 0 turning lights or radio on / off when someone approaches the house, simulating occupancy.
 - Operating television, hot water heater, kettle, toaster etc. ready for your use.
 - Optimizing use of low-cost electricity.

VII. EXPERIMENTAL RESULTS

The Electronic device controlling system using WhatsApp bot manager is done.

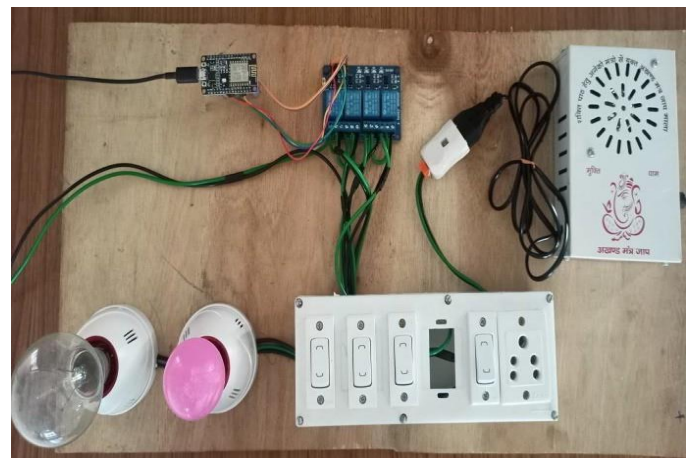


Figure.3: Before Giving Commands

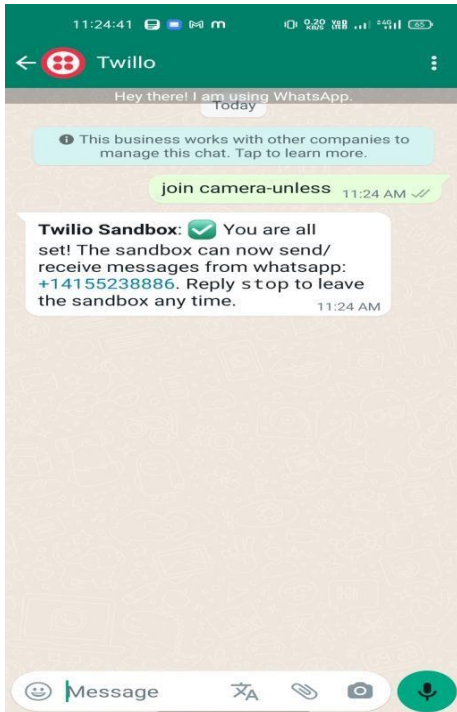


Figure.4: commands in WhatsApp

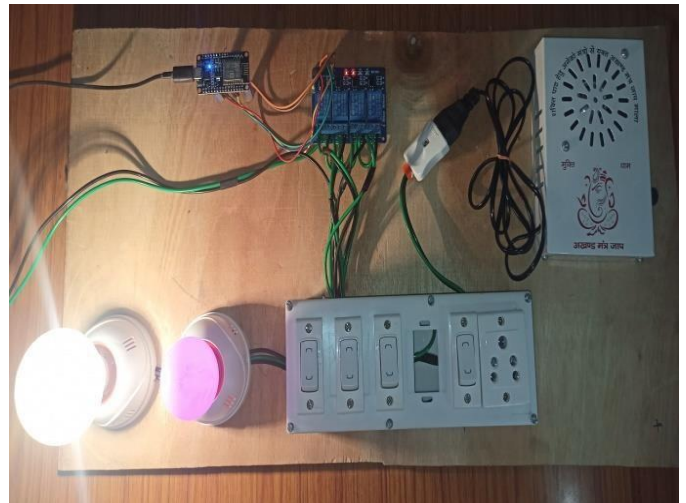


Figure.5: After Giving Commands

VIII. CONCLUSION

We conclude that this project “CONTROLLING OF ELECTRICAL AND ELECTRONIC DEVICES USING WHATSAPP BOT MANAGER” has been successfully designed and tested. In this project, the home automation can be achieved by giving voice commands or sending the message to WhatsApp BOT by using IoT technology. The appliances in home can be controlled ultimately. This gives the access to the user to control the devices in the home using any internet connected device such as smartphone or laptop. The user can be able to operate this from anywhere through single command.

IX. FUTURE SCOPE

Our Project is a real-Time project which we can easily implement in our home. It has that capability which can change our way of living. Certainly, this Project can be improved in Future. On the better half, we try to list some points for future aspect.

Since, this model works on DC power system. As, we know our home appliances works on AC power system. These two-power models are polar apart but, using a "relay we can use this prototyping in AC power system too.

As far as privacy is concerned, we don't have any security feature. In future model, we try to add some security package to enhance privacy.

In case of full flow of Door, we have low watt servo rotor which doesn't allow us to rotate full door 180 degree. Along with it, we have manual error which limit the exact displacement of door path.

We can have a customized-own app for android and another mobile platform.

Make it more efficient for voice commands feature.

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