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IFTTT BASED HOME AUTOMATION

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Abstract: The idea behind Google assistant-controlled Home automation is to control home devices with voice. On the market there are many devices available to do that, but making our own is awesome. In this project, the Google assistant requires voice commands. Adafruit account which is a cloud based free IoT web server used to create virtual switches, is linking to IFTTT website abbreviated as "If This Than That" which is used to create if else conditional statements. The voice commands for Google assistant have been added through IFTTT website. In this home automation, as the user gives commands to the Google assistant, Home appliances like Bulb, Fan and Motor etc., can be controlled accordingly. The commands given through the Google assistant are decoded and then sent to the microcontroller, the microcontroller in turn control the relays connected to it. The device connected to the respective relay can be turned On or OFF as per the users request to the Google Assistant. The microcontroller used is NodeMCU (ESP8266) and the communication between the microcontroller and the application is established via Wi-Fi (Internet

***Keywords*: IFTTT, Google assistant, Node MCU, microcontroller, IOT, Fan, Bulb**

I. INTRODUCTION

Home automation" refers to the automatic and electronic control of household features, activities, and appliances. The utilities and features of our home can be easily controlled via Internet. There are three main elements of a home automation system: sensors, controllers, and actuators. Having day to day developing technology is a proud moment to the whole world. The foremost aim of the technology is to increase the efficiency and to decrease the effort. In this trending world, Internet of Things is being given extreme importance. In that, Automation, leads to have less effort and much efficiency. By using IoT, we are successful in controlling the appliances in various areas, in which one of them is to control the home automation by using Node Microcontroller. We can also use other boards like raspberry pi, beagle bone etc., Even though the technology is developing in our day today life, there is no help coming into existence for the people who are physically not good on the basis of technology. As the speech enabled, home automation system deploys the use of voice to control the devices. It mainly targets the physically disabled and elderly persons. Similarly, the line following robot functions with respect to the speech commands given to it. The line following robot moves forward and backward with the help of sensors and a motor driver board. Home is the place where one desires to be rest after a long tiring day. People come home exhausted after a long hard-working day. Some are way too tired that they find it hard to move once they land on their couch, sofa or bed. So, any small device/technology that would help them switch theirs lights on or off, or play their favorite music etc. on a go with their voice with the aid of their smart phones would make their home more comfortable. Moreover, it would be better if everything such as warming bath water and adjusting the room temperature were already done before they reach their home just by giving a voice command. So, when people would arrive home, they would find the room temperature, the bath water adjusted to their suitable preferences, and they could relax right away and feel cozier and rather, feel more homely. Human assistants like housekeepers were a way for millionaires to keep up their homes in the past.

II LITERATURE SURVEY

Kok Kiong Tan, Tong Heng Lee, and Chai Yee Soh says about the development of an Internetbased system to allow monitoring of important process variables from a distributed control system (DCS). The system is formulated as an add-on to an undergraduate experiment on the development of a desktop DCS. This paper describes the hardware and software design considerations which enable the users to access the process variables on the DCS, remotely and effectively, using only a commonly available web browser.

[1] S. M. Anamul Haque1, S. M. Kamruzzaman2 and Md. Ashraful Islam1 says about the main objective of this work is to design and construct a microcomputerbased system: to control electric appliances such as light, fan, heater, washing machine, motor, TV, etc. The paper discusses two major approaches to control home appliances. The first involves controlling home appliances using timer option. The second approach is to control home appliances using voice command. Moreover, it is also possible to control appliances using Graphical User Interface. The parallel port is used to transfer data from computer to the particular device to be controlled. An interface box is designed to connect the highpower loads to the parallel port. This system will play an important role for the elderly and physically disable people to control their home appliances in intuitive and flexible way. We have developed a system, which is able to control eight electric appliances properly in these three modes.

[2] Naresh P JawarakarVasif, Ahmed says about the mobile phone can serve as powerful tool for world-wide communication. A system is developed to remotely monitor process through spoken commands using mobile. Mel cepstrum features are extracted from spoken words. Learning Vector Quantization Neural Network is used for recognition of various words used in the command. The accuracy of spoken commands is about 98%. A text message is generated and sent to control system mobile in form of SMS. On receipt of SMS, control system mobile informs AVR micro-controllerbased card, which performs specified task.

2.1 Outcome of Literature Survey

By the literature survey we came to know that the main objective of this work is to design and construct a microcompute based system: to control electric appliances such as light, fan, motor, etc. The paper discusses two major approaches to control home appliances. The first involves controlling home appliances using timer option. The second approach is to control home appliances using voice command. Moreover, it is also possible to control appliances using Graphical User Interface. The parallel port is used to transfer data from computer to the particular device to be controlled. An interface box is designed to connect the highpower loads to the parallel port. This system will play an important role for the elderly and physically disable people to control their home appliances in intuitive and flexible way

III PROBLEM STATEMENT

Home Automation will save time in daily recursive activities like turning of lights, geysers and other home appliances. Users don't need to think about whether the lights are turned off or did geyser or AC turned off or not while they are in office. Users can sit anywhere in the globe access our home away from home.

Security, users can secure their home while they are away from home. There are devices which keep monitoring the home and notify them when any incident occurs. The notification can be a simple SMS or a voice call which can alert and take necessary action. These devices can also run on Batteries. So need not worry about even when electricity is turned off.

Convenience, users don't need to manually go-to each and every room to see if any light or fan is switched on and turn off, instead they can on/ off all lights in a room or entire home. Users will have the convenience of controlling devices through smart phone or tablet. The next one is Safety, in every home, situation arise when parents have to leave outstation and kids stay alone at home.

Automation helps in securing kids‟ safety. One can install surveillance cameras and keep monitoring through mobile from anywhere in the globe. Also, there are devices which won't allow to unlock the main door from outside once it is locked from inside. Also, Sensors can be placed outside which can turn on light automatically in the night if someone try to intrude into home. These are the main problems resolve using the Home automation devices. There are many more benefits from Home Automation

IV OBJECTIVES

The main object of our project is to develop a google assistant controlled home automation is to control home appliances with voice.

A cloud based free IOT web server called Adafruit account which is used to create virtual switches.

The home appliances which is connected to the relay can be turned ON or OFF as per the user given voice commands to the google assistant.

V METHODOLOGY

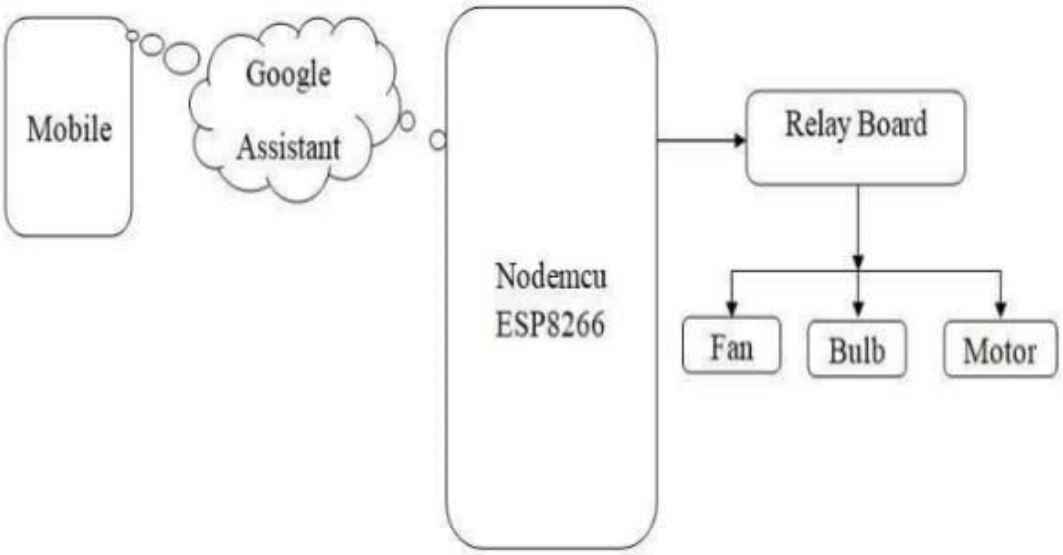

Fig.5:Block Diagram

The block diagram of IFFT Based home Automation is as shown in fig 5.1.First the user should have an Android smartphone with Google assistant installed in it. When the user gives commands to the Google assistant, the commands will be checked with the commands in the IFTTT website which are already set. Then the next step is setting up the virtual switches in Adafruit website. If the commands given by the user matches with the commands in the IFTTT website, then depending on that commands, the virtual switches in Adafruit will be turned ON or OFF. This will be sensed by the Node microcontroller and it will turn ON or OFF the relay depending on the commands. All this will be done over the Internet. In this, the relay will act as a switch and the Home appliances connected to the relay will be turned on or off. The number of Home appliances connected depends upon the number of relays

ADVANTAGES/DISADVANTAGES/APPLICATIONS

Advantages:

- Managing all of your home devices from one place.
- Maximizing home security.
- Increased energy efficiency.
- Remote control of home function.

Disadvantages:

- IFTTT website is not a free website
- Security issues.

Applications:

- Lighting control system.
- Appliance control with a smart grid.
- Home automation for elderly and disabled people.
- Indoor positioning system.

VI CONCLUSION

In this project, voice commands are given to the Google assistant. The voice commands for Google assistant have been added through IFTTT website and the Adafruit account is also linked to it. In this home automation, user have given commands to the Google assistant. Home appliances like Bulb, Fan and Motor etc., are controlled according to the given commands. The commands given through the Google assistant are decoded and then sent to the microcontroller and it control the relays. The device connected to the respective relay turned On or OFF as per the users request to the Google Assistant. The microcontroller used is Node MCU

(ESP8266) and the communication between the microcontroller and the application is established via Wi-Fi (Internet). There has been tremendous growth in the home automation sector, and many reputed companies utilizing their opportunity to work with IFTTT to deliver an elegant way to connect families to their homes. Consumers are looking to secure their home environment in today unpredictable world, and the new Home automation service gives them the peace of mind that they need to protect their family well-being. This project is about wireless home automation using Android mobile helps us to implement such a fantastic system in our home at a very reasonable price using costeffective devices. Thus, it overcomes many problems like costs, inflexibility, security etc. In addition, will provide greater advantages like it decrease our energy costs, it improves home security.

REFERENCES

[1]. Tan, Lee and Soh – "Internet based Monitoring of Distributed Control Systems", - Energy and power Engineering. Publisher: IEEE Transactions on Education, Place: New Jersey, Country: USA, Year: 2002, Vol: 45, Iss. No. 2., pp. 128-134.

[2]. S. M. Anamul Haque, S. M. Kamruzzaman and Md. Ashraful Islam – „A System for SmartHome Control of Appliances Based on Time and Speech Interaction‟,- Proceedings of 4th International Conference on Electrical Engineering, Place: Bhubaneshwar, Country: India, Year:2006., pp.128 to 131.

[3]. N. P Jawarkar, V. Ahmed, S.A. Ladhake, and R.D Thakare – „Micocontroller based Remote monitoring using mobile phone through spoken commands‟,- Journal of networks, Publisher: World Journal control science and engineering, Place: Lagos, Country: Nigeria, Year:2008, Vol. No.:3, Iss. No.2, pp.58 to 83.