

HOME AUTOMATION USING RASPBERRY PI AND GOOGLE ASSISTANT

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Abstract

Automatic and electronic control of household features, activity, and appliances is referred to as home automation. It means that you can easily control the utilities and features of your home via the Internet to make life more convenient and secure. Find answers to some of the most common questions about home automation technology and get some ideas for home automation solutions to incorporate in your home. The Internet of Things (IoT) refers to the ever-growing network of physical objects that feature an IP address for internet connectivity, and the communication that occurs between these objects and other Internet-enabled devices and systems. The Google Assistant is an Artificial Intelligence based Virtual assistant software which allows its users to control all the apps in their device. It allows the users to control and command most of the apps in their devices using voice commands. This provides more convenience to the people as they only have to command the google assistant thorough voice command

1. INTRODUCTION

the concept wasn't named until 1999, the Internet of Things has been in development for decades. The first Internet appliance , for example, was a Coke machine at Carnegie Melon University in the early 1980s. The

programmers could connect to the machine over the Internet, check the status of the machine and determine whether or not there would be a cold drink awaiting them, should they decide to make the trip down to the machine. the development of a smart home using Google Assistant is proposed. The idea behind this is to control home devices with voice. In the market there are many devices available to do that. But making your own is awesome. Proposed system built personal assistant that will do the work according to command. The assistant requires voice commands. In this project single board computer i.e. Raspberry pi will be used which is linked to IFTTT website. Then voice commands are added for Google assistant. In this home appliances like Bulb, cooling fan, and motor are used which can be controlled easily using Google assistant from the voice control.

2. Literature Review

Home Automation with Raspberry pi in this project use node.js base server and with the help of ifttt's service you can easily communicate with raspberry pi through

google assistant voice command like “Light ON”, “Fan ON” etc. Bluetooth based home automation system using cell phones:

In Bluetooth based home automation system the home appliances are connected to the Arduino BT board at input output ports using relay. The program of Arduino BT board is based on high level interactive C language of microcontrollers; the connection is made via Bluetooth. The password protection is provided so only authorized user is allowed to access the appliances. The Bluetooth connection is established between Arduino BT board and phone for wireless communication. In this system the python script is used and it can install on any of the Symbian OS environment, it is portable. One circuit is designed and implemented for receiving the feedback from the phone, which indicate the status of the device

3. METHODOLOGY

In this system Google assistant is installed in raspberry pi and Raspberry pi will be attached with a mic which takes all the voice commands through which it will automatically control the home appliances. As the user gives the voice command to the mike according to that the home appliances can be switched ON/OFF accordingly.

Home automation system can be referred as a system which replaces human interactions by controls. Devices uses internet to connect to each other and operate further. Internet of Thing is a dust that turns the automated home into the smart home. Internet of thing allows object to be controlled and sensed. Home automation is used for connecting various electrical devices in our home or office. These automation systems are designed or manufactured according to need of customer. Using home automation we can control devices remotely i.e. we can control lights, A.C, room temperature etc. Home automation systems are used for power saving. Home automation system requires computers which are large as well as heavy to carry around. To monitor and control the home appliances the system is designed and implemented using Zigbee. The device performance is record and store by network coordinators. or this the Wi-Fi network is used, which uses the four switch port standard wireless ADSL modern router. The network SSID and security Wi-Fi parameter are preconfigured. As per literature we have some idea that how the Automation things goes and how we can see the future of home Automation. In nearest future things are going online so our goal is how we can make it better. By many online tools like ifttt we

can easily create web-hook and control out raspberry pi via web app application we just need to create an app that contains two buttons than create ifttt account and search for web-hook and connect tow button with it

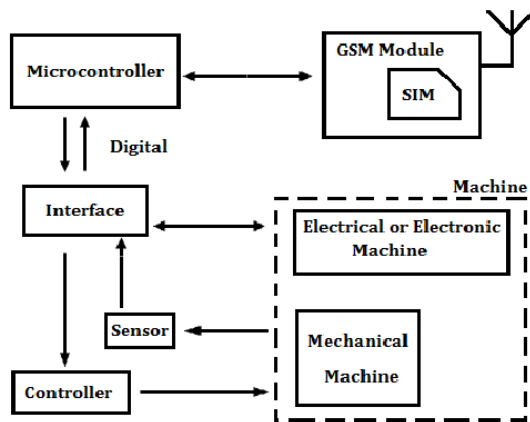


Figure :- Mobile-based home automation

4. Conclusion

Based on all the systems surveyed and their advantages and drawbacks, this report presents the features to be possessed by an ideal system for home automation with remote access. An ideal system should be available from all over the world to a user and in real time. A internet network is identified as a candidate for this. However. Only the Internet can ensure that access can be made available at all times. This will give rise to a standard access method for the home appliances using the Internet protocol. The user interface should be a web application

that has an associated mobile application. So that people of all kinds can access the system.

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