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IOT Based AWS Home Automation using Nodemcu

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ABSTRACT: We tend to power our system using Amazon Echo, Amazon's cloud services, its speech services. Arduino ESP8266 is employed because of the hardware part for providing sensible options for non-smart homes.

We tend to describe the various elements of our product and can show that our system works effectively to modify on and turn off our appliances.

The voice command function is going to be given to control any appliances or devices at home. This can provide higher communication in an automated home as compared to traditional homes.

KEYWORDS: Amazon Echo, Arduino, IOT and Nodemcu

I. INTRODUCTION

. Home automation may be a terribly dear luxury that tons of individuals in India and different countries cannot afford. The target of our product is to produce cheap and cheap thanks to controlling non-smart devices using the power of voice.

Home automation is changing into popular day by day because of various benefits. Until currently, the current development shows that the home automation system is managed by Emails, texts or another application. However, in recent years, the sector of the Internet of Things (IoT) has seen important investments created by the research community and also the business. Specifically, the sensible Home space has been a prime focus with the introduction of devices like Amazon Echo, Google Home, and Samsung smart Things among others. The growth of trade leads to innovative, economic, and advanced solutions. During this paper, we tend to concentrate on creating no smart homes sensible and the way to create a strong, efficient system that may be widely used. We tend to power our system using Amazon Echo, Amazon's cloud services, its speech services. Arduino ESP8266 is employed because of the hardware part for providing sensible options for non-smart homes.

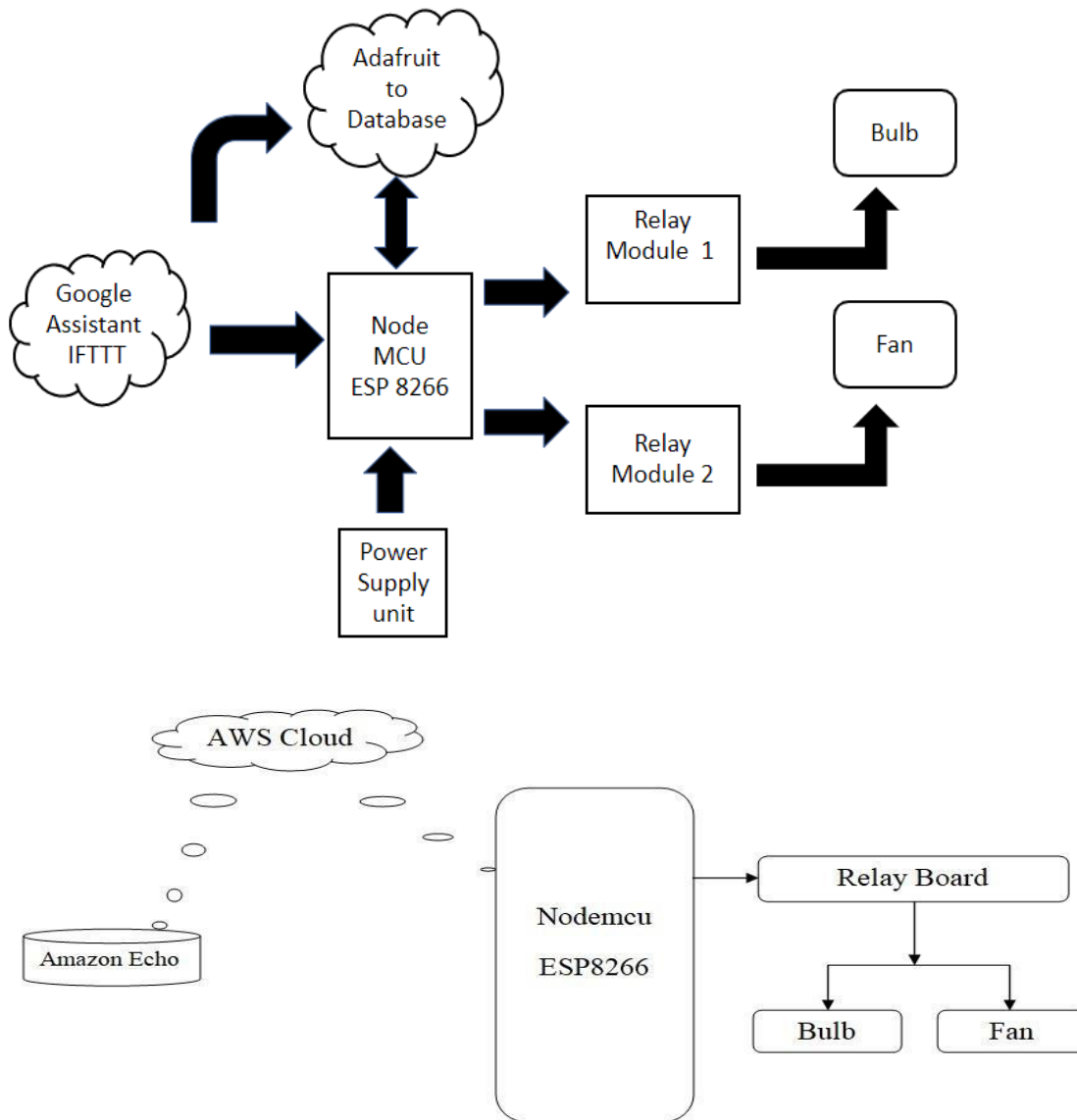
II. LITERATURE SURVEY

1. Shih-Pang Tseng, Bo-Rong Li, Jun-Long Pan, and ChiaJuLin, "An Application of Internet of Things with Motion Sensing on Smart House", 978-1-4799-6284-6/14 © 2014 IEEE.

2. ShiuKumar, "UBIQUITOUS SMART HOME SYSTEM USING ANDROID APPLICATION" International Journal of Computer Networks & Communications (IJCNC) Vol.6, No.1, January 2014. Home automation is becoming popular due to its numerous benefits. Home automation refers to the control of home appliances and domestic features by local networking or by remote control. Low power consumption And system cost efficiency.

3. Greichen, J.J., "Value based home automation or today's market" IEEE Transactions on Consumer Electronics, vol. 38, no. 3, pp.34-38, Aug. 1992. Heterogeneous home automation systems And technologies considered in review with central controller based (Arduino or Raspberry pi). Smart, Economic and Efficient

III. SYSTEM DESIGN AND BLOCK DIAGRAM



3.1 Components required

Hardware Components:

1. Nodemcu ESP8266
2. Amazon Echo
3. Relay Board
4. Bulb
5. Fan

3.2 Software Components: Arduino IDE, Embedded-C

3.3 Methodology for the proposed work

Amazon Echo may be a voice-enabled wireless speaker developed by Amazon.

The device connects to the voice-controlled intelligent personal assistant service Alexa that responds to the name "Alexa".

The device is capable of voice interaction, music playback, creating hoo-hah lists, setting alarms, streaming podcasts, collaborating in audiobooks, and providing weather, traffic, and full different period of sometimes data it may control many smart devices using itself as a home automation hub.

IV. FEATURES OF NODE MCU (ESP8266)

1. Open-source
2. Interactive
3. Programmable
4. Low cost
5. Simple
6. Smart
7. WI-FI enabled
8. USB-TTL included
9. Plug & Play

V. AMAZON WEB SERVICES

Amazon Web Services (AWS) is a subsidiary of Amazon providing on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. These cloud computing web services provide a variety of basic abstract technical infrastructure and distributed computing building blocks and tools. One of these services is Amazon Elastic Compute Cloud (EC2), which allows users to have at their disposal a virtual cluster of computers, available all the time, through the Internet. AWS's version of virtual computers emulates most of the attributes of a real computer, including hardware central processing units (CPUs) and graphics processing units (GPUs) for processing; local/RAM memory; hard-disk/SSD storage; a choice of operating systems; networking; and pre-loaded application software such as web servers, databases, and customer relationship management (CRM).

IOT

The Internet of things (IoT) describes the network of physical objects—"things" or objects—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet.

Things have evolved due to the convergence of multiple technologies, real-time analytics, machine learning, commodity sensors, and embedded systems. Traditional fields of embedded systems, wireless sensor networks, control systems, automation (including home and building automation), and others all contribute to enabling the Internet of things.

VI. CONCLUSION AND FUTURE WORK

2. Survey of different home automation system shows that there are various kinds of technologies used to implement this type of system. All the proposed systems have been presented and compared in this paper which reveals some merits and demerits of the systems. This review explained different home automation system e.g. Web based, Bluetooth-based, mobile-based, SMS based, ZigBeebased, Arduino microcontroller based, Android app based, IOT based and cloud-based. Due to its performance, simplicity, low cost and reliability home automation system is making its position in global market, that day is not so far when every home will be the smart home.

The aim of this paper was to study and review the existing Home Automation systems. Most of the popular Home Automation techniques and its working has been speculated as the standards, hardware architecture, software models, and protocols of the companies are hidden. Home Automation techniques of various models and its working has been studied and reviewed successfully. This study can influence us and help us design and develop our own home automation system.

As the above studied home automation products are bit expensive and most of us would think twice before owning them. An effort can be made to design a cost effective, low energy Home Automation system.



REFERENCES

- [1] Yadnya Adhiya, Shriya Ghuge, H.D Gadade “A survey on home automation system using IOT” IJRITCC Volume_5_IssuesMarch_17_Volume_5_Issue_3
- [2] Kim Baraka, Marc Ghobril, Sami Malek, RouwaidaKanj, AymanKayssi “Low cost Arduino/Android-based Energy-Efficient Home Automation System with Smart Task Scheduling”, 2013 Fifth International Conference on Computational Intelligence, Communication Systems and Networks.
- [3] HayetLamine and HafedhAbid,” Remote control of a domestic equipment from an Android application based on Raspberry pi card”, IEEE transaction 15th international conference on Sciences and Techniques of Automatic control & computer engineering - STA'2014, Hammamet, Tunisia, December 21-23, 2014.
- [4] YunCui, MyoungjinKim, YiGu, Jong-jinJung, and HankuLee, “Home Appliance Management System for Monitoring Digitized Devices Using Cloud Computing Technology in Ubiquitous Sensor Network Environment”, Hindawi Publishing Corporation International Journal of Distributed Sensor Networks Volume 2014, Article ID 174097



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