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SOCIAL MEDIA OF THINGS

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Abstract - Social Media of Things (SMOT) is an application of the Internet of Things (IOT). It uses social media apps or websites as a platform to control IoT devices. Things like spreading information among a large number of people can be achieved very easily using SMOT. It requires basic IoT connections with the exception that the main server is connected to a social media app or website. The social media app sends and receives commands from the main server and the main server redirects these commands to the IOT devices. An IOT ecosystem consists of web-enabled smart devices which uses sensors and communication hardware and embedded processors to collect, send and act on data which they acquire from their environments. IoT devices share the sensor data which they collect by connecting to an IoT gateway or other edge device where data is either analyzed locally or sent to the cloud to be analyzed. Sometimes, those gadgets speak with a few different associated gadgets and it act at the facts they get from each other gadgets. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data. The connectivity, networking and communication protocols used with these web-enabled devices largely depend on the specific IoT applications deployed.

1.INTRODUCTION

Social Media of Things (SMOT) is an application of the Internet of Things (IoT). It uses social media apps or websites as a platform to control IoT devices. Things like spreading information among a large number of people can be achieved very easily using SMOT. It requires basic IoT connections with the exception that the main server is connected to a social media app or website. The social media app sends and receives commands from the main server and the main server redirects these commands to the IoT devices. To understand the working of SMOT we must first understand what is IoT and how it works. A thing in the internet of things can be a human with a heart monitor implant, an automobile that has built in sensors to alert the driver when tire pressure is low or any other natural or Man-made item that may be assigned an IP address and is to transfer data over a network. Increasingly, companies in plenty of industries are the usage of IoT to perform greater efficiently, higher apprehend clients to supply more suitable client service, enhance decision-making and increase the value of the business. Kevin Ashton, co-founder of the Auto-ID Center at MIT, first mentioned the internet of things in a presentation he made to Procter & Gamble (P&G) in 1999.

2. Review Of Literature

Firstly we started with the idea of home automation using bluetooth technology which we got from M. Asadullah and K. Ullah's paper "Smart home automation system using Bluetooth technology" which was published in 2017 International Conference on Innovations in Electrical Engineering and Computational Technologies (ICIEECT), Karachi. Here we understood we can automate normal appliances in our home using wireless means. Research into home automation technologies we came across a new paper titled "Review and Performance Analysis on Wireless Smart Home and Home Automation using IoT," which was published in 2019 Third International conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, India. From this paper we came to know by using IoT technology we can build an efficient system for home automation.

Using IoT we can save energy, increase the security of our system and also it makes everything so easy and simple. Then we read E. P. Yadav, E. A. Mittal and H. Yadav's paper "IoT: Challenges and Issues in Indian Perspective," which was published in 2018 3rd International Conference On Internet of Things: Smart Innovation and Usages (IoT-SIU), Bhimtal. From this paper we got many points to consider while building a home automation system using IoT. There

are many challenges in building this kind of system so we were researching on how to make the system more efficient and that led us to T. Chaurasia and P. K. Jain's paper "Enhanced Smart Home Automation System based on Internet of Things," which was published in the 2019 Third International conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, India. All this research helped us to understand that there is an unexplored area where we can use Social Media to make home automation systems and the concept is termed as Social Media of Things.

The next paper we came across was "Eyrie smart home automation using Internet of Things" which was published in the Computing Conference, London, 2017 which gave us the idea about how we can use hardware such as Raspberry Pi, Arduino, etc. to build smart and secure homes. So by building a simple circuit we can achieve a device with the help of which we can use Social media to automate our gadgets.

2. Aims and Objectives

- The basic aim of the project is to create something new and useful technology with the help of IoT concept and thereby enhancing automation.
- Also the primary objectives of the smart home is to ease daily life by expanding client comfort. It does this via automating typical routines as well as giving homeowners the power to manage their home systems remotely. By automating many aspects of daily living through remote technology, a smart home provides the ability to control electronics and appliances from a smartphone, tablet or laptop. It adds an additional degree of convenience and comfort by eliminating the burden of manually maintaining home systems.
- The other objective is to create a system that can use social media to access our home appliances and thereby remotely accessing its functionality from anywhere in the globe as the social media network is the largest network and also the unexplored one in terms of using it for home automation.

3. How SMOT Works

As mentioned earlier, SMOT works on the principle of IoT. An IoT ecosystem consists of web-enabled smart devices that use embedded processors, sensors and communication hardware to collect, send and act on data they acquire from their environments. . IoT devices share the sensor data which they collect by connecting to an IoT gateway or other edge device where data is either analyzed locally or sent to the cloud to be analyzed. Sometimes, those gadgets speak with a few different associated gadgets and it act at the facts they get from each other gadgets. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data. The connectivity, networking and communication protocols used with these web-enabled devices largely depend on the specific IoT applications deployed.

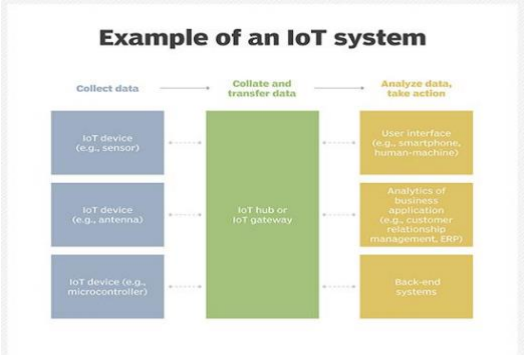
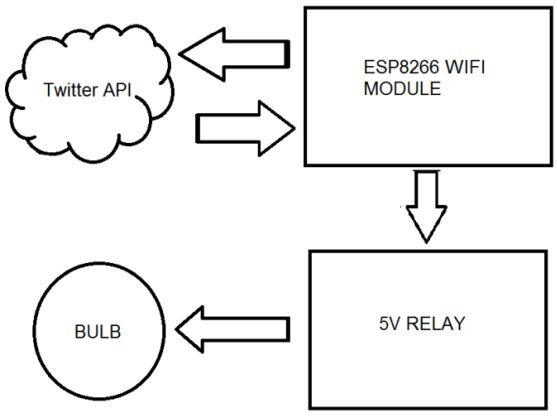


Fig 1: Example of an IoT system

4. Proposed System



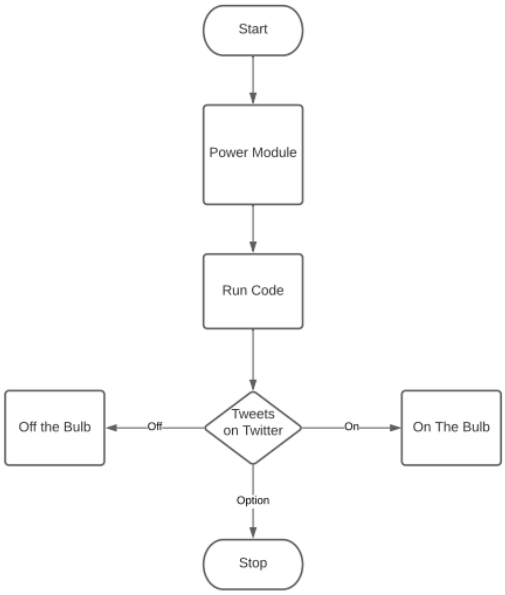
The bolt WIFI module ESP8266 is connected to a 5V relay which is then connected with the switch board. The WIFI module used here needs a supply of 5V same as the relay. The ESP8266 is programmed using python and this module inculcates twitter's developer API. So when we tweet something the module reads and decodes the message and gives supply to the relay. Then the relay triggers the switch board and thereby we achieve the ON/OFF functionality. In this way just by tweeting across the world we can operate our home appliances and check which devices are on and which devices are off.

4.1 Component Used

Table -1: List of Components

Sr.	Required	Why
1	Bolt Iot Module	For communication over Internet
2	5v Relay 4 channel	It is a switching Device
3	Vscode	Python IDE's
4	Twitter Developer API	TO Read the post (tweets)

4.2. Sequence Diagram



5. METHODOLOGY

- Power the module from android device.
- Open your twitter developer Account.
- Tweet whatever whatever system(Bulb, Fan and Light) you want to on or off

6. FUTURE SCOPE

- The Internet of things (IoT) is an ecosystem of related physical devices/objects that are accessible through the web. IoT is an arrangement of interrelated devices, advanced items, articles, people that are given novel identifiers (UIDs) and the ability to move data over an association without requiring any human joint effort.
- As per Fortune Business Insights, the global internet of things market was estimated at US$190 billion in 2018 and is expected to arrive at US$1,102.6 billion by 2026, developing at a CAGR of 24.7 percent in the estimated time frame.
- If the market has this great potential for IoT we can understand how well SMOT can grow and help every individual, group, industry and even a whole country as we all are well aware about how many people are connected to social media.
- Progressed head advancements and an expansion of gadgets have helped fuel the development of IoT advances. Truth be told, interests in IoT innovation are extended to develop at 13.6 percent every year through 2022. Further development in the coming years will be conceivable gratitude to new sensors, more computing power, and reliable mobile connectivity.
- In 2020, over 3.6 billion people were using social media worldwide, a number projected to increase to almost 4.41 billion in 2025. This report itself gives us a clear idea that SMOT can be the new future in the field of automation and technology.

3. CONCLUSIONS

The internet of things connects billions of gadgets to the internet and entails using billions of data points, all of which want to be secured. Due to its expanded attack surface, SMOT security and SMOT privacy are cited as major concerns. Attackers get access to the network by destroying poorly secured SMOT devices. Because SMOT gadgets are intently connected, all a hacker has to do is take advantage of one vulnerability to control all of the

data, rendering it unusable. And producers that do not update their gadgets often or in any respect depart them liable to cybercriminals. Additionally, linked gadgets frequently ask customers to enter their non-public data, consisting of names, ages, addresses, mobile numbers or even social media accounts data it is worthwhile to hackers. However, hackers are not the handiest risk to the internet of things; privateness is every other primary difficulty for SMOT users. For instance, organizations that make and distribute consumer IoT gadgets could use those gadgets to obtain and sell users' personal data.

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