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# An Overview of Smart Industrial Automation

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***Abstract : Availability of high speed mobile networks and Long Term Evolution has given a tremendous growth in terms of providing various services and applications at the fingertips of the citizens. This paper briefs about IoT and it can be utilize for realizing smart home automation using Raspberry Pi . The system consists of a smart phone along with webpage which is having the home appliances details with ON and OFF status and conditions. Smart phone is connected with Raspberry Pi using the IP address of Raspberry Pi through Wi-Fi. The wireless application is user friendly empowers efficient life style.***
***Keywords: Adfruit Application, Node MCU ESP8266, Humidity Temperature, Relay Driver.***

## I. INTRODUCTION

Internet of things is a technology of the future that has already started to touch our day to day life. Here we propose an IOT based home automation system using raspberry pi that automates home appliances and allows user to control them efficiently through internet from anywhere in the world. Our suggested system consists of a microcontroller based circuit that has light and fans connected to it along with LCD display and Wi-fi connector interfaced with raspberry pi. Our system communicates without online IOT system interface for controlling our home appliances efficiently anywhere over the world.

After linking with IOT, the user is now allowed to send load switching directions over IOT to the circuit. The circuit accepts the commands over IoT by connecting to internet using wi-fi connector and then the raspberry pi processor further processes these commands. After this the processor forwards these instructions in order to receive user commands and then display them on an LCD display. Also it operates the loads (lights and fan) for switch them on/off as directed by the user commands. Thus we self-regulate our home appliances over internet using raspberry pi.

## II. LITERATURE SURVEY

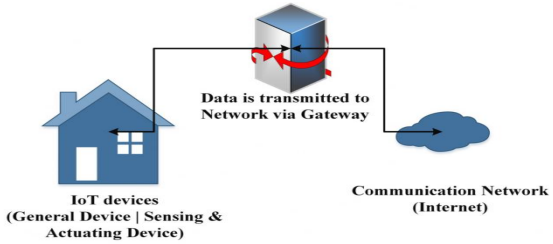
Internet of things is being developed quickly without deliberation of security. According to Survey conducted in 2014, 39% of the people said that security is the biggest concern in accepting Internet Of Things technology, this being a major challenge in IoT. The sensitivity of a network of clever devices was conversed in the early hours of 1982, with a modified Coke machine at Carnegie Mellon University, it is the first Internet-connected appliance, able to report its inventory and whether newly loaded drinks were cold Internet of things is being developed rapidly without consideration of security. The health monitoring devices such as blood pressure monitors and heart rate monitors and other complex devices capable of monitoring focused implants.

Hospitality sector have begun implementing smart beds that can detect when the patient occupy bed and when makes an effort to get up , controlling blood pressure of patient without the manual interference of nurses. Dedicated sensors can also be outfitted within hospital to monitor the health of patients. The term "Internet of Things" suggested by Peter T. Lewis in 1985.Earlier works on these lines were proposed on various approaches as follows: The environmental monitoring applications of the IOT uses sensor to assist in environmental protection by observing air or water prominence, atmospheric or soil disorders and arrangements of wildlife and their natural habitats. IOT also provide way for detecting calamities like earthquake or tsunami and provide early warnings.

## III. PROPOSED METHODOLOGY

### *A. General Concept of IoT*

IoT is a kind of network that can connect objects with network for data exchange and communication using fixed protocol. IoT can make billions of networked embedded devices also called smart items. These devices are capable of gathering data about themselves, environment, devices associated and communicate this information with desired devices and system connecting with internet. Applications are designed based on IoT enabled devices for monitoring and control in various domain including home automation, health monitoring applications, smart cities, smart agriculture etc.

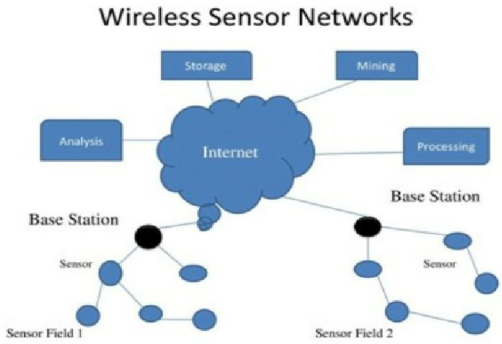


*B. Sensors & Wireless Sensor Networks*

A Sensor is a device that reacts and detects some type of input for both the physical or environmental conditions, such as light, temperature, pressure etc. The output of the sensor is usually an electrical signal provided to a controller for further processing.

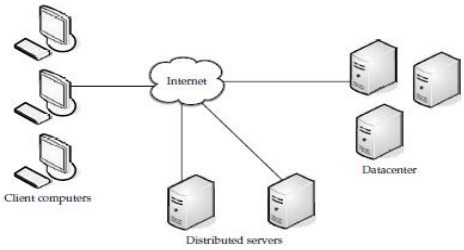
*C. Wireless Sensor Networks (WSNs)*

A Wireless sensor network is known as a network of devices that can communicate the information gathered from a monitored field through wireless links. The data is processed through various nodes, and with a access, the data is associated to other networks like wireless Ethernet.




*D. Cloud Computing*

The sharing of resources in cheap can be provided only through cloud computing. Service providers like platform as a service (PAAS), infrastructure as a service (IAAS) and software as a service (SAAS) with small cost. Cloud computing is also used to store the information from home appliances.




## IV. CONCLUSION

We conclude that by implanting these system we can access the live data and also control the device interfaced with our system.

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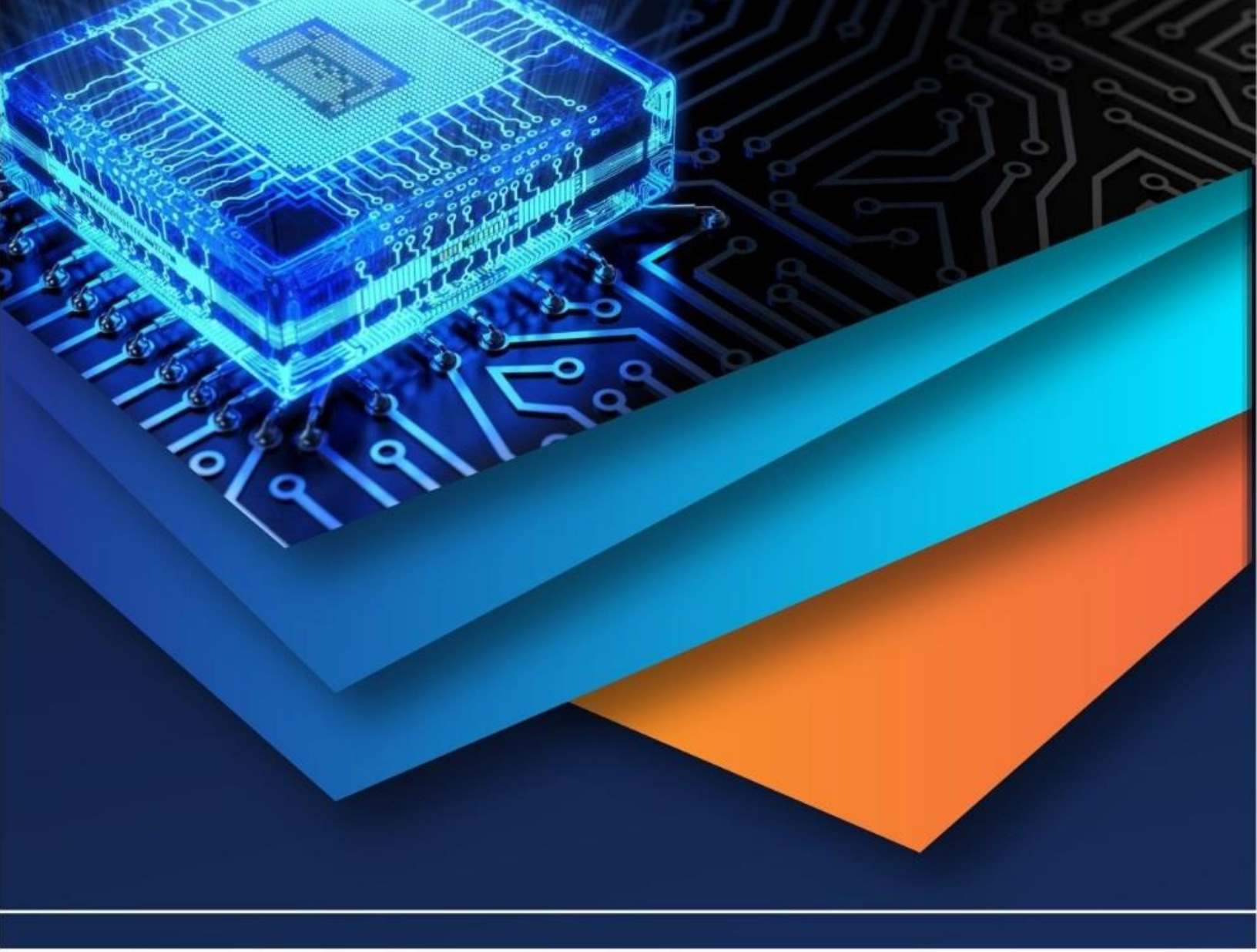

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