IOT and Its Smart Applications

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ABSTRACT

We are reaching a new era of computer technology i.e Internet of Things (IoT). IOT is something like a universal global nervous system in the cloud that connects things differently. IoT is an intelligent and intelligent device, communication and communication engine with other machines, environment, environment, objects and infrastructure, and RFID and network equipment will increase to meet the new challenges. As a result, large quantities of data are generated, stored and processed as useful activities that can "be controlled and managed" to make our lives safer and safer and reduce our impact on the environment. All organizations, such as companies and civil society, need up-to-date information about people. In that sense, most businesses use email or message boards. But in most countries, Internet access is available to people in their systems and mobile devices, so data transfers can be easy and cheap on the Internet.

Keywords : Embedded System, Web Server Formatting. Smart System

I. INTRODUCTION

What is the Internet Network (IoT) is a general idea of the possibilities of networking tools to understand and collect data from around the world, and then share those data on the Internet where they can be processed and used for a number of interesting purposes. IT has an intelligent machine that communicates with other machines, environment objects, and infrastructure. Now every day, every person is connected to each other using the communication method. When the most popular communication method is the Internet, so in other words, we can say that the internet connects people.

The main idea of the Internet (The Internet of Things) is about two decades old and has attracted many researchers and industries, with the expectation that it will affect its major improvements daily and social life. When things like household appliances are connected to a network, they can work together in a partnership to provide the perfect service as a whole and not a collection of self-running devices. This is useful for many world services and services, and we can do it for example to build a smart home. The window can be automatically switched off when the air conditioner is opened or can open the oxygen when the gas stove is opened. Internet concepts of this value especially, or persons with disabilities, IoT technology, human activity can support in a larger scale, by building or social, as each other's tools can cooperate to act on an overall system.

Communication and remote control options to reach the next step ... how do I automatically automate what's based on my settings and how the cloud-based process works to achieve it without my intervention? This is the ultimate goal of some Internet browsers. And for these apps to connect to the internet and use it to achieve this goal, you must first be "smart" (including MCU / embedded with unique identifier), and then be connected eventually. These opportunities give a new class of services that make life easier for their users.

The term "Internet of Things" was originally created by Ken Ashton in 1999 in the context of supply chain management. However, in the last decade, the definition has a broader range of applications, such as healthcare, utility, transportation, etc. Although the definition of things has changed with technology, the main goal is to make the computer aware of the information without the help of human intervention. The development of the current Internet radar network

of interactive objects not only collects data from the environment (emotionally) and interacts with the physical world (activates / commands / controls), but also uses the existing Internet standards for services for transferring, analyzing, programming and relationships. Supported by the proliferation of devices that are used by open wireless technologies such as Bluetooth, radio frequency identification (RFID), Wi-Fi and mobile data services as well as a built-in units, sensors and actuators, the IoT from the baby and the end of the transformation of the Internet into the static Internet system fully integrated Internet Revolution. " Pesticides has led to limited interaction between humans and unprecedented speed. The next revolution will be the relationship between objects to create intelligent environment. Only in 2011, the number of connectors on the planet than the actual number of people. There are currently 9 billion connected devices in 2020 is expected to be 24 billion devices.

Today, everywhere, such as at the train station, supermarket, college, it is informational desk desk that must have immediate information on train timetables, promotions and important information. From the perspective of the education organization, it is that it requires a number of staff dedicated to this purpose and who needs to have up-to-date information on the Institute and its recent events at the institute. The second problem is that you need to go to the Information Institute Institute to get information from them. The solution to this problem is to use technology and technology to be responsible for answering all the questions that people have been asking. The best tool is the most accessible mobile phone and anyone who can connect to the internet to download the latest news. If information is not updated on the Internet, if the information is not updated online, you should call the Service Center for Support. Some authors create a tool that contains all information stored in its database when someone needs information to use and get relevant information through this tool. To do this, the device must be available to users who need help or support.
There are situations in the educational institutions that students can attend at any college and may miss major updates such as classroom reorganization. Additionally, students or clients may not know the important information on time so they are useful to them because they can not pass the board regularly.

Enable IOT technology: There are three types of Internet-enabled technologies of
1. RFID - In 2000 RFID was a prominent technology. Over the years, NFC has become a dominant (NFC). NFC has become commonplace in smartphones in the first year of the year, such as reading NFC tags or accessing public transport.
2. Fast response code and optical signal - are used for low cost pricing. The decoder decoder decodes the QR code using the image processing technique. In fact, QR advertising campaigns are not as useful when the user needs to have another QR reader.
3. Bluetooth and low power - this is one of the latest techniques. All new smartphones have BLE hardware in them. The BLE-based labels can show their presence in the energy budget, allowing them to run up to one year using a lithium battery.

II. LITERATURE REVIEW

There is always a news desk in every organization that provides advertisements and notifications to customers and staff. The problem is that it requires some dedicated staff who should have up-to-date information on bidding and preparation. Because of IOT, we can see many smart devices around us. Many believe that the city and the world will be dominated by feelings and triggers "stories" built up in many, creating what is called "smart world". Such work is done by many around the world.

In the literature [10] IoT refers to connected devices and intelligently captured data capture systems from sensors and measuring devices and other liquids. IoT is expected to spread rapidly in coming years with a new dimension of services that improve customer quality of life and enterprise productivity options. Now, mobile networks offer connectivity to devices that can run new services and applications that are built. The new wave of connectivity goes beyond tablets and laptops. To cars and towers that relate smart meters and traffic control with the expectation of smart connectivity of virtually all. This applies to GSMA as a "related life".

The author in [11] describes the idea of a network of cores that is accomplished through a combination of wireless electronics and wireless communication. Sensing Network and Monitoring tasks are firstly browsed and review factors that affect the design of

the web site are provided. We then underline the protocols and protocols created for each layer and the communication architecture for the sensor network.

The author in [1] has developed an electronic information systems system. Here they use SMS based methods, but different. This system is designed to operate independently without the need for any human operator, and when students or staff need some help, he or she will send a message to a system that will meet the user who needs it. Many technical communities are searching for research topics that contribute to IOT.

The purpose of the study is to explore the possibility of IoT in Singapore's bus transport system. Singapore has a high technology but still has a goal of driving its transport system. Make a system using IOT for users to understand and evaluate different bus options in an efficient way. The second survey was used to predict the arrival of buses as well as crowds in each bus.

In the literature [13], presented three layers of the "Internet of Things" (IoT) communication protocols for high voltage transmission networks, including Wireless Network Sensor Rights Sensors (WSN), Network Radio Service Package, Optical Network Component (OPGW) (GPRS), and Beidou (COMPSS) satellite technology (CNSS). It defines the functionality of each layer of application performance and power management. This approach can meet the requirement of linking control centers and terminals to minimize GPRS configurations, "and CNSS and OPGW terminals, fiber- optic access points, and secure network transmission of data for real and reliable time tracking in a situation in remote areas,

extreme weather and other environmental conditions.

[3] Many technical communities are actively pursuing a research topic that contributes to IoT. Nowadays, when complex, widespread and widespread communication, surveillance and control in these communities are a great deal of overlap, sometimes from a slightly different perspective. Co-operation throughout the community is increasing. To provide a basis for discussing open-minded issues in IoT, the vision of how IoT can change the world in the foreseeable future. Now in the iota, this can be used in different fields of science in literature, which can be classified as: large scale, knowledge generation and architecture, large data, and sustainable dependence,

openness and security, privacy and humanity - contingency.
Advantages:
• Students or staff can easily receive important messages and messages at 24x7 at any time.
• Within seconds, organizations can only change notifications or information by text messaging.
• Administrators can change the display message or notification from any location or location any place or anywhere. Disadvantage: •If anybody wants information they have to do message and for every new information they have to send message again and again to the system.

Disadvantages:
• If anyone wants information, they have to write a message and, for new information, they have to send a message to the system. The authors develop digital billboards for digital presentations and apply in different

areas of life, including educational institutions, facilities, and advertisements, due to problems with building labels and placing files on the building's walls and hand-made buildings that make the environment unattractive

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The author [6] presents the design and development of electronic board based microcontroller based message board that will be used to display real time messages and timely text messages via microcontroller. The basic electronics provide flexibility so that users can monitor the messages or information displayed without the user's geographical location. Offers GSM Mobile Phone. This will make it difficult to display information manually through the computer system on the slideshow. This paper also includes a comment mechanism from the dashboard to ensure that messages sent by users are displayed.
Advantages:
• Within seconds, organizations can only change notifications or information by text messaging.
• Users can change the display message or notifications from anywhere or anywhere, anytime.
Disadvantages:
• We need to pay for texting or we have to pay the extra fees to the organization.
• Sometimes security and networking issues may arise.

Author of [7] Dealing with innovative ways, more interests, and to notify the use of unmanned wireless displays via GSM technology. This will help us to send any messages without any delay almost immediately by sending any SMS which is better and more reliable than the old, traditional way of putting messages on the board. The proposed technology can be used in many public areas, supermarkets or larger buildings to improve security and to recognize emergencies and to avoid many accidents. Using different AT commands is used to display messages on the display. GSM technology is used to control the display board and transmit information through messages received by the user.

The author of the word "Internet of Things" was first founded by Kevin Ashton in 1999 in the context of supply chain management. In the last decade, however, the definitions are more specific, covering applications such as healthcare, transportation, etc. Whatever the definition of "something" that has changed due to technological development, the main purpose of this is to make the computer without the help of human effort still the same. The current radical development of a network of interfaces not only gathers environmental data (emotions) with interaction with the physical world, but also uses the existing Internet standards to provide services for the exchange of software analysis and analysis. Advantages:

- Students or staff can easily receive important messages and messages at 24x7 at any time.
- Within seconds, organizations can only change notifications or information by text messaging.
- Administrators can change the message on the display or notification wherever or wherever it is. Disadvantages:
- If anyone wants information, they should create a message about new information they need to send messages over and over again.

III. APPLICATIONS

This system is designed for a shopping mall, but can also be used in a variety of organizations, such as an education board system for information boards or a railway station, a bus stand and an air port for displaying information and notification. The mall is also used to control the humidity and temperature of the mall through a central air conditioner using a temperature sensor. An Industrial Organization can also be used. The E-Display System can be used to display emergency messages in hospitals. Some areas where internet usage is often used.

Smart cities: - Turn the city into a smart city to get involved with the data from your city and neighborhood. • Monitoring available parking spaces in the city. • Vibration monitoring and material conditions in buildings, bridges and historical monuments. Discover devices with Android, iPhone, and any device that works with Bluetooth interfaces or WiFi. • Measure the energy emitted from cellular stations and Wi-Fi routers. • Vehicle and pedestrian monitoring to optimize driving routes and pedestrian crossings. • Detection of garbage levels in containers to optimize collection routes. • Intelligent highways with warnings and deviations depending on climaticconditions and unexpected events like accidents or traffic jams.

Security and Emergency Situations: - Perimeter Access Control: Detecting and controlling people who are not authorized and restricted. • Liquid presence: Detection of liquids in data centers, sensitive buildings and warehouses to prevent destruction and corrosion.

Radiation levels: At nuclear power plants, the environment distributes the radiation level measurement to generate leakage signals. Explosive and dangerous gases: Detection of gas leakage and levels in industrial environments, the vicinity of chemical factories and internal mines.

Smart Agriculture: Quality Improvement of Wine: Control of soil moisture and diameter of the vineyard to control the amount of sugar in grapes and vineyards. Greenhouses: Manage microclimatic conditions to increase fruit and vegetable production and quality. • Golf courses: Irrigation systems by selecting in dry areas to reduce the need for clean water resources. Weather Station Network: Exploring weather conditions in predicted areas for snow, rain, drought, snow or wind. Compost: Control the moisture levels and temperatures of alfalfa, hay, straw, etc., to protect fungi and other microbial contamination. Internal and external automation: - Stay home through IoT remote monitoring and manage our consumer goods and reduce monthly bill and resource usage. Power and water use: Control your energy and water to get information on how to save, spend, and resources. • Remote control: Turn on and off remote control to

avoid accidents and save energy. Aggravating Search System: Detects and abuses windows and doors to protect offenders. Merchandising and Art: Tracking the status of museums and art. v. Medical site: All findings: Help for elderly or disabled people who live independently.

Medical refrigerator: Monitoring and checking cold conditions, storage of drugs, vaccines and organic matter. Care of athletes: Track the highlights of the center and the place of performance. Patient tracking: Patient tracking in hospital and the elderly. Ultraviolet radiation: A measure of ultraviolet light to warn people not to be exposed during a specific time.

Industrial control: Machine Automatic diagnosis of problems and controls. Domestic air quality: Control the level of oxygen and toxic gas at a chemical plant to ensure the safety of workers and goods. Temperature monitoring: Check the temperature in the industry. Ozone availability: Ozone monitoring during drying process at food plants. Self-diagnosis on the bus collected from the bus for sending alarms for real-time emergency or advisory to the driver.

IV. CONCLUSION

IoT promises to provide a step-by-step change in the "quality of life and enterprise" productivity. Through a comprehensive network of intelligent networks, IoT has the potential to extend the extension and enhance basic services in transportation, transportation, public safety, public health care, and other sectors, while providing a new ecosystem for software development. Collective efforts are required to move the industry beyond the early stages of market development towards maturity, driven by a general understanding of the different nature of opportunities. The market has different features in the business portfolio and charged the capacity needed to provide the IT services and the different needs that these services will put on mobile networks.

Connecting those smart devices to the site also occurs though there is a slower pace. The pieces of tech puzzles are shipped to facilitate the Internet's early-to-many-more than expected. As the Internet phenomenon unfolds shortly thereafter, and caught up like fire on the Internet, it will affect every aspect of our lives in less than a decade. We have already seen a wide range of Internet applications. In this work, we will present a sample of the IOT-based online advertising system for applying for supermarkets and other entities. The request will replace the ad network in major supermarkets, such as the Big Market. Reliance Fresh. Even though we can maintain humidity in large supermarkets without human effort. We can also use this model system for educational organizations or train stations. This sample model will be implemented using the Virtual Component in Proteus 7.1.

V. REFERENCES

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