Review: application and challenge IN Internet of Things (IoT)

Tuka kareem jebuer[1]

Abstract: *IoT is one type of the systems that explain the future vision of how to connect physical components and infrastructure where it consists of connecting a set of mechanical and digital machines or computer devices and can use wireless sensor networks with this technology, where it provides the ability to collect data and These systems allow instant access to information anywhere in the world quickly, efficiently, productively and less expensive, the main purpose in this paper its discusses this modern technology and applications used in it and areas of future application and discussed Briefly.*

Keywords: *Internet of things (IoT); Wireless network (WSN); Challenges.*

I.   INTRODUCTION:

Kevin Ashton used the term for the first time in 1999 and it is considered the leading science and technology. Nevertheless, this term is defined as physical objects can be accessed by Internet-connected sensors for data and information exchange, where a different term (RFID) is proposed for frequencies, where physical components (for example goods) can be tracked on the internet without the need for intervention from any human.[1]
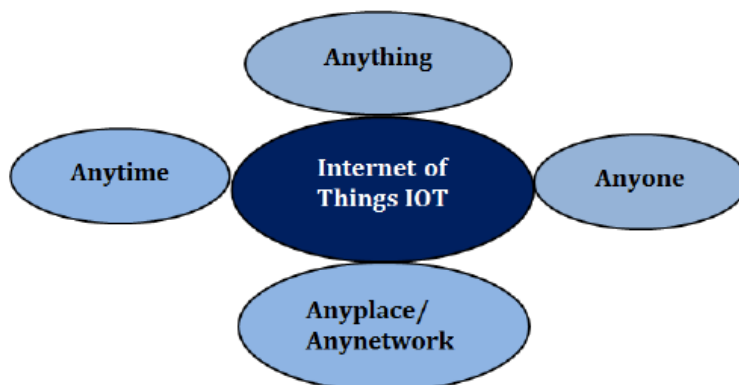

Figure 1: IOT where using [2]

II.   STEPS OF IOT GROWTH

As a result of the development of the Internet, electronic devices and equipment and as a result of the entry of technology in all aspects of life, at the same time back mobile computing. 3G and 4G technology is currently being used for quick internet access where the best video call services are offered. Wireless technologies and mobile computing are cheaper than the previous year and have been used very heavily. then new computing-computing has emerged everywhere. This computing focuses on the user's minimum power sharing and can be connected anywhere to the Internet. Smartphones, iPads, tablets and laptops replace regular mobile phones. This in turn has led to the development of advanced features in devices such as sensors, GPS and triggers. IoT: Any object ('labeling'), the use of sensors and

Department of Business Management, College of Management and Economic, Al-Mustansiriyah University, IRAQ E-mail: [1] tukakareem@uomustansiriyah.edu.iq

wireless sensor networks ('Feeling things'), built-in systems ('thinking things') and nanotechnology ('shrinking things') can be known.[2-3]

III.   APPLICATIONS OF IOT

IOT can applying in many filed every day , because the application of IOT are diversify we can use it in industrial , so the most application can demonstrate as the following :

3-1   Smart parking

Sensors have been used in many devices, including smart parking devices to detect the arrival and departure of vehicles, so it is considered the best solution to help the driver by giving him accurate information to know the parking spaces, and the traffic system , can book a place in the garage in advance through the vehicle where it provides This method fuel and time reduce stake CO_2 emission.[3]

3-2   *Augments maps*

By smartphones, you can provide information about places where using the technology of tourist maps enhanced by tags, where you can contact the web anywhere in the world and get information about hotels, restaurants and monuments Theatre and local attractions.[4]

3-3   *Logistics*

Sales can be monitored by using Internet of Things technology such as retail, as it provides many advantages, including RFIC and NFIC, through which all details of buying and selling raw materials, goods and sales can be identified from after-sales service. Where you can track the amount of inventory in warehouses and know information about stocks, Customer satisfaction etc. and lead to increased sales

3-4   *Data collection*

using IOT technology allowed to collect data (for the patient) and delete duplicate data, which leads to reduced errors when collecting data, it saves time, effort and cost instead of routine checking the patient's data, thus providing a health record for the patient with the least mistakes that would lead to the accuracy of the drug provided by the doctor.[5]

3-5   *Smart water supply*

The process of using wireless network technology enables the system to monitor the flow of water and the presence of groundwater, where this technology gives information about any leakage or loss of water.

3-6   Remote Monitoring[6]

A major problem facing many people around the world is the lack of health monitoring systems this may cause many health risks, the patient screening process needs a doctor or nurse where vital data and signs are collected to be healthy or unhealthy and this leads to increased cost These sensors and algorithms are used to analyze health data and send it over wirelessly, and then medical professionals can take the data and then provide Appropriate remote health recommendations. Various H-health systems for remote surveillance of patients have been developed. Such low cost monitoring systems constantly monitor the health of the patient and calculate the psychological expectations of the patient, including body temperature, blood pressure, pulsation and respiratory rate precisely

3-7   Electrocardiogram Monitoring (ECG)[7]

The IOT application can be used in medical applications such as ECG monitoring device where the device communicates on the Internet to provide easy exchange of information. Facets, myocardial inchemes and long QT periods.

3-8   Smart Ink

A number of businesses have created a form of ink that allows almost anything to be printed on electronic circuits. This has encouraged customers of printed advertising to connect and to ask for more details or even Goods on the marketing information system comments delivering advertisements and shipping consumers to their website.

3-9   Smart Sports[8]

Basketball, golf ball, tennis ball, smart rackets, intelligent bats, smart shoes, etc. can be identified as a linked entity once it is located in a specific space.

3-10   Smart Clothing [9]

sensors built-in or printed onto the fabric will provide medical staff and athletes with health and performance feedback. These apparel will be used by the markets to track physiological responses to product, brand changes and price changes in the marketing material. Imagine whether smart clothes are contextual, so that you can even modify the clothes ' color and transparency based on your own heart beat and temperature and other people around you.

IV.   IOT CHALLENGES [10]

V. IOT offers an imposing range of advantages but also a number of significant challenges.The IoT promises to bring connectivity to a global level with smart Internet-connected devices, every home, vehicle and workplace. Two of the main issues are:

1- Flexibility:

There are many who are worried that an IOT device can easily integrate with others. You are concerned about several conflicting or locked systems. They are concerned.

2- Connectivity: To allow different application specifications, a variety of wired and wireless connectivity standards are required.

3- Privacy: Most IOT apps have access to personal data but IOT developers may face a major challenge in terms of privacy and personal data security.

4- Security: IOT generates an ecosystem of continuously connected network devices. Despite all safety measures, the system provides little control. It opens users to different types of attackers. Increase the number of devices that increasing security problems.[11]

5- Complexity: the IoT network is diverse and complex. Every software or hardware failure or bugs will be severely impacted. There may also be other problems caused by power failure.

6- Wireless: Wireless systems such as GSM, UMTS, Wi-Fi, and Bluetooth are far less acceptable when we are coming to electricity. Many of the latest trends in the WPAN such as ZigBee and others are still in progress and consume less energy.

V.   CONCLUSION

Because of the internet and Internet-based application development, the world has changed completely. It seems unlikely without it to communicate in all situations. IoT will extend its scope by enabling communication between intelligent objects. When implemented successfully, IoT will change everything dramatically, but Different questions that require extensive work to improve the quality of life. In the present paper, we discussed different technologies that can make IoT a reality with its specifications. We presented a good use of IoT and its comfort in existence in the next segment. We finally concluded that the need for new "smart," self-governance management, data aggregation and Protocol adaptation to achieve better integration between the IoT Services was addressed before the broad acceptance of this technology.

VI.   REFERENCE

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