



AN EVALUATION STUDY OF ON INTERNET OF THINGS (IOT) DEVELOPMENT AND FEATURES

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ABSTRACT

In this paper, the overview of the Internet of Things are surveyed. The term *Internet of Things* was coined by industry researchers but has emerged into mainstream public view only more recently. Some claim the Internet of Things will completely transform how computer networks are used for the next 10 or 100 years. Internet of Things represents a general concept for the ability of network devices to sense and collect data from the world around us, and then share that data across the Internet where it can be processed and utilized for various interesting purposes. This paper represents the collection and exchange of data among physical devices, vehicles, home appliances and other embedded with electronics, software, sensors, actuators and network connectivity.

Index Terms: Internet of Things (IOT), Data Exchange, Features

I. INTRODUCTION

The Internet of Things (IOT) is the interconnection of uniquely identifiable embedded computing devices within the existing Internet infrastructure. So IOT basically

connecting IOT to embedded system. The IoT describes a system where items in the physical world, and sensors within or attached to these items, are connected to the Internet via wireless and wired Internet connections. These sensors can use various types of local area connections such as RFID, NFC, Wi-Fi, Bluetooth, and Zigbee. Sensors can also have wide area connectivity such as GSM, GPRS, 3G, and LTE.

II. IOT PROCESS

A. CONNECTING THINGS

The IOT connects both inanimate and living things. Early trials and deployments of Internet of Things networks began with connecting industrial equipment. Today, the vision of IoT has expanded to connect everything from industrial equipment to everyday objects. The types of items range from gas turbines to automobiles to utility meters. It can also include living organisms such as plants, farm animals and people. Wearable Computing and digital health devices, such as Nike+ Fuel band and Fitbit, are examples of how people are connecting in the Internet of Things landscape. The following Fig.1 represented the connection among the things in IOT.



Fig.1 Connections among Things

B. SENSORS FOR DATA COLLECTION

The physical objects that are being connected will possess one or more sensors. Each sensor will monitor a specific condition such as location, vibration, motion and temperature. In IoT, these sensors will connect to each other and to systems that can understand or present information from the sensor's data feeds. These sensors will provide new information to a company's systems and to people.

C. CHANGES IN TYPES OF ITEM

IoT-enabled objects will share information about their condition and the surrounding environment with people, software systems and other machines. This information can be shared in real time or collected and shared at defined intervals. Everything will have a digital identity and connectivity, which means we can identify, track and communicate with objects. IoT data differs from traditional computing. The data can be small in size and frequent in transmission. The numbers of devices or nodes that are connecting to the network are also greater in IoT than in traditional PC computing.

Machine-to-Machine communications and intelligence drawn from the devices and the network will allow businesses to automate certain basic tasks without depending on central or cloud based applications and services. These attributes present opportunities to collect a wide range of data but also provide challenges in terms of designing the appropriate data networking and security.

III. IOT FEATURES

A. COMMUNICATION

IoT communicates information to people and systems, such as state and health of equipment

(e.g. it's on or off, charged, full or empty) and data from sensors that can monitor a person's vital signs. In most cases, we didn't have access to this information before or it was collected manually and infrequently. For example, an IOT-enabled HVAC system can report if its air filter is clean and functioning properly. Almost every company has a class of assets it could track. GPS-enabled assets can communicate their current location and movement. Location is important for items that move, such as trucks, but it's also applicable for locating items and people within an organization. In the healthcare industry, IoT can help a hospital track the location of everything from wheelchairs to cardiac defibrillators to surgeons. In the transportation industry, a business can deliver real-time tracking and condition of parcels and pallets. For example, Maersk can use sensors to track the location of a refrigerated shipping container and its current temperature.

B. CONTROL AND AUTOMATIO

In a connected world, a business will have visibility into a device's condition. In many cases, a business or consumer will also be able to remotely control a device. For example, a business can remotely turn on or shut down a specific piece of equipment or adjust the temperature in a climate-controlled environment. Meanwhile, a consumer can use IoT to unlock their car or start the washing machine. Once a performance baseline has been established, a process can send alerts for anomalies and possibly deliver an automated response. For example, if the brake pads on a truck are about to fail, it can prompt the company to take the

vehicle out of service and automatically schedule maintenance.

C.COST SAVINGS

Many companies will adopt IoT to save money. Measurement provides actual performance data and equipment health, instead of just estimates. Businesses, particularly industrial companies, lose money when equipment fails. With new sensor information, IoT can help a company save money by minimizing equipment failure and allowing the business to perform planned maintenance. Sensors can also measure items, such as driving behavior and speed, to reduce fuel expense and wear and tear on consumables. New smart meters in homes and businesses can also provide data that helps people understand energy consumption and opportunities for cost savings.

IV.CONCLUSION

This paper presents about Internet of Things Process and Features. The overviews of the Internet of Things are represented through the features and its process. The IoT promises to deliver a step change in individuals' quality of life and enterprises' productivity. Through a widely distributed, locally intelligent network of smart devices, the IoT has the potential to enable extensions and enhancements to fundamental services in transportation, logistics, security, utilities, education, healthcare and other areas, while providing a new ecosystem for application development.

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