

INTERNET OF THINGS (IOT): THINGS THAT CHANGE THE DEFINITION OF INTERNET

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ABSTRACT

The term internet is basically interconnection of the various computer where we can receive and send digital data in various form like video, text, graphics, audio etc. Here on internet all the devices are connected in any form like wired or wireless, but now the definition of internet changes it not just sends or receive data it collects the data make that data useful and change our life by put the data into devices so that they generate real-life data for calculation and make our life easy and simple.

Keyword: Internet, Internet of things (IoT), sensors, Need and Application of IoT, Security Issue

Introduction: In the beautiful morning, one of your regular use device (clock) ring, as you woke up you see it's not your regular time to wake up. Then your device has checked your daily routine work schedule and alert you about that, the same device alert you have not switch off your light and you can off light with the simple application that is installed on your mobile. At the same time, your device that you wear on your wrist help you monitor your heartbeat also told you how fast or how slow you run or how much calories you burn all, this information automatically uploads on your shopping account and compare how much calories you burn and how much you ate. All these things happen with the help of technology that collects your data integrated with your devices and compare with your routine, give you valid information. All these are the valid example of the Internet of Things. Some point of view the Internet of Things(IoT) is silent world changer unless we actively use it for us or as a developer for customer.

Here in IoT we transform the real object into intelligent object so that we can make these devices intelligent and control the behaviour of this device and also know about the state of this device The term Internet of Things Comes from two words "Internet" and "Things" as we know internet connect the devices with each other .Things can be anything like computer, mobile, tablets some are connected with internet and some are not connected with internet

The term IoT has been introducing in recent year with the purpose of connecting the object with the internet and transfer data. In IoT "things" means devices which

are connected to the internet and transfer the devices information to other devices that also connected with internet. In another word we can say that IoT refers to a scenario where the objects and sensors generate and transfer the data with minimal intervention of the human. As we know that IoT is basically work with sensors, what actually sensor is, they are basically some object that detect the change in the environment of object. Without the help of technology, they are useless but when they come with electronic system they play key role. These sensors are with its own some property like range, sensitivity and resolution etc. Sensors are grouped with several criteria like Passive sensor that do not required external power source to watch or judge an environment while active sensors require some external power source in order to work with it. These sensors are also digital and analog. With the help of low price sensors and prototype board we easily use sensors in Internet of Things(IoT) project. There are several board on the market suitable for these IoT types of Project. The two most popular boards are "the Arduino and Raspberry Pi.

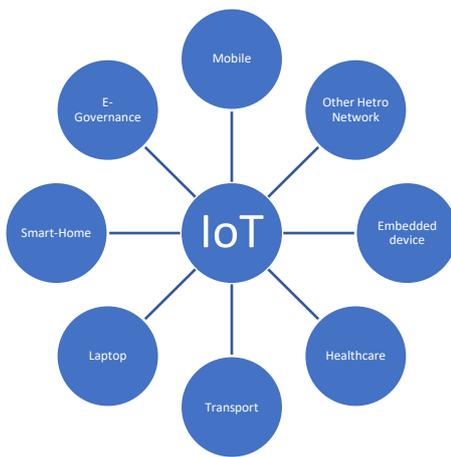


Fig:1 Internet of Things

Need and Application of Internet of Things: The concept of connecting the device with each other has existing from decade but combining devices with IoT is the great revolution in the field of Internet technology. The IoT follow the concept of a heterogenous network rather than homogeneous network because IoT involves with the variety of embedded devices and smart object devices whose are interconnect with each other and make communication with the help of intelligent application in almost all area.

"The main Focus of IoT "Any Device, Any Place, Any Network"

Internet of Things(IoT) promises many applications in human life, making their life safe, easier and smart. The application like smart home, smart cities, transportation energy and smart environment make the human life smart and easy. The smart device like "Amazon Echo" and "Google Home" make easy to listen to music according to our taste, not only these devices but there are also smart bulbs. Smart camera, tubes light smart fridge makes human-like smart and easy.

Security Issue with an Internet of Things: As IoT devices use their way on internet ,these devices and sensors generate lots of data that need to be process in secure and encrypted form so that no one can steal data .With the use of IoT human transform their life and work style, we are totally depending on these sensor-embedded devices whose are collect our data and response according to our collected data, but what happen if someone hack or steal our data it completely changes our digital life. Hackers are now starting targeting these smart devices like routers, webcams because the internet is open and little flaws in our device make holes to these unauthorized user. As we know that all our sensor devices collect the data o everything we do so it becomes a privacy headache. Let's example, our

smart home collect all our data like when we woke up, when our coffee machine active, what we listen (thanks to our smart music device) what our children think (thanks to their smart toys) and who in and out from our house (thanks to smart doorbell) all these things make major problem in our life because all of this thing collect our data and work according to that data. Not all smart home companies harvesting and stealing our data but some do, and with this type of data, it is easy to find out the person from few different sensors reading. As we know that IoT is all about connecting the devices with the internet by using security mechanism. Without security and encryption technique the communication that be done on IoT sensors is not secure and every one can see what we sent or what we receive.

Conclusion: There are numbers of Potentials challenges may stand in front of IoT door particularly in the areas of security, privacy, legal and right issues but from all these challenges it represents our growth in the field of technology. By minimizes the risk we can maximize the benefits of the Internet of things. The greatest advantages of IoT sensors are it generate lot of data and with the help of this data, people can take better decision. Right now, the growth rate of IoT id very slow because the talent shortage but from all those challenges it merely slowed the growth of Internet of Things(IoT), that's why we can say that it is "Silent world changer"- it may not be easily well understandable by the public as they understand technology but the impact of IoT is real and we see that in our day to day life. Lastly, I stop writing by this" no one stop the change because "Change is Law of Nature"

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The DZONE guide to IOT: Harnessing Device data