

Internet of Things can be used to Automate Human Life

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Abstract:The Internet of Things (IOT) is the network of physical objects embedded with sensors and network connectivity. IOT can be achieved by technologies like Radio-frequency identification (RFID), barcodes, Bluetooth and Quick Response codes (QR Codes). It helps in cost reduction, improved performance and creating innovative services to help mankind. It can even help in logging our daily life by having the minute details of where we are going, who we are interacting with, how long we take to get to work and it can make our home intelligent too. All things that can have benefit from being connected will be connected through IOT.

Keywords:physical objects, sensors, network connectivity, RFID, QR Codes, innovative services, home intelligent.

I. INTRODUCTION

Internet of things is not based on a single technology rather it is based on several technologies which are used to bridge the gap between the virtual and physical world. Some of the technologies include sensing, embedded information processing, communication and cooperation. Internet of things is also sometimes known as the Internet of objects. With the help of this new technology objects will recognize themselves and act intelligently. In human life this technology can do wonders by creating smart vehicle and smart home. In case of vehicle the IOT can tell the level of petrol currently in it, the total time required for reaching the destination, traffic jams before reaching that place, short cut routes etc.

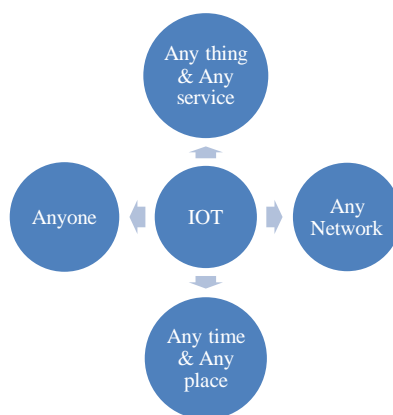


Fig 1. Internet of Things (IOT) concept

In Transport IOT can help human life in the following fields:

- Traffic routing
- Public Transport
- Trains
- Airlines

- Shipping

In Home Automation IOT can help in:

- Light bulbs
- Security
- Pet Feeding
- Smoke Alarm
- Refrigerator
- Washer/Dryer
- Stove
- Energy Monitoring

IOT can also help humans in Smart Parking Residents. With the help of IOT parking space can be reserved in advance and the municipalities can charge them according to the demand.

II. WORKING OF INTERNET OF THINGS

Internet of Things is based on many technologies. Therefore its working inculcates many technologies they are as follows:

- Radio frequency Identification (RFID)

Addressability and traceability of real time item is done by RFID.

- Sensors

They act as devices to collect data from the environment.

- Smart Technology

It helps to enhance the power of the network by processing capabilities to different part of the network.

- Nano Technology

It has the ability of smaller things to interact and connect with the smart devices.

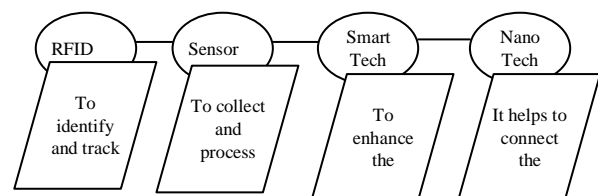


Fig 2. Working of Internet of Things (IOT)

III. INTERNET OF THINGS APPLICATIONS IN HUMAN LIFE

Internet of things can make human life easier, safer and smarter. This can happen by its applications such as:

- Smart Cities

Cities can be made smart by the use of IOT. The transportation system can be connected through IOT with which we can access the database of airports and railways.

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Even the cities can be kept

safer in terms of its security. Health of individual human can also be taken care by healthcare system. The weather in the cities can be monitored on regular basis.

- Smart Home and Buildings

Homes are termed as smart when we have Remote Control Automation on it. We use smart light which are on when we enter the room and off at the time of dispersal. Energy Management is done automatically or smartly. We also have real time alerts in home.

Wireless sensor network (WSNs) with collaboration with IOT provides intelligent energy management in buildings.

- Smart Health/Healthcare System

It helps in people monitoring in which all the details of the person related to his/her health is stored. Basically all the information can be stored in a database and access to that person's database is given to their doctors only. Bio sensors can be used to make the persons database.

- Smart Planet

Our whole planet can be made smarter with the Green Environment concept. In which Environmental sensors, water power leak detection, pollution and weather monitoring sensors can be used.

- Help to know ourselves better

IOT can also help us individually to know ourselves well. This can be done by keeping track of our daily doing like

Where we are going?

Who you have interacted with?

How long it takes to get to work?

How much you get distracted?

How long you have spoken to friends?

How much exercise you are getting?

The amount you text, tweet or update?

The tone of you messages?

- Thought Controlled Computing

This can be the most important type of application that can help human. In this we do computing by putting a device on our head and that device has sensors in it which can sense our thoughts and accordingly will give results based on them.

IV. INTERNET OF THINGS AND OTHER NEEDED TECHNOLOGIES

Internet of things is related to many other technologies to make this concept of automate human life a success. They are as follows:

- Cloud Computing

It is a shared pool of computer system often over the Internet. It relies on sharing of resources to achieve reduced cost, high resource sharing and increased performance.

- Big Data

It is generally used to refer to data that is too large for data processing application software to deal with.

- Security and Privacy

It is the security of the hardware and software systems from theft or damage. It's very important to make a security so strong in order to maintain the privacy of all individual users.

- Distributed Computing

Distributed Computing is a system in which there are different networked computers who have a common goal. In

it problems are divided into many tasks and all these tasks communicate with each other through message passing.

V. CONCLUSION

Internet of things can be very useful in human life. It can make our life easy and simple. It can keep our health, finance details, home equipments, travelling vehicles and even our work place automated. There are numerous benefits of this technology in human life.

It can be used in even more areas we have not discussed above for example to maintain a criminal record of the criminals which can help the people to live their life safely as we can know each person's details by a sensor that can be inserted at our entrance gate of our house. That sensor can be connected to all the police stations, devices which can be used to fetch the detail of the criminals. In case a criminal tries to enter our home an automatic alert alarm rings and the same message is sent to the police station database. The message can be criminal with his name found. This will help to reduce the number of crimes in our society.

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