Applications of Internet of Things

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Abstract: - **IOT (Internet Of Things) is defined as connecting things to the internet and that connections are used to provide some kind of useful remote monitoring or control to those things. In the past decade, over a billion sensors are connected to various devices providing continuous monitoring. Sensors and actuators embedded in physical objects are connected through wireless networks. The intention of the review paper is to highlight the significance of IOT in our daily lives and the impact of it on our surroundings.**

Keywords: - **IOT, Smart cities, Smart farming, Agriculture.**

I. INTRODUCTION

In the present world, demand for Internet application development is very high. So, many useful applications of internet can be produced by IOT, a major technology. IOT is a network which connects the various devices of different fields with internet and exchange data between them. These devices collect information with the help of existing technologies and share them with other devices. Examples include automation systems which uses Wi-Fi for exchanging the data between the devices.

Applications of IOT
Smart Cities
Smart cities can be referred as making use of the information and technologies to attain this objective presents and chances for the development of smart cities.
The IOT uses the internet to combine various heterogeneous things. To slightly monitor the power usage to improve the electricity usage, light and air conditioning management smart cities include sensors networks and connection of intelligent appliances to the internet.
The main applications of IOT in smart cities are:

1. Smart Homes:
 IOT technology leads to having smart houses and appliances including smart TVs, home security systems, lightning control, fire detection and temperature management. Moreover to form a smart community, smart cities can be connected through a network called Neighbor Area Network (NAN). In this case, the neighbor's can share some data like outside camera to find some information of the accident or events. This concept is not only about connecting the neighbors, but it is also an extension, development and controlling the activities in the smart cities.[1]

[2]

2. Healthcare:
 IOT technologies have many advantages in healthcare domain in smart cities. Tracing of people and objects, identification of people, data gathering and sensing come under the applications of healthcare in smart cities. By objective tracing, the status of the patient in the hospital can be monitored and the better and faster treatment can be provided. By people identification, the risk of mistake for avoiding of taking wrong drugs, doses can be reduced. And with respect to data gathering and sensing, time can be saved for processing the data and preventing the human errors.[3]

3. Transportation and Vehicular Traffic: Vehicular information can be used by the tenants to designate the arrival of their destination. Supervising the traffic obstruction in the smart city by urban IOT should be implemented. Traffic monitoring can be conducted by installing GPS on modern vehicles, by sensing abilities, installing auditory sensors along roads. [4]

4. Smart Energy:
The IOT allows smart management and distribution of control of energy and also the utilization in heterogeneous conditions. The IOT has diverse abilities like sensing and networking that expand the excellent development of energy providers. By applying the self-healing approach which activates the contribution of the consumers and distributed generators this task can be extended to advanced level. Applying these techniques leads to reliability improvement, enhancement of power quality and profit growth.

5. Smart Parking:
 By authorizing smart parking in smart cities, vehicles arrival and departure can be traced all over the cities. Both customers and merchants get profits by the data of smart parking, which leads the drivers to the best path for parking in the city.

Smart farming
Smart farming is resource intensive and hi-tech system of growing food cleanly and suitable for the ample, it is the application of contemporary information and communication technologies into agriculture. In IOT based smart farming, for monitoring the crop field a system is built with the aid of sensors (light, humidity, temperature, soil, soil moisture etc) and labor saving the irrigation system.

Fields condition can be scrutinized by farmers from anywhere, when compared with traditional approach IOT based smart farming is highly competent. These application are not only target principle , large farming operation but could also new levelers to up lift other growing or common trends in agriculture like organic farming, family farming and boost highly transport farming.[5]

 [6]

Applications of IOT in agriculture
Precision farming:
When it comes to raising livestock and mounting of crops agriculture can be thought of anything which makes the farming follow more forbidden and precise. It is known as precision agriculture. In this approach key component of farm management is the use of IT and various items

like sensors, control system, robotics, autonomous vehicles, automated hardware, variable rate technology.

One of the most famous applications of IOT in agriculture sector is Precision agriculture. Few key technologies characterizing the precision agriculture style are the adoption of access to high speed internet, mobile devices and reliable, economical satellites by the producer.

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Agriculture drones:

Agricultural Drones are the examples of overtime technology development. Today agriculture is one of the major industries to integrate drones. To facilitate and enhance various agricultural practices, Drones are being used in agriculture. The ways ground based and aerial based drones are being used in agriculture are crop health assessment, irrigation, crop monitoring, crops spraying, plaiting and soil field analysis.

The major remuneration of using drones include crop health imaging, integrated GIS mapping, ease of use, saves time, and the potential to enhance yields. With strategy and scheduling based on real-time data collections and processing, the drone technology will give a high-tech makeover to the agriculture industry.

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Livestock Monitoring:

To assemble data regarding the location, well-being, and health of their cattle large farmers develop wireless IOT

applications. This information helps them in identifying animals that are unwell so they can be divided from the herd, thereby preventing the swell of disease. As cattle can be located by ranchers with the help of IOT based sensors, the labor costs can be reduced.

Smart Greenhouses:

Greenhouse farming is a tactic that helps in enhancing the yield of vegetables, fruits, crops etc. The environmental parameters through physical intervention or a relative control mechanism can be controlled by Greenhouses. These methods are less effective as manual intercession results in production loss, energy loss, and labor cost. With the help of IOT, a smart greenhouse can be designed. The climate, eliminating the need for manual intervention can be intelligently monitored and controlled by this design.[5]

II. CONCLUSION

It is clear that, the IOT devices are being used in almost everything today. The industry too is adopting and flourishing. In thin review paper, we summarize the overall usage of IOT and its impact on our lives. The IOT is thumping with innovation and in coming decades, it is going to change the landscape of our way of living.

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