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20 USE CASES OF IOT

1.Noise Monitoring: Environmental Noise

Monitoring Using Distributed IoT Sensor Nodes. Information from the system is sent to a cloud storage service in real-time which enables visualization of noise levels, noise sources and battery level of the sensors in our web application

2.Waste Management: IoT-powered smart waste

management solutions focus on improving the total efficiency of waste collection and recycling. The most common IoT use case in waste management is route optimization, which reduces fuel consumption while emptying the dumpsters throughout the city.

3.Water conservation: IoT (Internet of Things) is a

flexible solution designed for the water utility industry, allowing for smarter decisions while optimizing the use of existing city resources and investments. An IoT based water management system leverages the power of real-time data analytics to: Respond and avoid emergencies efficiently

4.Smart Irrigation: IoT based Irrigation System using

ESP8266 NodeMCU Module and DHT11 Sensor. It will not only automatically irrigate the water based on the moisture

level in the soil but also send the Data to ThingSpeak Server to keep track of the land condition

5.Smart parking: Smart parking development implies an IoT-based system that sends data about free and occupied parking places via web/mobile application. The IoT-device, including sensors and microcontrollers, is located in each parking place.

6.Smart Security for businesses and homes: IOT and Arduino Based Home Security System uses four Sensors, namely, Temperature, Smoke, LPG and IR sensors.Data, which is sensed by these sensors, is then sent to the IOT. To elaborate on the theft detection, we have connected a password module by which a user can enter the password.

7.Motion detection: The internet of things (IOT) based application used to get notifications and view the images of the motion occurrence over internet through email server, thus the system provides an innovative approach to theft detection using IOT.

8.Water Quality Management: Internet of Things (IoT) allows connections among various devices with the ability to exchange and gather data. Water Quality Monitoring (WQM) is a cost-effective and efficient system designed to monitor drinking water quality which makes use of Internet of Things (IoT) technology.

9.Smart grid: The Smart Grid is part of an IoT framework, which can be used to remotely monitor and manage everything from lighting, traffic signs, traffic congestion, parking spaces, road warnings, and early detection of things like power influxes as the result of earthquakes and extreme weather.

10.Smart Lighting: Smart lighting uses IoT-enabled sensors, bulbs, or adapters to allow users to manage their home or office lighting with their smartphone or smart home management platform.

11.Smart retail: IOT aims at integrating networked information systems to real worlds entities. It connects objects such as Smarts Phones, Sensors with cloud where the data is store. With the help of this system owner can maintain inventory information also place the order of inventory.

12.Connected Vehicles: A connected car is a car that can communicate bidirectionally with other systems outside of the car (LAN). This allows the car to share internet access, and hence data, with other devices both inside and outside the vehicle

13.Digital health: it refers to a connected infrastructure of medical devices and software applications that can communicate with various healthcare software systems.

14.Fire detection: In the IoT-based forest fire detection system, different sensors are deployed in the forest area. Each node monitors the surrounding area in the forest. Sensor node collects the surrounding information like temperature, humidity, gas. Collected information from nodes is sent to centralized server for analyzing

15.Electrical Usage: IoT technology uses machine-to-machine (M2M) upgrades and includes wireless sensors and wireless actuators that help users monitor and control remote devices. Smart electric meters are used to monitor total household energy consumption, but limited to several times a day.

16.Smart transportation: Problems such as traffic congestion, road safety, accident detection, automatic fare collection and limited car parking facilities can be resolved by IoT. ... In this paper, an IoT based smart parking system along with an intelligent signboard is proposed.

17.Smart cities: The new Internet of Things (IoT) applications are enabling Smart City initiatives worldwide. It provides the ability to remotely monitor, manage and control devices, and to create new insights and actionable information from massive streams of real-time data.

18.Smart Factories: Smart manufacturing allows factory managers to automatically collect and analyze data to make better-informed decisions and optimize production.

The data from sensors and machines are communicated to the Cloud by IoT connectivity solutions deployed at the factory level.

19.Speed detection: A smart vehicle overspeeding sensor is employed and is combined with IoT in order to decrease the vehicle's speed at particular places like accident prone zones. If this smart sensor technology is used the safety parameters, then avoidance of accidents may be attained. The system sends the data wirelessly

20.Remote control appliances: There are various techniques to control home appliances such as IOT based home automation over the cloud, home automation under WiFi through android apps from any smartphone, Arduino based home automation, home automation by android application based remote control, home automation using digital control, RF based home .