ASSIGNMENT 1

Name- Pratul Maurya

Reg. No- 19BCY10036

Question -List out 20 use cases of the Internet of Things.

Solution: -

1. Implantable Glucose Monitoring Systems-

   Patients with diabetes can have sensors-based devices just beneath their skin. When a patient's glucose levels go dangerously low, the sensors in the implants will send information to his or her phone, as well as store past data.

2. Medical Alert Systems-

   Individuals could wear jewellery that provides as a notification to family members or friends in the event of an emergency. For example, if a person wearing a medical alert bracelet falls out of bed in the middle of the night, the individuals they choose to aid in an emergency would be told immediately on their smartphones that assistance was needed.

3. Depression and mood monitoring

   Devices can infer information about a patient's mental state by collecting and analysing data such as heart rate and blood pressure. Advanced IoT devices for mood monitoring can even track data like a patient's eye movement.

4. Parkinson's disease monitoring

   IoT devices promise to make data collection process considerably easier by gathering data on Parkinson's symptoms on a continual basis.

5. Hand hygiene monitoring

   Many hospitals and other health-care facilities utilise Internet of Things (IoT) devices to remind individuals to wash their hands before entering hospital rooms.

6. Medication Dispensers

   Patients can now have devices implanted in their bodies that deliver medication in uniform dosages throughout the day. Patients will be notified when their prescriptions need to be refilled. Missed doses could also be reported to doctors at routine visits.

7. Livestock Monitoring

Owners of large farms utilize wireless IoT applications to track the location, health, and well-being of their cattle. This information helps them to identify sick animals and henceforth separate them from the herd, take care of them, and also curb the spread of the disease among other animals.

8. Monitor Climate Conditions

Crop output is influenced by the climate. Varied crops require different climate conditions to thrive, and a vague knowledge of climate drastically reduces the quantity and quality of crop production. Farmers utilise the data collected by the sensors in the agricultural areas to choose a crop that can grow in specific climatic circumstances.

9. Air Quality Management

Smart cities are also putting in place instruments that can record real-time pollution data and forecast emissions. Being able to properly estimate air pollution allows cities to go to the root of their emissions issues and strategize strategies to reduce the amount of pollution they emit.

10. Traffic Management

Pavement-integrated sensors transmit real-time traffic flow updates to a central traffic control platform, which analyses the data and changes traffic signals to the current traffic condition in seconds.

11. Smart Parking

Cities are also implementing sophisticated parking technologies that detect when a car has departed from a parking spot. Sensors embedded in the ground notify the location of available parking spaces to a car via a smartphone app.

12. Smart Waste Management

A level sensor is installed in the garbage container, and when a particular threshold is achieved, a truck driver's management platform receives a signal via their smartphone. The message notifies to empty a full container, which helps them avoid drains that are half empty.

13. Natural Disaster Management

By studying the constitution of the ground, seismic plate interaction, energy transmission in the ground, and other factors, sensors combined with IoT can be used to predict when earthquakes will occur.

14. Water Management

To improve water management, sensors can be used to monitor water levels, pipe characteristics, tank pressures, and other parameters in municipal water pipes and tanks.

15. Public Transport

When trains and buses are linked through a single app, you know exactly when the next service will come and how long you will have to wait.

16. Smart Grids

Smart grid technology based on the Internet of Things can help utilities handle outages more efficiently. They can utilise the technologies to better understand load distribution and reliability. In addition, the technology can aid in the detection and correction of faults.

17. Smart buildings/smart homes

Property owners are using the power of the IoT to make all kinds of structures smarter, making them more energy efficient, comfortable, and efficient, as well as healthier and even safer.

18. Supply chain management

Low-power sensors, GPS, and other tracking technologies that pinpoint items as they travel along a supply chain have helped to improve supply chain management. Managers can use this information to better prepare and inform stakeholders regarding the location of things being sent or received.

19. Noise Monitoring

Sound surveillance systems in smart cities can measure noise levels, alert enterprises that are over regulations, and assist in noise management.

20. Connected Vehicles

Sensors, as well as AI and analytical capabilities, are improving cars. These sensors communicate with the driver, providing vital information about all other vehicles on the road as well as roadside structures, allowing the driver to take safer or more informed decisions.