



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECT213- IoT SYSTEM ARCHITECTURE

II B.E. ECE / IV SEMESTER

UNIT 1 – BASICS OF IoT

APPLICATIONS OF IoT IN HEALTH CARE DOMAIN



IoT in Health Care



Importance of IoT in health care

- IoT-based healthcare systems collect a variety of patient data and get inputs from doctors and medical professionals.
- All the devices can communicate with each other and take important actions that would provide timely help to save someone's life. After collecting the data, an IoT healthcare device would send this critical information to the cloud so that doctors can act upon it.



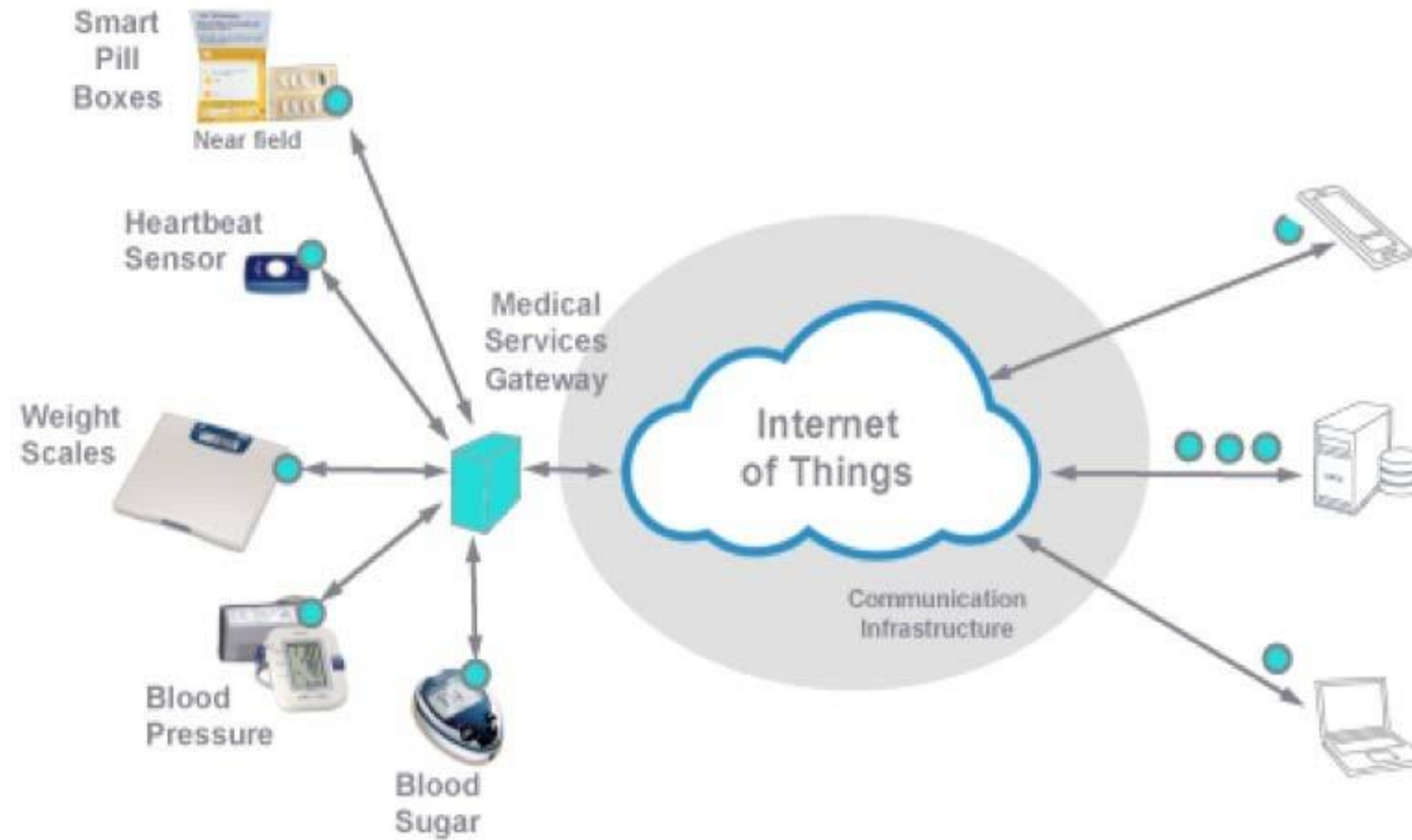
How IoT works in Health care



- A sensor collects data from a patient, doctor or nurse inputs data.
- AI-driven algorithms like Machine Learning (ML) are used to analyze the collected data.
- The device decides whether to act or send the information to the cloud.
- Doctors or health practitioners can make actionable and informed decisions based on the data provided by IoT healthcare solutions.



IoT





Benefits of IoT in Health care



Remote Monitoring: Enables real-time tracking of patients' health metrics outside traditional healthcare settings.

Data-Driven Insights: Facilitates the collection and analysis of large datasets for better decision-making.

Improved Patient Outcomes: Enhances diagnostics, treatment plans, and overall healthcare delivery.



Remote Patient Monitoring

- Remote Patient Monitoring (RPM) involves the continuous monitoring of patients' health using IoT devices.
- These devices allow healthcare professionals to track and analyze patient data without the need for constant physical presence.

Examples of Remote Patient Monitoring Devices

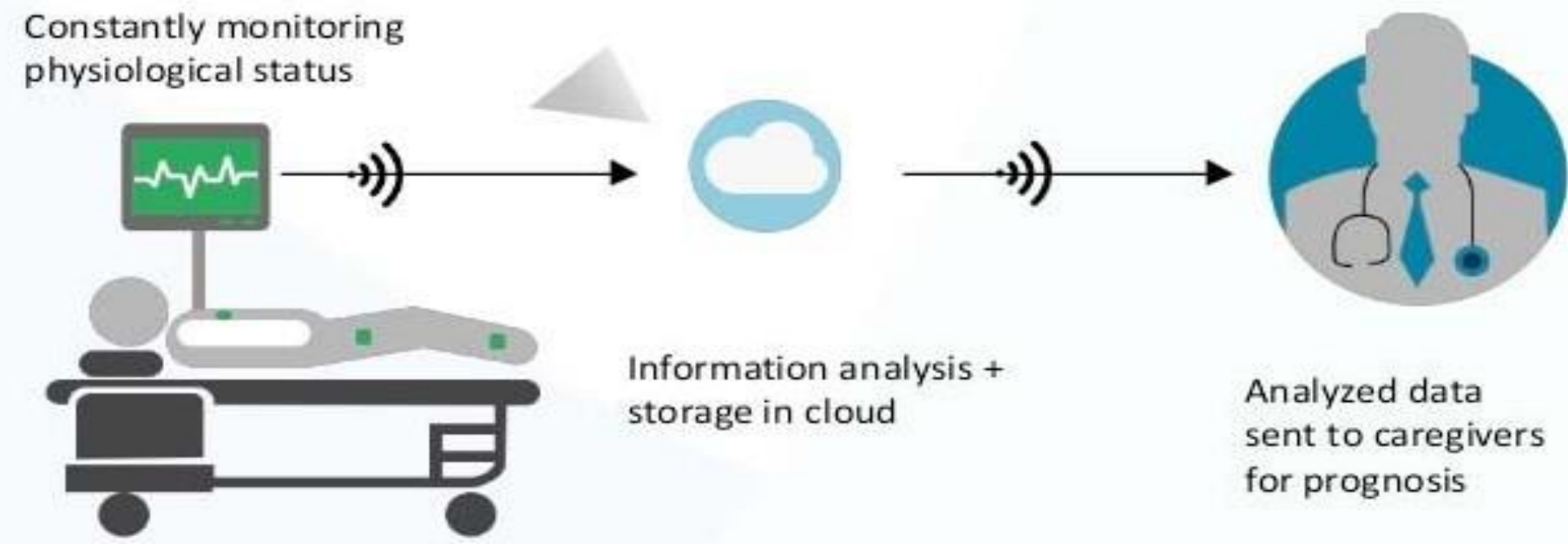
- **Wearable Devices:** Such as smartwatches, fitness trackers, and health monitoring wearables.
- **Smart Sensors:** Embedded in clothing or accessories to monitor vital signs, activity levels, and sleep patterns.
- **Connected Medical Devices:** Devices like glucose meters, inhalers, and ECG monitors equipped with IoT capabilities.



Examples



Clinical Care



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Application of IoT in Agriculture domain



- IoT involves the integration of smart technologies to enhance agricultural practices.
- innovative solutions in agriculture to address challenges like resource optimization, climate change, and increasing global food demand.





Key Benefits of IoT in Agriculture domain



Precision Farming: Targeted and optimized use of resources such as water, fertilizers, and pesticides.

Real-Time Monitoring: Continuous tracking of environmental conditions, crop health, and livestock.

Data-Driven Decision-Making: Utilizing analytics for informed and timely decisions.

Automation: Implementing smart devices for tasks like irrigation, harvesting, and pest control.



Key Benefits of IoT in Agriculture domain



Precision Farming

- Definition: "Precision farming involves using technology to optimize crop yields and reduce waste."
- Examples: GPS-guided tractors, drones for aerial imaging, soil sensors.
- Benefits: Improved resource efficiency, reduced environmental impact.



Key Benefits of IoT in Agriculture domain



Smart Sensors and Monitoring

- Definition: "Smart sensors provide real-time data on various agricultural parameters."
- Examples: Soil moisture sensors, weather stations, crop health sensors.
- Benefits: Enhanced monitoring, early detection of issues, efficient resource management.



Key Benefits of IoT in Agriculture domain



IoT in Livestock Management

- Definition: "Applying IoT for monitoring and managing livestock health and well-being."
- Examples: Wearable devices for tracking, smart feeding systems, automated health monitoring.
- Benefits: Early disease detection, improved breeding practices, optimized feeding.



Key Benefits of IoT in Agriculture domain



Data Analytics in Agriculture

- Definition: "Analyzing agricultural data for actionable insights."
- Examples: Predictive analytics for crop yields, disease forecasting, market trends.
- Benefits: Informed decision-making, optimized crop planning, increased profitability.



Thank you