ENVIRONMENTAL MONITORING USING INTERNET OF THINGS

TOPIC: PROCESSING OF ENVIRONMENTAL MONITORING USING IOT

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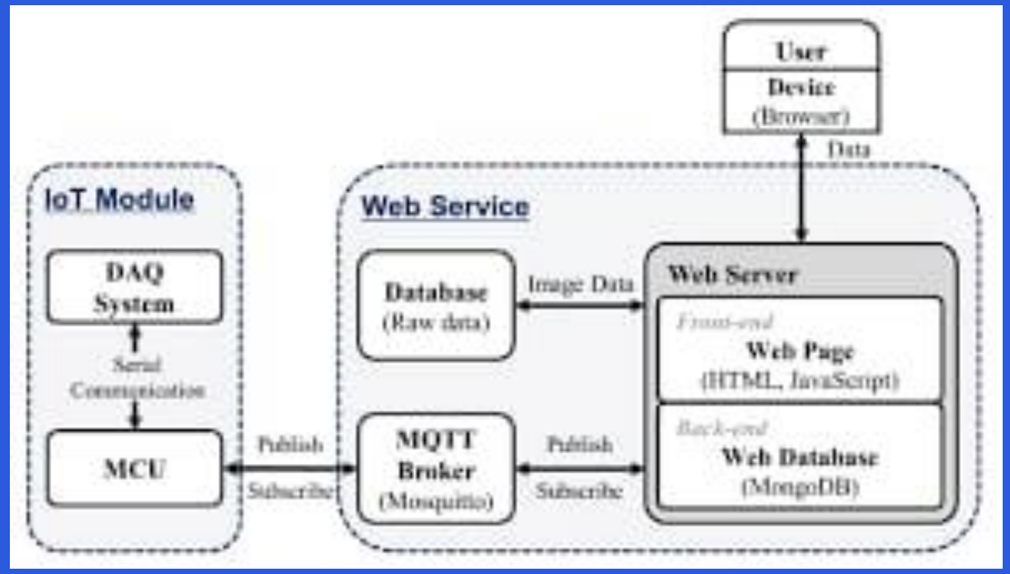
HARDWARE SETUP:

Choose IoT development boards (e.g., Arduino, Raspberry Pi, ESP8266) and sensors (e.g., DHT22, BME280) for temperature and humidity.Connect the sensors to your IoT board.

Software Configuration:
Set up your IoT board with the necessary development environment.Write code to read data from the sensors. You can use libraries and APIs specific to your hardware.



Data Transmission:
Choose a method for data transmission (Wi-Fi, Ethernet, GSM, LoRa, etc.).Send the sensor data to a cloud platform or a local server.

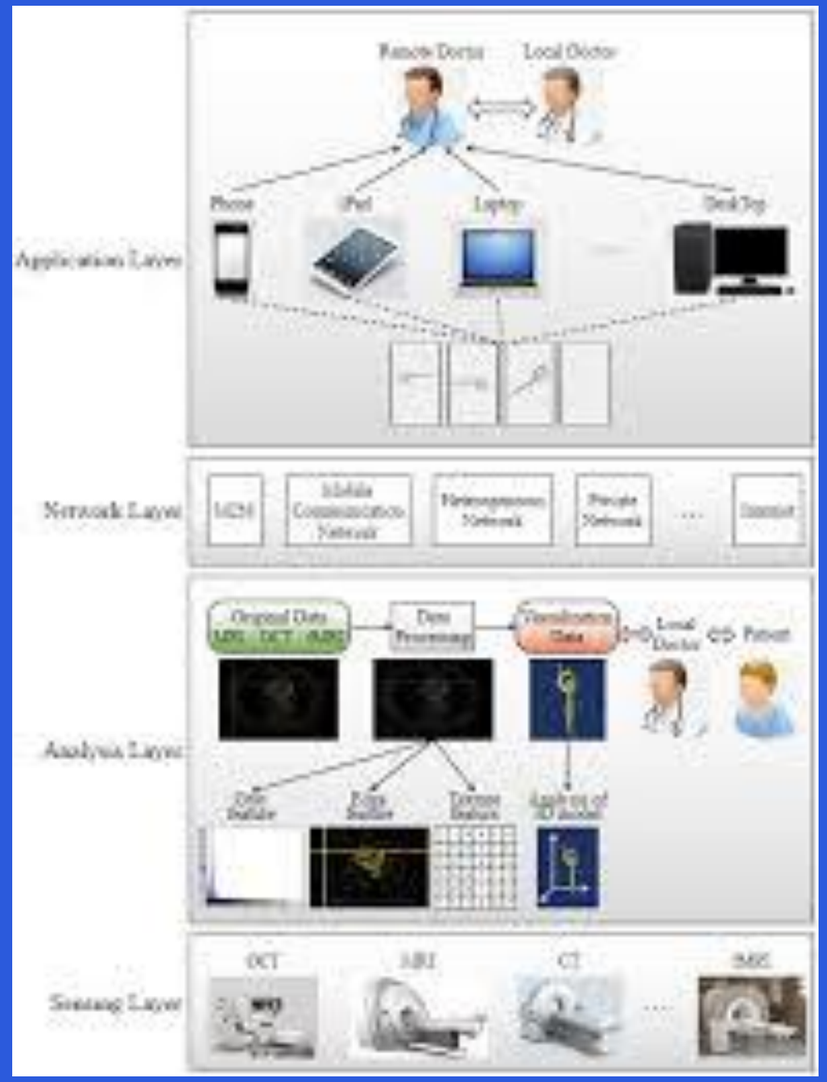
Cloud Platform:

If using a cloud platform like AWS, Azure, or Google Cloud, create an IoT project and set up a database to store sensor data.

Data Storage:
Store incoming sensor data in a structured format in a database or storage system.

Data Processing:
Implement algorithms to process and analyze the data. For example, you can calculate averages, detect anomalies, or trigger alerts based on thresholds.

Visualization:
Create a user interface or dashboard to display the data. You can use web development tools or mobile app development frameworks.



Alerts and Notifications: Set up alerts or notifications for out-of-range conditions, which can be sent via email, SMS, or push notifications.

Security:
Implement security measures to protect data during transmission and storage. Use encryption, access controls, and secure communication protocols.

Power Management:
If your project is battery-powered, optimize power consumption to extend the device’s life.

Testing:
Test your system thoroughly to ensure it accurately collects, transmits, and processes data.

Scaling:
If needed, expand the system to monitor multiple locations or more environmental parameters.

Maintenance:
Regularly maintain and update your project, addressing any issues or security vulnerabilities.

Deployment:
Deploy the IoT devices to the intended locations and monitor their performance.Remember to research and adapt the steps and technologies based on your specific requirements and the IoT platform you choose to work with.


THANK YOU