TITLE:SMART WATER MANAGEMENT

Project Objectives:

- The primary objectives of this smart water management project are to efficiently monitor, conserve, and manage water resources. This involves optimizing water distribution, identifying leaks, and ensuring water quality.

IoT Device Setup:

Water Quality Sensors:

- These IoT devices are deployed at various points in the water distribution network to monitor water quality parameters like pH, turbidity, and chlorine levels.

Flow Sensors:

- Flow sensors are installed in pipelines to measure water flow rates, enabling real-time monitoring and detection of anomalies.

- Pressure Sensors: Pressure sensors are used to monitor water pressure in the network, helping to identify issues such as leaks or excessive pressure.

Leak Detection Sensors:

- These sensors can detect leaks by analyzing the pressure and flow data. When a potential leak is detected, the system can send alerts for immediate intervention.

- Platform Development: The project's platform development involves building a central system that collects and processes data from IoT devices. This platform typically includes the following components:

- Data Collection: IoT devices send data to a central server or cloud platform. Data is collected and stored in a database.

Data Analysis:

- Algorithms and machine learning models are used to analyze the data for anomalies, such as leaks or changes in water quality.

User Interface:

- A user-friendly dashboard or web application allows water management personnel to visualize real-time data, receive alerts, and make informed decisions.

Alerting System:

- When issues are detected, the platform can send alerts through email, SMS, or mobile apps to relevant personnel for quick response.

Code Implementation:

- Code implementation involves writing software for data collection, analysis, and user interface. It may include:

- Code to interface with IoT devices, collect data, and transmit it to the platform.

- Data processing and analysis algorithms for leak detection and water quality assessment.

- Development of a responsive and interactive web-based dashboard for users to access and interact with the data.

Screenshot of IoT device :
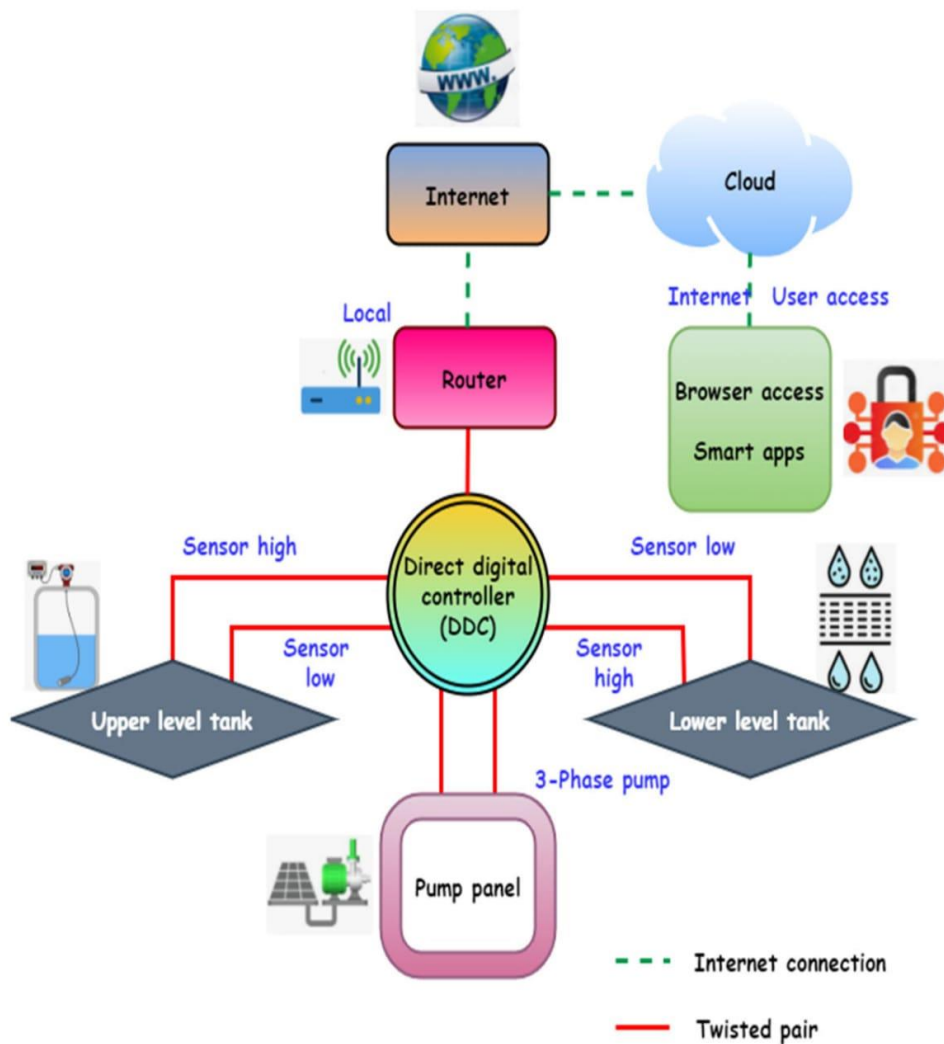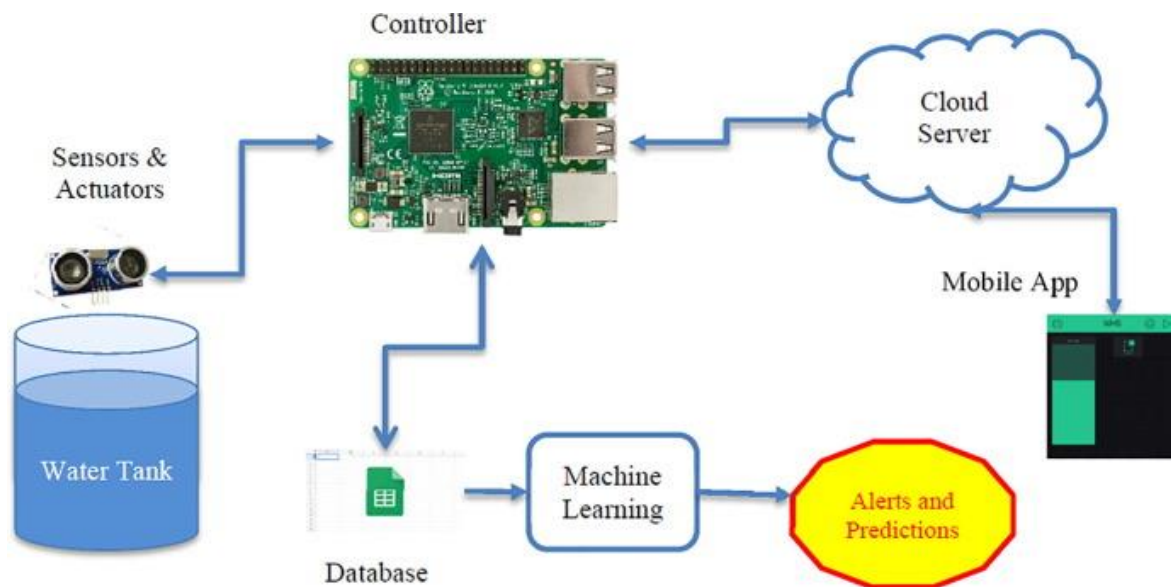
Screenshot of device sharing platform: