SMART WATER MANAGEMENT SYSTEM BASED ON IOT

DEVELOPMENT OF SMART WATER :

1. **Improve water quality**
2. **Implement leakage control**
3. **Reduce wasting water**
4. **Transparency.**

IMPROVE WATER QUALITY :

IoT sensors are used to measure various parameters of water quality, such as pH, temperature, dissolved oxygen, and the presence of chemicals and microorganisms. These sensors can be placed in rivers, lakes, and other bodies of water, and they can transmit data in real-time to a central monitoring system.

IMPLEMENT LEAKAGE CONTROL :

Leakage control work involves the following major steps: Preparatory work: updating maps, databases of consumer connections, residing population, water mains, valves and fire hydrants etc.; planning of activities. Test for loss assessment and locating the defects (leak detection).

REDUCE WASTEING WATER :

The development of smart techniques requires technology use in the water systems as well as its implementations. Smart water systems are used to improve the situation of many networks characterized by degraded infrastructure, irregular supplies, and low levels of customer satisfaction or substantial deviations of the proportional bills to real consumption. A smart water system can lead to more sustainable water services, reducing financial losses, enabling innovative business models to serve the urban and rural population better

TRANSPARENCY :

IoT technologies which are designed to increase transparency, and make more reasonable and sustainable usage of these water resources.

PYTHON SCRIPT :

```
# Import necessary libraries

Import time

Import random
```

```python
Import requests

# Simulated sensor data for water level
Def get_water_level():
    Return random.uniform(0, 100)

# Function to send data to a server
Def send_data_to_server(data):
    Server_url = http://example.com/api/water-level
    Response = requests.post(server_url, json={"water_level": data})
    If response.status_code == 200:
        Print("Data sent successfully!")
    Else:
        Print("Failed to send data. Status code:", response.status_code)

# Main function for smart water management
Def main():
    Try:
        While True:
            # Read water level data from sensors
            Water_level = get_water_level()
            Print("Water Level:", water_level)

            # Send data to the server
            Send_data_to_server(water_level)

            # Wait for a specified interval (e.g., 1 hour)
            Time.sleep(3600)  # 3600 seconds = 1 hour
```

```
Except KeyboardInterrupt:
    Print("Smart water management system stopped.")

# Run the main function
If __name__ == "__main__":
    Main()
```

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