Smart water systems

Project Definition and Design Thinking

Project Definition:

The project involves implementing IoT sensors to monitor water consumption in public places such as parks and gardens. The objective is to promote water conservation by making real-time water consumption data publicly available. This project includes defining objectives, designing the IoT sensor system, developing the data-sharing platform, and integrating them using IoT technology and Python.

Design Thinking:

1. Project Objectives: Define objectives such as real-time water consumption monitoring, public awareness, water conservation, and sustainable resource management.
2. IoT Sensor Design: Plan the design and deployment of IoT sensors to monitor water consumption in public places.
3. Real-Time Transit Information Platform: Design a mobile app interface that displays real-time parking availability to users.
4. Integration Approach: Determine how IoT sensors will send data to the data-sharing platform.

Real-World Example: Smart Irrigation of City Parks

Cartagena, a city in Columbia, has smart irrigation in its municipal parks and gardens. The solution calculates the amount of water each area needs depending on the state of the soil, weather forecast, and irrigation calendar. If something goes wrong, such as a leak, the authorities are alerted right away and they're even shown the location.

Main benefits

- Better transparency in water management
- Fewer incidents
- Enhanced control over the water supply
- Saved city budget

Water waste and disrupted water supply chains are a drain on the city's budget. IoT can help you watch the health of water equipment and detect problems, like leaks in pipes. This allows operators to receive alerts and start fixing issues immediately. In the meantime, AI predictions allow you to nip problems in the bud by preventing failures before they cause severe incidents. With AI, city administrators can also watch the watershed and predict which areas are likely to flood, information that will help local authorities warn residents, manage traffic, and keep the city on its feet.