SMART WATER MANAGEMENT IN IoT

Here are some innovative ideas for smart water management:

1.Device control: Water management devices are water meters which at once provide accurate data on water flow and water consumption levels and can be programmed to control water use at household or business level.

2.Pipeline monitoring: pH, temperature, turbidity, dissolved oxygen and conductivity. The system ensures to prevent any health hazards or potential threats caused due to accidental seepage of sewage or farm release into the portable water. An online monitoring system is to provide these data on the cloud in real-time.

3.Leakage detection: Locate your water meter and check the leak indicator to see if it is moving. Depending on the brand of your meter, the leak indicator could be a small triangular shaped dial or a small silver wheel that rotates when water is flowing through the meter. If the dial is moving, chances are, you have a leak.

4.Level Control: Water Level Management is the close management of water levels in watercourses and underground for the purpose of reducing the risk from flooding and for the sustaining of land uses and the environment.

Device Control   Pipeline monitoring   Leakage detection   Level Control

Smart Water Management Using IoT System

Problem Statement:

Water scarcity is a major issue worldwide as 2.2 billion people lack safe drinking water. Overpopulation, climate change, poor water management practices, and pollution the problem. This content will examine the consequences of water supply issues and offer solutions to tackle this urgent matter.

Understanding the Problem:

Because of population growth, rapid urbanization, and climate change, many water supply utilities globally struggle to provide water that is safe to drink.

A particular problem is the aging of the water supply facilities, which is exacerbated by their inefficient operation and maintenance (O&M).

For this reason, many water utilities have recently been actively adopting intelligent and integrated water supply O&M solutions that utilize information and communication technology, the Internet of Things, big data, and artificial intelligence to solve water supply system problems.

In this study, smart water solutions (GSWaterS) were implemented to enhance the efficiency of the water supply system in the city of Aracatuba, Brazil.

They were used to monitor and analyze the operating conditions of the water supply system in real time, thus allowing for the effective management of water supply assets.

Design:

1.Desalination:

It involves removing salt and other minerals from seawater or brackish water to produce freshwater.

It is useful in coastal areas with scarce freshwater resources, but high costs and energy consumption can limit its implementation.

2.Water Conservation:

Conserving water is an effective solution to water supply issues, especially where resources are scarce.

This involves using water efficiently by fixing leaks, adopting water-efficient appliances, and changing behavior to reduce waste.

Water conservation is a cost-effective and sustainable solution that can help extend the lifespa of existing water resources.
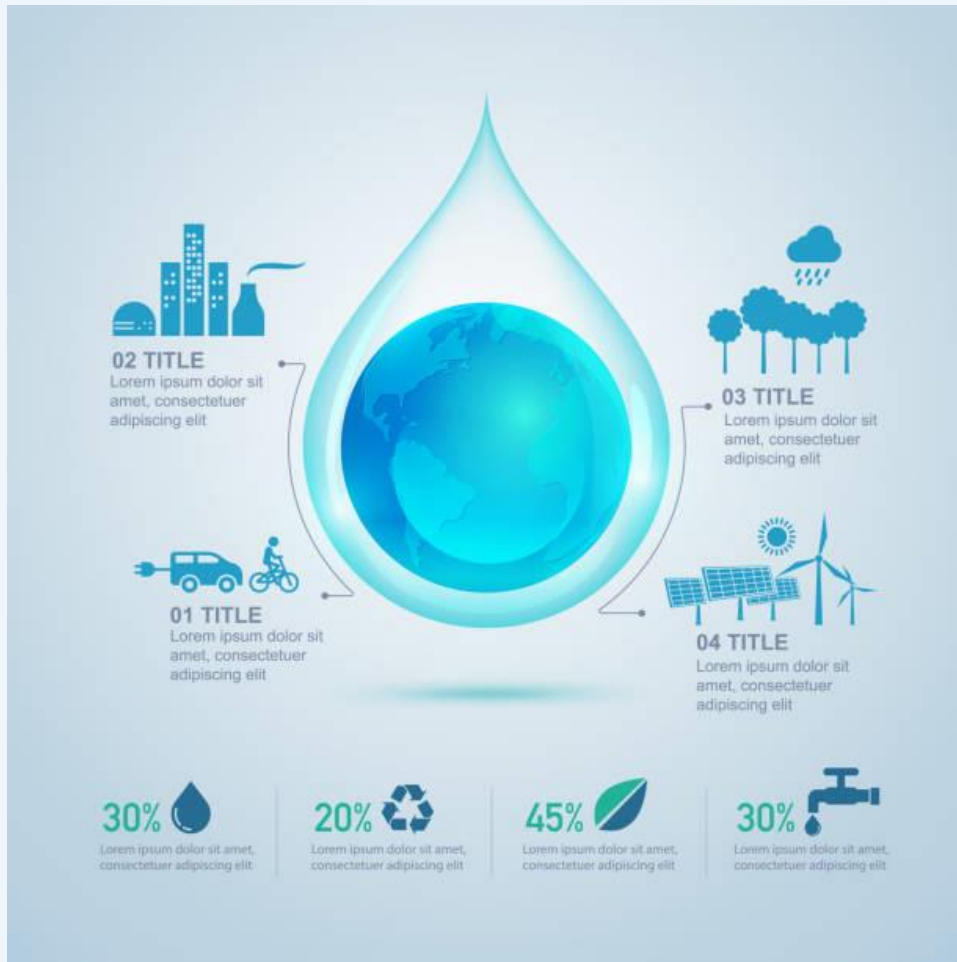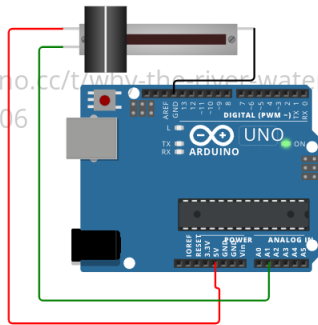
IoT technologies transform water management, promote efficiency, reduce waste, and contribute to a more sustainable and resilient water future.

```
// waterlevel
// https://forum.arduino.cc/t/why-the-river-water-level-has-reach-50-se
// to be deleted 2023-06


#define trigPin1 A0
#define echoPin1 A1


long duration, distance;
```