Web-Based Water Monitoring System

SMART CITY PROJECT IDEA

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Objective

With our natural resources being reduced day by day, our aim is to build simple automation devices that can help reduce the wastage of natural resources with the help of IoT. Conserving water has now become a technology use case as there is a need to act on it. Cities with less access to potable water are struggling either due to low supply or wastage due to overflow. The web-based Water monitoring system can be used to prevent wastage of water.

Requirements

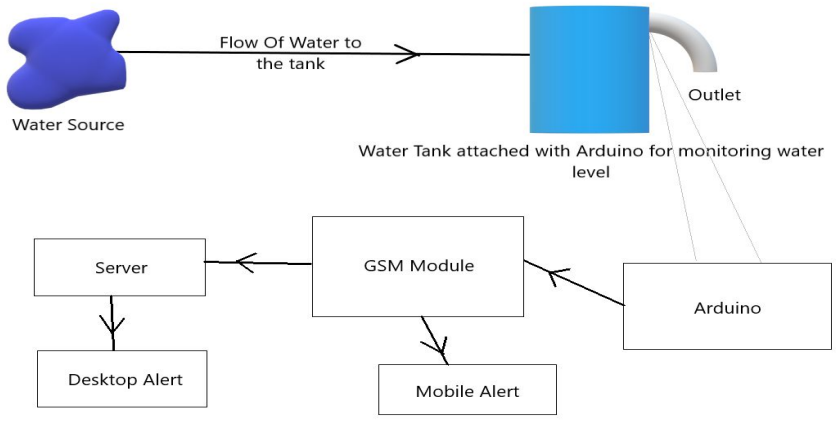
The components required are:

- AVR family microcontroller
- LCD screen
- Wifi modem
- A buzzer
- 12V transformer

Architecture

Water Monitoring System is an IOT based Liquid Level Monitoring system that has mechanisms to keep the user alerted in case of liquid overflow or when tank depletes.

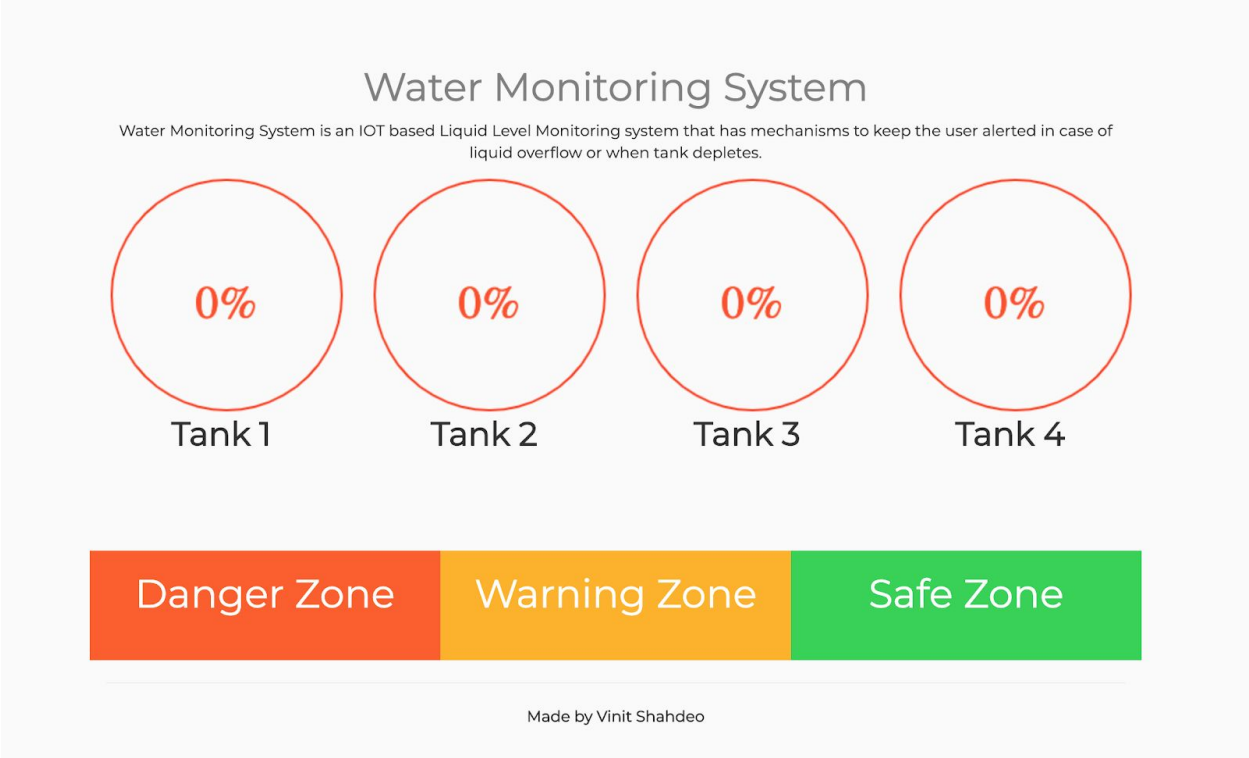
The water tanks can be fixed with ultrasonic sensors that is placed over the container. The ultrasonic sensor is used to measure, compare container depth and liquid level.



Implementation

The status of the system could be monitored by an LCD screen or a web page that provides a brilliant graphical representation. Colours are used to depict various scenarios with respect to the amount of liquid in the tanks or containers and the buzzer buzzes when the limit exceeds the permissible quantity of fill.

Screenshots



Future Scope

In future, the proposed system can be used to monitor and analyze water usage of the specific water source thus require developing such logic for the application. The system can also be used to collect and study the environmental data of water source and its surrounding area by integrating other sensors to the system.

- Power conservation.

- Automatic on/off switching operation.
- Wireless Communication.
- Can be implemented on any water source.
- Accuracy.
- Mobile Access

Conclusion

The conclusion is to develop a system which will conserve the water and prevent overflow of water from water tanks. This system will help those people who are unable to by providing them with water.

Concluding the proposed IoT based water monitoring system will be helpful to collect, analyze and predict the water conservation at a particular location in real-time remotely