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Water Monitoring System for Checking Water Quality and the Consumption

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ABSTRACT

This paper aims to designing water monitoring system for checking quality and the consumption of water. It mainly includes two parts: Water Quality and the Consumption. The objective of this is to ensure amount of water consumed by the consumer. And it also focuses on checking the quality of water. In this prepaid billing system is introduced, in which consumer need to pay before water consumption. Water Quality meter checks the purity of portable water that the consumer receives, by measuring qualitative parameters of water viz. pH, temperature, turbidity.

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I. INTRODUCTION

Anthropocentrically, Fresh water is a one of the predominant resource for the survival of our lives. Witnessed as less than 1% of the world's water is freshwater and available for lives to consume. Population growth increasing at tremendous rate, the human community has begun to face the rage of water scarcity. Bio centrically, other species lean on freshwater besides humans as a vital component to their survival. One of the most essential natural resource that has been gifted to the mankind is water. But the rapid development of the society and many human activities exceeded the contamination and deteriorated the water resources. For above water quality monitoring is necessary to identify any changes in water quality parameters from time-to-time to make sure its safety in real time.

II. PROPOSED SYSTEM

The water quality parameters viz. pH, turbidity which checks the purity of drinking water that the consumer receives. It measures two qualitative parameters of water to determine its portability. The parameters that are considered by this system are pH and turbidity. These quality parameter values are compared with standard limits for drinking water which are already set. The standard value range for portable drinking water for pH is 6.5 to 8.5 and for turbidity is 6.0 to 10.0(NTU).

Water quality Standard Value	**Parameter Range (unit)**
pH	6.5 - 8.5
Turbidity	6.0 - 10.0 (NTU)

Implementation:-

Algorithm:-

1. User have to login through the web application.
2. Then one unique user ID will get generated for each user.
3. This is a prepaid billing system, so user have to pay the money for the required amount of water.
4. Each user can be able to consume for the paid amount of water only.
5. After that the water supply will get terminated automatically.

6. Water quality will get checked at each water tank present under the Manager. Manager is able to see all the quality values of the water.

7. Admin is the one who is having the authority to see all the water tank values present for that city. Admin is having the privilege to add the manager.

8. User can also see the quality values and their graphical view.

9. All the users with their paid amounts will get stored into the database.

Fig.1 Consumer Details

Every consumer details are stored with sensor values in database. Authority as well as the consumer are able to see the consumed water details, sensor values, and personal details. The water monitoring system for checking water quality and consumption is successfully implemented.

Fig 2 Quality Values

The graph will get generated according to sensor values of turbidity and pH for every consumer.
Every time the graph will get updated according to sensor input.

Fig 3. Payment window

The payment window shows card details to fill and make the payment according to the consumer need. After paying the money automatically water supply will get started.

III. CONCLUSION

The measures like quality and quantity aims to bringing down the unnecessary usage of water and prohibition of health providence caused due to consumption of defiled water. In the prepaid billing system, the consumer should pay the bill before water supply get started. It will help to authority for collecting payments on time from consumers. The pH sensor and turbidity sensor having qualitative parameters of water to determine its portability.

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