WATER QUALITY MONITORING SYSTEM AND METHOD

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Abstract

The proposed water quality monitoring system, comprising a user interface installed in the system for showing data regarding water bodies available in different part of a country, a data selection module for selecting out other provided services, a data storage module, and an alerting module, and a method for monitoring quality of the water, comprising the steps of; initially requesting to access the data regarding water bodies available in the country by the user, allowing the user to access the data about the water bodies, creating an account of the user by inputting the authentication information of the user and verifying the information so as to access the other available services, entering a query, processing the same query and later displaying the data on the user interface.

Keywords: water, user, service, information, access, monitoring.

1. Introduction

2. Water is considered as a one of the most important basic necessity for the survival of life. As the rate of population is increasing day by day simultaneously the consumption of water is also increasing on the same scale. As it is known that 70 % of earth surface is covered with water, only 2.5 % of water is available as fresh water. The rest of the water is saline and ocean based. From 2.5 % of fresh water only 1% is easily available, as rest of it is trapped in glaciers and snowfields. Water conservation systems are designed to sustainably manage natural resource of fresh water so as to protect the hydrosphere and also reserve water for present and future generation. Conventionally, the water quality monitoring system consists of analog sensors in addition to discrete sensors. The analog sensors are capable of providing precise readings of few variables, such as flow rate, pump status, water levels and temperature etc. It do not alerts the user regarding any abnormality in quality of water so that user can avoid the consumption of waste water. In order to minimize the above problems there is need to develop a system which is economical and reliable to analyzes the real time quality of water of different water bodes and alerts the users regarding the quality of water. It also reduces the chance of water pollution.

3. Experiment

The proposed system and method for monitoring the quality of water, thereby lowering the pollution level of water and also alerting people regarding irregularities observed in quality of water in their locality [1][2]. The user interface used herein is preferably a mobile phone of the user. The registration module is connected to the user interface that inputs authentication information of the user, wherein the authentication information is preferably an email address and password of the user [3]. The data selection module is attached to the registration module that selects the services, such as writing and reading of blogs, providing suggestion regarding any queries to the already existed users, and for a data view regarding the water bodies. The communication module is connected to the selection module that transfers current information of quality of water present in the water bodies of the specific area on a database [4]. The data storage module is connected to the communication module that reserves the collected data, such as quality of water of specific water bodies, climatic conditions, and measures to minimize the pollution level of the water [5]. The alerting module is connected to the data storage module that provides an alert notification on the user interface regarding any abnormality in quality of fresh water, wherein the water used herein is preferably water [6]. The method for monitoring quality of water is illustrated herein. The method comprising the steps of; firstly, the user is supposed to place a request to access the data about the water bodies present in different portion of the country [7]. Secondly, the user is allowed to access the data about the water bodies available in the country by showing the statics of the water bodies on the user interface [8]. Thirdly, an account of the user is created by inputting the authentication information of the user, such as an email address and password, and later the entered information is verified so as to allow the user to access the other provided services. Fourthly, the user entered the query in order to access the statics of the specific area, later the entered query is processed and finally the solution of entered query is displayed on the user interface.

4. Result and Conclusion

The system is assembled to minimize global warming which occurs due to increasing of carbon dioxide level in the air. It circulates awareness behind the society regarding the provinces of water management. The system is economical, user-friendly and environment friendly in nature. It also helps in determining the climatic conditions and resource consumption in specific area.

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Reference

[1] O. Thomas, I. Delpla, and M. F. Thomas, “Drinking Water,” in *UV-Visible Spectrophotometry of Water and Wastewater*, 2017.

[2] A. N. Prasad, K. A. Mamun, F. R. Islam, and H. Haqva, “Smart water quality monitoring system,” in *2015 2nd Asia-Pacific World Congress on Computer Science and Engineering, APWC on CSE 2015*, 2016.

[3] N. Vijayakumar and R. Ramya, “The real time monitoring of water quality in IoT environment,” in *ICIIECS 2015 - 2015 IEEE International Conference on Innovations in Information, Embedded and Communication Systems*, 2015.

[4] S. Behmel, M. Damour, R. Ludwig, and M. J. Rodriguez, “Water quality monitoring strategies — A review and future perspectives,” *Sci. Total Environ.*, 2016.

[5] M. Karydis and D. Kitsiou, “Marine water quality monitoring: A review,” *Marine Pollution Bulletin*. 2013.

[6] Y. Chen and D. Han, “Water quality monitoring in smart city: A pilot project,” *Autom. Constr.*, 2018.

[7] B. (Bosnia and H. Vicanović, J. (Agency for Water of the Sava River District and B. (Bosnia and H. Blagojević, B. (Agency for Water of the Sava River District, “Water quality monitoring in the Drina River Basin,” in *Zbornik radova: Edukacija i podizanje javne svesti o životnoj sredini i upravljanju vodnim resursima u prekograničnoj oblasti rečnog sliva Drine u Republici Srbiji i BiH / Proceedings: Environmental Education and Public Awareness Raising of Water Manageme*, 2013, pp. 25–28.

[8] S. R, S. V.P, S. E, and J. B, “Real Time Water Monitoring System using IoT,” *IJARCCE*, vol. 6, no. 3, pp. 378–380, 2017.