AUTOMATIC EVALUATING OF WATER QUALITY BASED ON HIGH SPEED NETWORKING

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***ABSTRACT*-We propose a system which worked on the basis of high speed networking .Which is very useful in the detection of usage of waste water or the disposal of waste water into the marine or fresh water system by an industry .It is an automatic system which works has two sensor unit and an control unit, a can bus unit and a monitoring unit. The monitoring also includes GSM module system which send an text information to the monitoring unit connected through mobile. So this system is very useful for the balance of our ecosystem and hence it is an ecofriendly system and is very useful for our developing world.**

I.INTRODUCTION

The usage of waste water by an industry or the disposal of waste water into the marine or fresh water system is causing a major problem in our country. So to overcome from this problem we have proposed an automatic evaluating of water quality through high speed networking .This system automatically detectsthe usage of waste water or disposal of waste water and sends the information to the control unit through can bus that which industry is using or disposing the waste water

.II.EXISTING SYSTEM

The traditional method of water quality testing is to collect samples manually and then send them to laboratory for investigation. However it has been unable to meet the demands of water quality monitoring today .For that we need to appoint staffs to follow the industrial activities and also that not good method due to the absence of relaibilty.

III. PROPOSED SYSTEM

In our system each and every individual water meter is been grouped by an individual network called CONTROLLER ARAE NETWORK (CAN) bus. It is a two wire serial communication protocol in which N number of nodes can be connected to form a network .In this system it will calculate the amount of water consumed by the industries in that locality separately and inform the water supplying system.

IV.LITERATURE SURVEY

TITLE-1:-ANALYSIS OF SEVERAL WATER QUALITY INDICATORS IN INDUSTRIAL EFLLUENT.

AUTHOR:-LIU YAN.

ABSTRACT:- The traditional method of water quality testing isto collect samples manually and then send them to laboratory for investigation. However, it has been unable to meet the demands of water quality monitoring today. So a set of automatic measurement and reporting system of water quality has been developed. The system consists of several sensors of water quality testing, single-chip microcontroller data acquisition module, information transmission module, monitoring center and other accessories. Various parameters of impure water are automatically detected under the control of single chip microcontroller all day. The single chip gets the data, and then processes and analyzes them. After that, the data are instantaneously sent to monitoring center by GSM network in the form of short messaging service. If the water quality is abnormal, the data will be sent to monitoring center and management's mobile in the same way at the same time. It is convenient for management to take corresponding measures timely and be able to detect real-time situation of water quality remotely. The system has realized the automation of water quality monitoring, intelligence of data analyzing and networking of information transferring. It is characterized by advantages of shortcut, accuracy and using manpower and material resources sparingly. The system has widespread application value and can be extended and transplanted to other fields of automatic monitoring where needed.Keywords-Water Quality Monitoring; Measurement and Reporting; Sensors; SMS; Remote

TITLE-2:-SENSORS APPLICATION TO ENVIRONMENTAL MONITORING

AUTHOR:-SUN XIAODONG

ABSTRACT:- With the rapid development of the austerity, more and more major problems of environment . Water pollution is one of the major problems. Routinely monitored parameters of water quality are temperature, ph, turbidity, conductivity, dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD),ammonia nitrogen, nitrate nitrite,phosphate, various metal ions and so on. The most common method to detect these parameters is to collect samples manually and then send them to laboratory for detecting and analyzing. This method wastes too much manpower and material resource,and has the limitations of the samples collecting,long-time analyzing, the aging of experiment equipment and other issues. Sensor is an ideal detecting device to solve these problems. It can convert non-power information into electrical signals. It can easily transfer,process, transform and control signals, and has many special advantages such as good selectivity, high sensitivity, fast response speed and so on. According to these characteristics and advantages of sensors, automatic measurement and reporting system of water quality is designed and developed. It bases on SMS (Short Messaging Service) in the GSM (Global System for Mobile Communications) network to instantaneously transfer the collected data. It also can remotely monitor the water quality on line. The system implements automation, intelligence and network of water quality monitoring, and uses manpower, material and financial resources sparingly.

TITLE-3;-A SENSORS IN THE APPLICATION OF WATER QUALITY MONITORING.

AUTHOR:-ZHOU NA,ZHU YANTAO

ABSTRACT:- SYSTEM HARDWARE ARCHITECTURE A. Overall Design of the System As figure 1 shows, the system consists of multiple water detection sensors, single-chip microcontroller data acquisition module, information transmission module, monitoring center and other accessories. Temperature sensor used in this system directly converts the temperature signal into digital signal. Other water quality sensors transform the detected chemical signals into electrical signals, amplified by the signal conditioning circuit. The multiplexers select one road signal and send to analog to digital converter. Then it is converted into a digital signal. Single-chip reads and processes the digital information. It also controls the GSM module sending the collected data to the monitoring center in the form of SMS by GSM network instantaneously. Monitoring center receives the data and then analyzes, classifies, saves them and draws corresponding graphs. That can instantaneously monitor and alarm the situation of water quality. If the water quality is abnormal, single-chip will control the GSM module to send data to the monitoring center in the form of short message. The alarm in the monitoring center is activated. At the same time, the data are sent to management mobile phone in this way. It is easy for management to take corresponding measures immediately.When needed, management can also send orders in the form of SMS to GSM module of data collection terminal.GSM module communicates with the single chip. Then the single chip gets the data, and controls the GSM module to send the data to the manger's phones. The system can do all-weather real-time monitor to water temperature, ph, conductivity, turbidity, dissolved oxygen and other water-quality guideline. The design is beneficial for management to know the real-time water quality information, and make man-machine interaction with the system by mobile.Figure 1. The framework of the system structure

TITLE-4:- CRACKING GSM NETWORK SECURITY

AUTHOR:- GOLD STEVE

ABSTRACT :- Information transmission module is a GSM module. GSM module uses SIMENS TC35, and its physical map is shown in Figure 4. GSM module mainly consists of GSM baseband processor, GSM RF, power, Flash, antennas and antenna jack. The module provides standar AT command interface for users, and its working voltage is between 3.3V and 5.5V and power consumption is lower. What is more, it can transfer data and voice safely and fast at frequency bandwidth of 900MHZ and 1800MHZ. There are three SMS modes that the GSM supports: Block Mode'Text Mode and PDU Mode. The Text Mode sustains numbers and characters. The system mainly transmits the digital messages, so Text Mode is chosen t plied. GSM module uses standard AT commands, and communicates with the signal chip by UART.

TITLE-5:-THE APPLICATION OF GSM MODULE IN SMART HOME SYSTEM.

AUTHOR:-WANG YOUSHUN,LV YANG.

ABSTRACT;- Design of Single-chip Microcontroller Data Acquisition Module The construction of single chip data acquisition module. The signals collected by sensors of water quality monitoring need to be amplified because the output of them is in millivolt or milliampere. Then CD4051 multiple-way switch selects and sends a signal to A/D converter. It converts analog signals into digital signals that the single chip can read. CD4051 is a single 8-channel digital control of analog electronic

switch with low on-resistance and low cut-off leakage current. Single chip collects and sends the data to GSM module by serial communication interface. Meanwhile, it reads and processes the commands which feed back from monitoring center and administrators. Lithium cell and solar battery are combined as power supplier. So the system can continuously work about 100 hours on cloudy days and 30 days on sunny conditions. In order to ensure the time accuracy of collecting, sending data and saving SCM internal resources, and be easy to find out the appearing time of abnormal data, the single chip adds a SMS transmitting and receiving, etc. Different timing corresponds to different A/D sampling rate. Single chip reads the data after A/D converting. Then it uses AT commands to control GSM module which sends the data by GSM network in the form of SMS to GMS module in the monitoring center.Meanwhile, single-chip compares the read data with standard parameters. If the data is beyond the standard range of water quality parameters, single chip sends data to GSM module in monitoring center and management's mobile in the form of SMS. So it is convenient for management to take corresponding measures timely.B. Software Design of Monitoring Center Software program of monitoring center mainly includes such functions: MT mobile terminated, databank,alarm, data collation, mapping curve, etc. Monitoring center PC communicates with GSM module by UART.Upper machine reads SMS data received by GSM, and then sorts out and puts them into a database, so it is easy for managements to manage and perform a backup.Meanwhile, the data is plotted to curve and displayed on PC interface. As the SIM card in GSM module can store limited SMS data, it must delete the SMS timely after upper machine has read SMS. When the received data is abnormal, alarm indicator will be displayed on computer screen in the monitoring center, at the same time, the alarm of monitoring center will be switched on.

V.IMPLEMENTATION

HARDWARE AND SOFTWARE SPECIFICATIONS

HARDWARE SPECIFICATION

- PIC16F87AMicrocontroller
- PIC16F876AMicrocontroller
- PhElectrod
- Water Quality Sensor
- GSM Modem

SOFTWARE SPECIFICATIONS :

- Hi-Tech Compiler
- MPLABE IDE
- C- language

VI.CONCLUSION

The paper provides the effective way to control the usage of waste water or disposal of waste water to the marine or fresh water system.Hence this system provides an effective way to control the usage and disposal of waste water.

In our approach we design a system works on high speed networking and through which N number of nodes can be connected that is industries networkto maintain the environment clean and will not efect the ecosystem.

VII.REFERENCES

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