MUNCIPAL CORPORATION WATER MANGEMENT SYSTEM

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ABSTRACT

Access to safe water is basic requirement of the every human being. Taking to the status of Indian rivers a huge contamination is present in the water. Hence study of the water quality is really important in order to ensure the safety. This project proposes the system for water management as well as pure water identification. Project proposes the water management system in which water quantity and quality will get controlled. An automatic inlet and outlet control of water tank will be done with the sensors for atomization of the system.

KEYWORDS: - *LPC 2138, ATmega 16A, Water level sensor, Water flow sensor, turbidity sensor, Ph sensor.*

I. INTRODUCTION:-

The proposed system will get attached with the water tank along with the sensors. With the help of these sensors water tank inlet and outlet will also Out of the earth surface almost 71% surface is covered with water. Only 3% of water can be used as drinking water or fresh water and 97% water is sea water which cannot be used by human. Tremendous population growth causes insufficient and uneven distribution of drinking water [1]. Measurement of the used water and to provide specific amount of water may reduce its wastage in the society.

Previously some traditional methods were used such as mechanical meters in which water flow drives mechanical gears, these mechanical gears drives moving arrow pointer on the water meter scale. Problem with these meters is it needs to be read in customer premises, which is a time consuming process. Today's technological development allows mechanical meters to overcome by electronic meters. Measuring the water quantity can make a pressure to reduce the wastage of water.

Water management is one of the most important aspects of any town management system [2]. It is a crucial aspect as now water resources are very limited and nobody can afford this wastage [3]. This project deals about the automation in the water quality and quantity with technical advancements. Normally, water parameters are detected

by chemical test or laboratory test, where the testing equipments are stationary and samples need to be provided to testing equipments. This monitoring system is a manual system is very time consuming.

Water pollution is biggest fear for the green globalization [4]. In daily life people are not known that how much water is pure due to which they may get affected by diseases such as jaundice, stomach disorders etc [5]. Hence this project designs a system in which we are going to identify the quality of water and also the quantity of water is measured.

Water is important part of human life. The water quality monitoring is the essential need for the human life. But today we face many problems related to water supply, quality of water, schedule of water. Some following problems we face in day to day human life.

- Now a day, timing of water supply is irregular.
- Water is contaminated.
- PH of water cannot be recognized with eyes.
- There is wastage of water.
- Hence, in this project we are going to test the purity, quantity of water, scheduling of water supply and pH of water.

The primary objective of the present work is to study various parameters for water quality monitoring. The proposed system is developed to measure the quantity of water flowing from water tank. This system also helps to measure the quantity of water ,the quality of the water such as PH, Turbidity, water level in the tank and make the system automatic as per the schedule of the water supply depending on the area.

II. PROPOSED SYSTEM MODEL

The main aim here is to develop a system for continuous monitoring of water using sensor with low power consumption, low cost and high detection accuracy. In municipal corporation water management system multiple sensors such as ph, turbidity, water flow, water level sensor connected to controller for monitoring water in the tank. PH,flow of water, turbidity, water level, etc are the parameters that are analyzed to improve the water system.

The sensing elements used to get water parameters from the tank. The ARM controller controls entire process, such as collecting data from sensors, transmitting intelligently and make some preprocessing work for data collection.

Water level sensor (magnetic float sensor) like on / off switch which helps to sense the level of water present in the overhead tank or PH is an important limiting chemical factor for aquatic life. A solution with a pH less than 7 has more H+ activity than OH-, and is considered acidic. Turbidity sensor (TSD-10 Module) is use detect and measure the suspended particles i.e. turbidity in water, due to this it will effect on Fields, living organism. Water flow sensor measure the quantity of water i.e. how much water is flow from tank and how much water is reach at home or society.
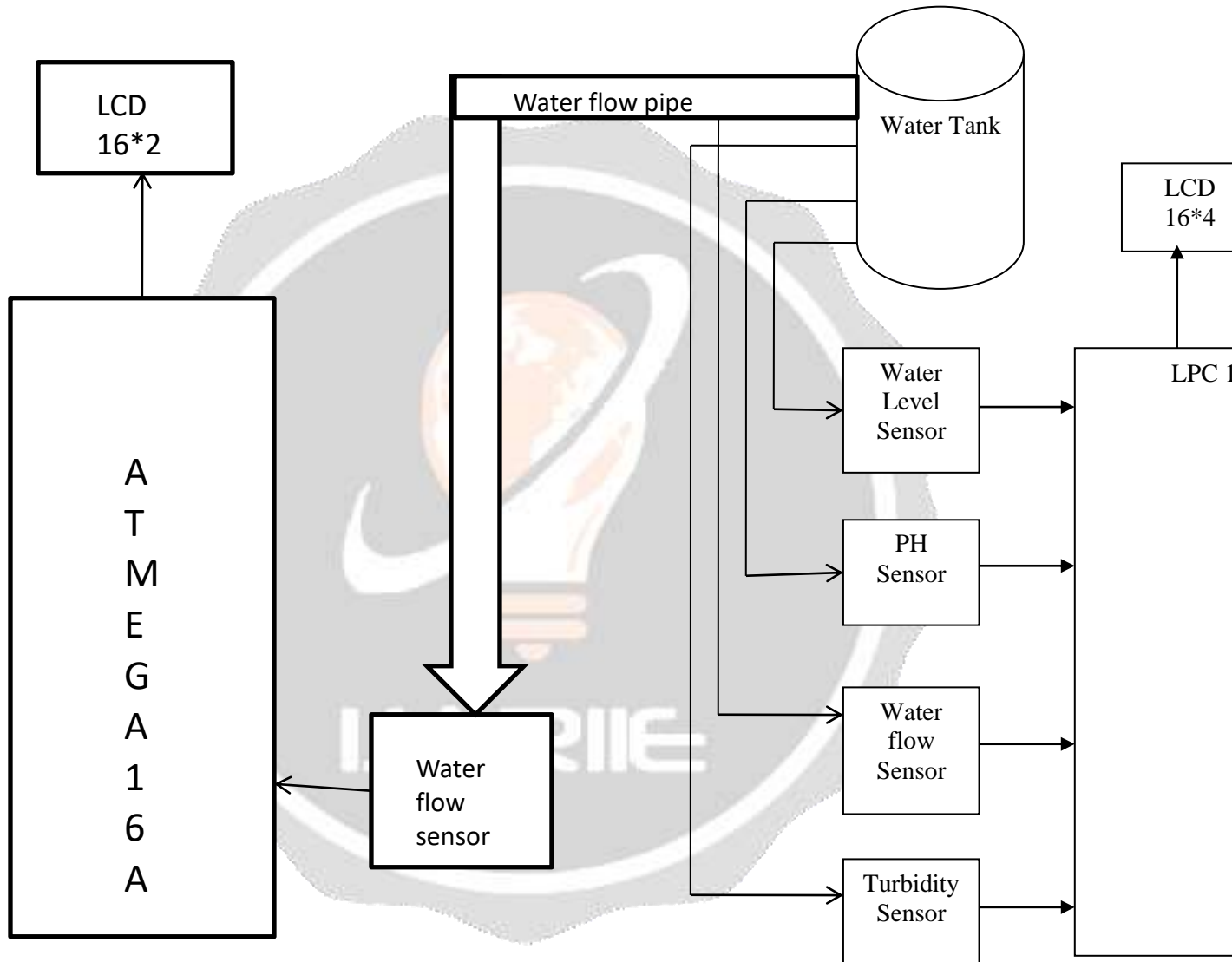
III. PROPOSED SYSTEM ARCHITECTURE

Figure - Block Diagram

IV.ALGORITHMIC FLOW

1. INITIALIZE CORE CONTROLLER,ADC
2. INTIALIZE LCD
3. CONNECT REQUIRE SENSING ELEMENT
4. COLLECT DATA FROM DIFFERENT SENSORS
5. COLLECTED DATA TRANSMITTED TO CORE CONTROLLER
6. PROCESSED DATA SEND TO LCD

V. CONCLUSIONS:-

Water quality monitoring for large scale is a challenging   task. Hence a system is designed to check quality of water at the places where generally it is inconvenient to take frequent tests manually. It fulfills few dynamic features than the traditional monitoring system such as its implementation cost, flexibility, power consumption. The designed system can efficiently acquire water parameters values (Turbidity, Level and PH) at base station without data loss. In this way monitoring water quality at each stage can avoid severe issues related to water quality and quantity. Advantages of proposed system is Reduce repair cost, machinery downtime /damage (leak), Improve operational efficiency and process time, Reduce manual monitoring, Industry and domestic use, In chemical industry.

VI. ACKOWLEDGEMENT

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