

GSM Based Water Theft Detection System

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Abstract:— Water represents a primary necessity, for everybody's daily life and for an effective accomplishment of many industrial processes. In the most remote and isolated regions, as in the most urbanized ones, water provisioning to domestic premises represents a fundamental living necessity. In today's current scenario consumption and utilization of water has increased to a greater extent as a result of this anyone can theft the water easily by taking outlet from main pipeline. Water theft or unauthorized consumption is a potential illegal use of the water, water theft can be in the form of a straight unauthorized fire hydrant usage a struct meter or unauthorized usage. In this project it is proposed to develop the GPS system based water theft and leakage prevention.

Keywords: Microcontroller, GSM, GPS, Sensor Module.

I. INTRODUCTION

In today's life it doesn't come in seen that the big pipes lines are planned for farming and the industries. So when once the plan is done after that we doesn't check the pipelines whether it is in good condition or not. Sometimes we does that pipeline and after some daysthe party was taken outline from our pipeline without our permission. And we doesn'tknows that in such case the bill of all water we used and the used by other is paid by only the one person. To avoid such condition we have designed the system. Which is applicable to avoid the theft of water and the wastage of water by leakage.

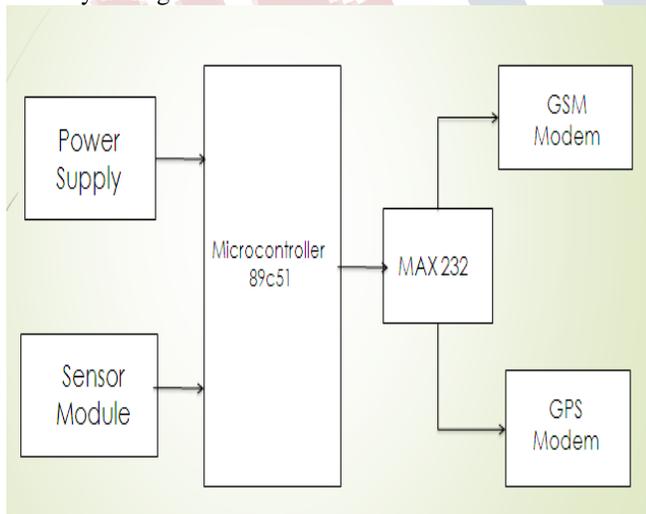


Fig A. Block diagram of Proposed Model

II. PROPOSED MODEL

The rapid growth wide residential areas imposes the expansion as well as modernization of water supply

facilities. Along with this one more problem is defined in the water supply channels, some people take outlet from channel of their home street. In this project we have used the flow sensors. Which are connected along the pipe used to detect the flow of water in the pipe. The outputs of sensors are continuously applied to Microcontroller. When the flow between two sensors are different then the microcontroller sends the signal to GPS and GSM. GPS used to track the location where the outline is taken from main pipeline. GSM are used to send the message that water is theft to user.

III. GSM :-

Principle :-

The GSM system is a frequency- and time-division cellular system, each physical channel is characterized by a carrier frequency and a time slot number. Cellular system is designed to operate with group of low -power radios spread out over the geographical service area. Each group of radios serve MSs presently located near them. The area served by each group of radios is called a CELL. Uplink and downlink signals for one user are assigned different frequencies, these kind of technique is called Frequency Division Duplex (FDD). Data for different uses is conveyed in time interval called slots, several slots make up a frame. This kind of technique is called Time Division Multiple Access (TDMA).

Specifications :-

Frequency-850MHZ/ 900MHZ/1800MHZ/1900MHZ
Baud rate- 9600bps
Power requirement- 4.5V to12V
Current requirement- <590mA
Operating temperature- -40o C to +85oC

IV. GPS :-

Principle :-

The Global Positioning System consists of a network of 24 broadcasting satellites orbiting the earth at a height of

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20,200km. **GPS** also consists of receivers on the ground, which listen to and interpret the transmissions of the satellites. A **GPS** receiver must be locked on to the signal of at least 3 satellites to calculate a 2-D position (latitude and longitude) and track movement. With four or more satellites in view, the receiver can determine the user's 3-D position (latitude, longitude and altitude).

Specifications :-

- GPS Receiver – Lassen IQ
- 16 channels
- L1 frequency
- Antenna - Omni- directional 6db
- Connector- SMA Coax Bulkhead Jack
- Synchronization- PPS, PPM, PPH
- GPS protocol- RS 232

automated not only used to monitor the water supply but also used to find and avoid the water theft.

VII. FUTURE SCOPE :-

Future scope of this project is we can use PH value measurement meter. Because if the value of PH is 7 then it is good for health of human as well as for agriculture.

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V. RESULT :-

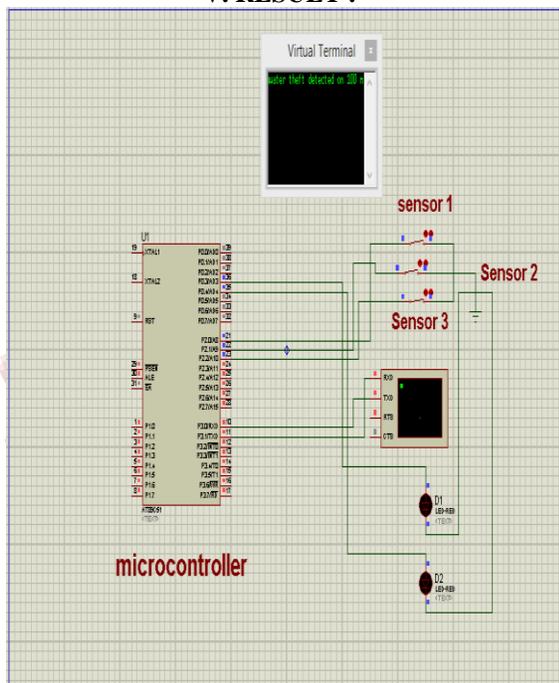


Fig B: Proteus Design

VI. CONCLUSION :-

The water supply monitoring and theft detection system was built. Using proposed modal we can make centralized water and control and theft detection system the disadvantages of existing system the required man power was eliminated the real time automation implemented in the system avoids wastage of water and reduces time. This