Review on Drinking Water Supply And Theft Identification

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Abstract- *In this paper we have discuss that the water provided to consumer/ buyer are providing at a fixed flow rate. There are incidents of additional water drawn by certain consumers /buyer by connecting the motor to draw the water directly from the main line which is consider as water theft. In this project it's proposed to develop a microcontroller build water supply monitoring and theft identification system by recording the overflow rates at the consumer/ buyer end. In order to apply the proposed water supply system, each consumer can be provided with a microcontroller kit to record the flow rate using a flow detector. It's also provided with an electrically operated solenoid valve to supply water to the consumers. When there's theft occurred in water supply pipeline, the more water flow rate and corresponding charge will be address to consumer Id. The valve is tuned off using microcontroller to cut off the water supply, when the consumer fails to pay or uses more water. LCD is connected with a microcontroller to show data locally. The suggested automated architecture is fully programmed accordingly no human power is required.*

Keywords- Microcontroller, Solenoid Valve, Relay, Water Supply Monitoring, Theft Identification.

I. INTRODUCTION

As survey, water look like a big issue because of very little rain fall, growth in population many areas are facing this issue, human have to stand from this issue they don't have enough quantity for their regular needs. Due to lack of monitoring water should needed to be supplied properly, some areas get water while other areas can't. So, it is required of monitoring water supply timetable and conventional distribution. Additional problems are excessive utilization, flooding of tanks, broken pipeline, interrupted water supply.

Water is a primary need of each and every human being. All have to save the water, many times with absence of monitoring, overflow of the overhead tanks can take place because of this large amount of water get wasted, another thing because of overflow in the pipelines with more force there is risk of pipeline damage, leakage observation is one more difficulty all these difficulties are because of lack of monitoring, manual work, less man power. By focusing on complication in conventional methods our system design and build a low-cost device for real time tracking of water distribution system.

II. OBJECTIVE

To design and develop a system that serves the following purposes:
1) Monitors use of water.
2) Identifies water theft.
3) Automatic monitoring and controlling of water valves.
4) Fine system for excessive usage of water.

III. LITERATURE REVIEW

In this project it is proposed to develop an embedded based water monitoring and theft prevention system by recording the flow rates at the consumer/user end. The combination system is efficient of predicting flow of water with sensible quality and automatic supply of water. It can be done by using flow sensors. It is also proposed to employ a IoT modem for wireless communication and hence information is transmitted to many responsible consumers and officers to take immediate action under problematic situation.

IV. PROPOSED METHODOLOGY
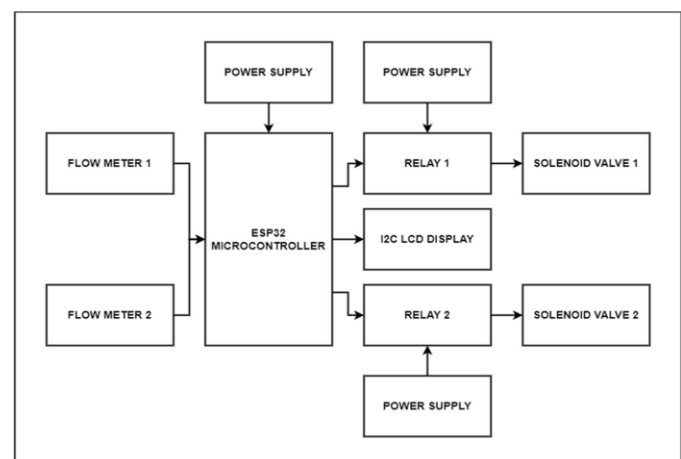
The system consists of Microcontroller. Two flow meters are connected in order to measure consumption at individual and main node. A two-channel relay is used for controlling the solenoid valve connected at individual and main node. A manual valve is also used as a theft valve. Data is displayed on the I2C LCD Display. Excessive water usage and theft detection is monitored. Alerts are sent to mail with penalties and bill.

II. CONCLUSION

In this project an automated system for water supply, purchase of water and water theft control is designed. This proposed work is an essential requirement for the modern world people to solve the water related issues. The best part of the system is its ease of designing and the hardware is easily available at cheaper rate. Reliable data monitoring from the central server helps the habitats in getting adequate water by incorporating automatic theft control. The total above said facilities are established only due to the use of flow sensor and solenoid valve. As they control the flow of water over a concern limit and a particular rate or else it forcibly switches the system OFF.

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