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Development of a Smart Liquid Level Controller

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Abstract : In this research paper, we present a microcontroller-based liquid level controller that identifies the various levels of a liquid, carries out certain actions, and is capable of communicating with the human being and other devices through the GSM network. This project is useful in ensuring that a liquid is not wasted. It also contributes to the internet of things paradigm, which is the future of the internet. The method used in this work includes designing the circuit and simulating it. The circuit is then implemented on a solderless breadboard, after which it is implemented on a strip board. A C++ computer program is developed and uploaded into the microcontroller. This program instructs the microcontroller on how to carry out its actions. In other to determine levels of the liquid, an ultrasonic wave is sent to the surface of the liquid similar to radar or the method for detecting the level of sea bed. Message is sent to the phone of the user similar to the way computers send messages to phones of GSM users. It is concluded that the routine of observing the levels of a liquid in a tank, refilling the tank when the liquid level is too low can be entirely handled by a programmable device without wastage of the liquid or bothering a human being with such tasks.

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