Optimization Water Leakage Detection using Wireless Sensor Networks (OWLD)

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This paper presents a technical method to monitor the water distribution pipelines against leakage and to control the pump when the water level decreases in the tank. Water leakage is the most popular cause of water wasted in the domestic water distribution systems. Nowadays most people have their smartphone nearby them; therefore, adding an interface on the smartphone to control an automated system is a big plus. Energy saving is a benefit of the Optimization Water Leakage Detection (OWLD) system. It enables us to save energy, time and cost by having smart leakage detection in pipelines, measuring the water level in the tank and controlling the pump when the water level is low. This paper focuses mainly on two parts: The first part is an alarm based on Global System for Mobile technology (GSM) to send a Short Message Service (SMS) to the owner. This is made up of the following components: sensors, GSM Module, Arduino and relays to control the device. The second is the controlling part; it uses android application mobile to control the pump. The proposed system can effectively improve the efficiency of operation, reduce delay time and cost of maintenance pipelines after leakage detection.