MONITORING WATER USE IN HOUSING USING INTERNET OF THINGS (IOT) BASED FLOWMETER

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ABSTRACT

Pamsimas is a water provider in rural areas. Consumers will be fitted with meters to determine water usage. Problems are often experienced by officers because installation still uses manual methods. The solution is to use an internet of things (IoT) based monitoring system so that monitoring is carried out digitally via a website. The components needed in this research consist of a flowmeter sensor as a water discharge measuring tool and an ESP32 microcontroller which is used as data input and output data. The data will be sent to Firebase, Firebase will store data from the ESP32 microcontroller in real time and a mini generator (micro hydro) as the ESP32 supply so as not to use sources from PLN. The monitoring process uses a thingsboard. This website is able to display real-time usage data for each customer which can be seen through the indicators provided on the dashboard. Testing using a flowmeter. In applying the calibration factor, water pressure or water flow rate has a big influence on the sensor reading results, because each sensor has a different sensor value reading. The average error from testing the flowmeter sensor is quite small, only 1.02% to 1.37% from 11 trials.

Keywords*: ESP32, Internet of Things, Flowmeter, Monitoring*