

ABSTRACT

The source of water is a gift given by God Almighty who can always provide benefits for the welfare of mankind in all fields. The measurement of the flow of water in each household is PDAM, so that every house is installed a water meter. The meter serves to measure and record the volume of water that has been used for the purposes of each household. The measurement of the volume of water contained in the water meter is used to determine the amount of fees that must be paid by each customer to the PDAM for each monthly usage. In the measurement of the existing water meter for each user, unfortunately it is still in the form of analog and the amount of the fee has not been listed on the meter. In this study, it has the objectives and benefits to provide information to PDAM users in the transparency of costs and water use within a certain time, can monitor the system remotely by receiving notifications on an android smartphone, have a good Quality of Service value in accordance with existing value standards, and good sensor accuracy. In this study using the YF-S201 Water Flow sensor, then the data results will be stored in a firebase that is displayed in real time. The parameters tested in this study such as Quality of Service (delay, jitter, throughput, and packet loss), data communication, and sensor accuracy were tested by calculating Error rate using standard deviation, and variance. The results of the sensor accuracy in the 10 L test get an Error value of 1%, and the sensor accuracy is 99%. In the 1000 ml measuring cup, the precision results were obtained with an error value of 3%, a sensor precision value of 97%, and an accuracy value of 98.8%. In the 1000 ml measuring cup, the precision results are obtained with an error value of 3%, a sensor precision value of 97%, and an accuracy value of 98.91%. In the 1500 ml measuring cup, the precision results with an error value of 3%, a sensor precision value of 97%, and an accuracy value of 98.91%. In the 2000 ml measuring cup, the precision results were obtained with an error value of 3%, a sensor precision value of 97%, and an accuracy value of 98.87%. In the 4000 ml measuring cup, the precision results are obtained with an error value of 3%, a sensor precision value of 97%, and an accuracy value of 98.97%.

Keywords: Water debit, IOT, PDAM, Water Flow Sensor, QoS