

## ABSTRACT

*PDAM is one a state-owned business unit engaged in the provision of clean water. In checking the use of the amount of water by PDAM field officers, it is still done manually so there are many problems that often occur, such as errors in recording by field officers, errors un the input process for recording results, and less effective and efficient because it takes a lot of time and energy. The solution to this problem is to design a monitoring system that can be used to calculate water usage costc in real time displayed through the LCD and application application. The design is carried out using NodeMCU as a microcontroller, Water Flow Sensor YF-S201, RTC DS3231, LCD 20X4, MIT App Inventor, and Firebase. This research produces a monitoring tool that can display data on time, volume or amount of water, and costs with sensor accuracy of 99,15% and the results of QoS throughput 33,26 KB/s, delay 0,12 ms and precentage packet loss 0%.*

**Keywords :** *PDAM, NodeMCU, Water Flow Sensor, RTC DS3231.*