

ABSTRACT

Kidney failure is a common problem in intensive care. Therefore, the amount of urine volume produced is an important parameter for monitoring kidney function in patients and for maintaining body balance in patients. The process of monitoring urine expenditure which is still done by visible eye is only by looking at the amount of urine in the urine bag, so the results are less objective. This process takes a long time, so that it is felt to be less effective. The benefit of measuring urine volume is to find out the normal amount of urine volume in male and female patients for 24 hours. The value of urine density is 1.020.

In this final project made a monitoring system to calculate the amount of urine volume using a load cell that utilized internet of things technology to facilitate monitoring and validity of the amount of urine volume in patients. This Monivoluripas system is designed with several hardware components consisting of a load cell sensor with IC HX711, LCD 16x2 and NodeMCU ESP8266 as Internet of Things (IoT) based microcontroller that can be transmit data over the internet. User who have registered on the database can use this monitoring system to see the value of urine volume through the android application.

The calculation of system performance in this study obtained the lowest end-to-end delay value of 0.404 second and the highest of 0.7 second with the lowest end-to-end throughput value of 1973 Bytes / s and the highest of 3242.2 Bytes / s.

Keywords: Urine Volume, Internet of Things, Microcontroller, Load Cell, Monitoring