

ABSTRACT

Infusion serves to provide fluids, drugs or nutrients. In hospitals the calculation of drops is still measured manually, the number of patient who are not comparable to the medical personnel who supervise, replace and check the patient's infusion result in late infusion changes. Because this can aggravate the patient's condition which can cause an increase in blood there can also be the entry of air bubbles or embolism into the blood vessels which can cause blood circulation to be hampered. And to avoid this, in this study a system will be designed that can provide real-time information on the percentage of residual infusion fluids, prediction of infusion exhaustion, and also alarms when the infusion is running out which can be accessed via smartphone that can help medical personnel in supervising the administration of infusion fluids. The design of this system uses a loadcell sensor to measure changes in infusion load which is then sent to nodeMCU as a sender of data to the internet using WiFi, which utilizes Internet of Things technology to monitor the result of measuring the percentage of infusion, and prediction of exhaustion of infusions that can be monitored on android using MIT App Inventor can be accessed via smartphone. The results of this study obtained 99.6% on the accuracy of the loadcell sensor, and successfully read the drops with an accuracy of 80% and the value of drops per minute affected the error of the estimated time of prediction of infusion turnover where the error value is getting smaller when the value of drops per minute of infusion is getting less.

Keywords: *Infusion, Loadcell sensor, NodeMCU, Internet of Things*