

RANCANG BANGUN SISTEM MONITORING INFUS MENGGUNAKAN NODEMCU ESP8266 BERBASIS APLIKASI ANDROID

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ABSTRACT

Currently, in Indonesia, the use of infusions in various hospitals is still done manually. Either way of handling the infusion in a patient may result in prior restoration of the IV line's blockage. The number of droplets does not conform to the initial setting or the fluid procedure without being noticed by the medical personnel. It can interfere with the effectiveness of presenting the infusion to the patient in advance and can endanger the patient. In overcoming the problem, this study designed an infusion monitoring system tool using Nodemcu esp8266 based on the android application. This tool can control the rate of drip infusion and monitor how much remaining infusion. The test experiment on the IR sensor when the intravenous fluid droplet examination works against three droplet velocities, namely low, medium, high. With each error value, namely low 2.3%, moderate 1.5%, high 0.8%. The flow rate of intravenous fluids can be adjusted using a modified servo motor arm positioned close to the IV line to move or rotate according to the command. The higher the servo motor rotation, the slower the rate of dripping of the intravenous fluid. The error value for the test servo is 1.2%. The information displayed on the LCD is droplets per minute and an estimate of how many hours it takes. What is displayed in the application is in the form of servo angle adjustment and monitoring of the remaining infusion.

Keywords: *Infusion, NodeMCU esp8266, IR sensor, IV fluid drops, monitoring*