

## ABSTRACT

Right now, to know of and the volume of the infusion still done in a manual, to a given in accordance with the needs of patients. The manual is, of course have a degree of accuracy was low and what if the patient more than a nurse or doctor. For that, need to create a device automatically and efficiently to control and monitor the intravenous fluids on the application of *multinode*.

Then, on the project the end of this will be made in the system control and monitoring of intravenous fluids automatically using Sensor photodiode and Infrared to detect the infusion, the spring to detect volume, as well as motor servo to set the pace of it. With the help of WEMOS and node MCU as a microcontroller to control the system and ESP8266 to connect to the internet. The data is read can be seen on the web browser, so that the manual and less efficient will be replaced.

From tests carried out against the system of monitoring and controlling intravenous fluids on the application of *multinode* to prove that these systems work well. Monitoring the volume up a drip provided data that have the percentage of errors amounting to 0,01 % for the detection equipment infusion volume 1 and 0,01 % for the detection equipment infusion volume 2, and no mistake on the monitoring of the infusion as well as the control the speed of the infusion, with an average delay of 1, 25 seconds for the delivery of data from the firebase.

**Keyword : infusion, photodiode and LED, motor servo, WEMOS and node MCU, ESP8266, monitoring, controlling**