ABSTRACT

This project aims to develop an Intravenous Bottle Module to address patient monitoring Within hospitals due to the busy schedules of healthcare professionals. This proposed solution is an Automated Intravenous Bottle Monitoring System using IoT, If the Nurses are associated with unmonitored intravenous (IV) infusion to the patients give side effects such as fluid backflow and blood loss. So, we can use the system to integrate cutting-edge technology components, such as a weight sensor, Atmega microcontroller, Wi-Fi transmitter, and an LCD. The weight sensor, mounted on a stable stand with provisions for monitoring the IV bottle, serves as real-time notification to the primary data input device. Initially calibrated to measure the weight of an empty IV bag, the sensor continuously captures data as fluid drips, enabling real-time monitoring of the IV fluid level. Central to the system's functionality is the Atmega microcontroller, which processes the incoming weight data and computes the current fluid level within the IV bag. If the weight of the fluid reaches the limited threshold value it sends the notification to the system. This information is used to convey the healthcare professionals through the LCD, providing immediate visibility into the status of the IV fluid. Furthermore, the data is transmitted wirelessly to an IoT server and then to an integrated Wi-Fi module, enabling remote monitoring capabilities. The significance of real-time monitoring cannot be overstated, particularly in the context of IV fluid. Moreover, the system has an intelligent alert mechanism to notify healthcare professionals when the IV fluid level deviates from the desired range. This proactive approach minimizes the risk of adverse events associated with IV therapy while streamlining workflow and optimizing resource allocation within healthcare facilities.