Battery monitoring based on iot

Abstract:

This paper presents an IoT-based battery monitoring system designed to enhance the management and performance of batteries across diverse applications. The proposed system integrates voltage and current sensors with NodeMCU ESP8266 microcontroller, IC 7804 voltage regulator, and a buzzer for real-time monitoring and alerting. Voltage and current sensors provide crucial data regarding the electrical characteristics of the battery, while the NodeMCU ESP8266 facilitates wireless communication and data transmission to a central server or cloud platform. The IC 7804 ensures stable voltage regulation for reliable sensor operation. A buzzer is incorporated to alert users in case of critical battery conditions or anomalies. By leveraging these components and IoT technology, the battery monitoring system enables remote monitoring, predictive maintenance, and optimization of battery usage, thereby enhancing operational efficiency and reducing downtime. The proposed system offers a scalable and cost-effective solution for effective battery management in various industrial and consumer applications.

Components:

voltage sensor

current sensors

NodeMCU ESP8266

IC 7804

buzzer

