

ABSTRACT

Electric vehicles (EVs) have become one of the popular environmentally friendly transportation solutions in recent years. One of the key components that significantly impacts the performance and reliability of electric vehicles is the battery. However, the limited battery lifespan and suboptimal charging and discharging efficiency pose major challenges in EV usage. Inefficient battery usage can accelerate battery degradation, reduce the performance of electric vehicles, and necessitate costly battery replacements.

This research aims to develop a battery management system that can enhance the performance and lifespan of batteries in electric vehicles. This battery management system will monitor and protect the battery from conditions that may damage it. Additionally, users can access battery information through a smartphone application using Bluetooth connectivity.

The results of this research are expected to make a significant contribution to prolonging the battery lifespan of electric vehicles. By employing the battery management system, electric vehicle users will be able to optimize energy usage and reduce the need for battery replacements, thus minimizing environmental impact and operational costs.

Keywords: Battery management system, electric vehicle, battery, bluetooth.