

Design and Development of Electric Vehicle Charging Station

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Abstract: *This project aims to develop a system for EV battery charging and monitoring with location tracking using NodeMCU microcontroller-based hardware and software solutions. The system will include a battery charger with built-in voltage and battery percentage monitoring, as well as a GPS tracking device to track the battery's location and usage. The hardware components will be integrated with software solutions, including mobile apps and web-based dashboards, to provide real-time monitoring and alerts on the battery's charging status, health, and location. The system will utilize predictive analytics and machine learning algorithms to provide insights and recommendations for optimizing the battery's performance and lifespan. Overall, this project seeks to provide a comprehensive solution for lead-acid battery charging and monitoring with location tracking, using cutting-edge technologies and techniques to enhance battery performance and longevity. This project involves the development of a NodeMCU-based system for charging and monitoring lead-acid batteries with location tracking capabilities. The system utilizes a NodeMCU microcontroller to control the charging voltage and current, as well as monitor the battery's voltage and battery percentage during charging. Additionally, a GPS module is used to track the location of the battery and monitor its usage. The system includes a mobile app and web-based dashboard for real-time monitoring and alerts, which can provide insights and recommendations for optimizing the battery's performance and lifespan. This project aims to provide a low-cost and easy-to-implement solution for charging and monitoring lead-acid batteries with location tracking capabilities.*

Keywords: NodeMCU, Lead acid battery, GPS tracking, Battery monitoring

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