

EV Charging Stations Management System using AI Chatbot

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Abstract: To mitigate global warming and energy shortages, the integration of renewable energy sources, energy storage systems, and plug-in electric vehicles (PEVs) has been introduced. Electric vehicles (EVs), as part of the smart grid, offer a viable option to reduce carbon emissions. The pressing need to address environmental concerns and lessen our reliance on fossil fuels is driving the transition to Electric Vehicles (EVs). Our project, a comprehensive Electric Vehicle Station Management System (EVSMS), aims to help with this transition. This survey delves into the design and execution of our EVSMS, emphasizing its importance in encouraging the adoption of EVs over traditional fuel-powered vehicles. Our EVSMS includes user registration, owner dashboards, and an admin panel, making it convenient for both EV owners and station operators. Users can quickly identify local charging stations thanks to connection with the Google Maps API, but what sets our system apart is real-time station occupancy data. This functionality not only helps customers identify available charging spots, but it also encourages them to investigate alternate stations when their favored ones are full. In addition to increasing ease, our technology allows for slot booking with an initial payment, which streamlines the charging procedure. Furthermore, it keeps users updated about station availability and promotions, emphasizing the benefits of EV use. Our research underlines the importance of electric vehicles (EVs) as a sustainable alternative to traditional fuel-powered cars. By providing a user-friendly, technologically advanced EVSMS, we contribute to the larger goal of lowering carbon emissions and minimizing environmental impact, making EVs a more appealing option. This poll gives information about our system's design and alignment with the global shift to sustainable, environmentally friendly mobility.

Keywords: Electric Vehicles (EVs), Electric Vehicle Station Management System (EVSMS), Slot Booking, Map, Chatbot

