

Developing an efficient user interface for an electric car online trade website

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Abstract

For our web portal it can be added some functionalities like chat service, filtering the cars deeply, map which shows where is located electric stations etc. Car sales magazines also can supported to website. Each magazine may be its own location, phone number, the table which shows how many cars exist in magazine. There is another suggestion which there is a functionality users can get daily notifications about innovations, novelties. And in the last, it can be added new section that is news and reviews. This section will keep a lot of information which users and admin can deploy to site every day.

Keywords: Battery technology, electric cars, air pollution, online trade

Today, ecological pollution is a significant problem. Preserving the environment is essential for society. Using electric vehicles as a means of transportation is more efficient in combating air pollution. Ozone, a chemical gas, is a crucial factor in urban air pollution. One of the most important advantages of using electric cars is reducing the ecological and atmospheric damage caused by conventional vehicles that run on gasoline.

As we know, there are many cars in the world, and most of them run on gasoline. When using such cars, a significant amount of carbon dioxide released into the atmosphere, harming both the environment and the air. To avoid these consequences, scientists conduct daily research and develop new ideas to address these issues. [1]

It should noted that the use of electric transportation is becoming increasingly popular. Manufacturers predict that in the next decade, a significant number of electric cars will be available, and there are expectations that sales of gasoline-powered cars will be restricted. According to American investors and industrial organizations, by 2025, electric vehicles will constitute more than 30% of all vehicle sales. By 2030, the sales of electric cars expected to increase from 3 million to 125 million. [2]

The batteries in electric cars store the energy necessary to operate the vehicle. These batteries consist of several small lithium-ion modules, each with its own battery system. Battery technology is rapidly advancing, with new chemistry and manufacturing methods aimed at increasing energy density and reducing the cost of the most expensive component of a car. [5]

When driving an electric car, no energy is consumed when the accelerator is released because that electric energy is returned to the battery.

In regenerative braking mode, lifting your foot off the pedal causes the car to slow down faster than when driving with the gas pedal. The efficiency of regenerative braking allows for "one-pedal driving" when the accelerator is not used much. [6]

This website (EcoCars) is created for the sale and purchase of electric cars. Users can also find extensive information about the advantages of these environmentally friendly vehicles, such as improving air quality, reducing CO2 emissions, decreasing the demand for fossil fuels, and reducing noise pollution. [7]

People can buy and sell electric cars on this website. They can also obtain essential information about electric vehicles, including newly released models. Each car listing includes vital information like the brand, model, range, images, transmission type, distance, city, phone number, and more. This website, compared to others, allows individuals selling their cars to provide more detailed information, which enhances user satisfaction. [8]

Due to advancements in battery technology and manufacturing, the concept of electric cars' development seems more promising than ever. It is also essential to consider that the use of electric cars in cities will yield better results for the environment. Gasoline-powered vehicles are prevalent in urban areas, leading to increased air pollution. Therefore, making electric cars easily accessible to city dwellers is crucial. The research conducted in this regard represents the first steps taken in this direction, focusing on developing a cost-effective user interface for the online trade of electric cars.

C# was used as the programming language for creating the interface. C# is an object-oriented language that enables programmers to build secure and reliable .NET programs. Visual Studio Code serves as the code editor [10]. Microsoft SQL is a database server used for storing and retrieving data. Entity Framework is an open-source ORM framework developed by Microsoft. [9]

Front-end development involves customizing elements such as themes, backgrounds, fonts, design images, and positioning them to attract user attention. Front-end technologies like HTML, CSS, and JavaScript were employed. [3]

HTML (Hyper Text Markup Language) is a markup language that structures web documents, and it still works when text is written inside and opened in a browser.

Conclusion

CSS (Cascading Style Sheets) is responsible for formatting the appearance of an HTML document. It styles the HTML skeleton, making it visually appealing and user-friendly. Javascript is a programming language used to create dynamic web interfaces and perform calculations on web pages and some game engines. It makes user interactions, such as button clicks and automatic completion when typing text, possible. [4]

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