DESIGNING A WEBSITE FOR ELECTRIC BIKE SHOWROOM: A STEP INTO THE FUTURE

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Abstract- E-Motion market in India rising day by day as - about 33% increased than the previous year. Due to the huge demand of market, it's necessary to develop the digital strategies for an electric bike Showrooms for maximum electric bike sale. A website is a platform where we can make buying easier for customers with new sales technology. The electric bike showroom website designed to streamline showroom operations and enhance the sale process. This system offers a complete solutions with modules for managing users, brands, bike listing, booking and comparing bikes, making showroom operations efficient. A website enables smooth business operations and sales, making it easier for both the show-room owner and customers. Customer can now browse electric bike without visiting the showroom in person and get the details and even can raise the query. The owner understands that, many people have busy schedules and many not always have the time for a showroom visit. So, for those customer, our project focuses on building a website that helps track customer records, manage online booking, and store vehicle details. It is designed with a simple and user - friendly interface to enhance customer convenience.
Keyword: *EV Sale, website, programming languages, and database created using SQL.*

1. INTRODUCTION

In today's fast-changing world, information technology and management are becoming increasingly important in our daily lives. Businesses are leveraging these technologies to improve efficiency and provide better services to their customers. The primary goal of the online bike showroom system is to provide customers with the convenience of booking vehicles online, without needing to visit the showroom in person. Currently, the showroom operates offline, which is time-consuming for both customers and staff. Our project aims to create a web application that simplifies the process by tracking customer records, enabling online bookings, managing vehicle details, and providing an easy-to-use interface for customers. The real value of this system goes beyond selling products. It focuses on building stronger relationships with customers by offering exceptional service and support, which enhances customer satisfaction. This leads to increased sales and overall business growth. The E-Bike Showroom Website includes the following features:

- Bike Selection and Comparison: Customers can select their preferred bike brand, browse different models, and compare two bikes side by side.

- FAQ Section: For first-time visitors, a dedicated FAQ section provides answers to common questions. The E-Bike System is powered by PHP and MySQL, designed to streamline bike showroom management.

- It enables the showroom to efficiently handle several key functions: The E-Bike System significantly improves showroom operations by automating many processes. It reduces the administrative workload and allows staff to quickly access customer and inventory information.

1.1 E-Bike Showroom Key point

1. Vehicle Management: Manage bike models, prices, specifications, fuel types, availability, and more.
2. Customer Management: Store and update customer details such as name, phone, email, and address.
3. Booking Management: Handle bike bookings, confirmation, and cancellation.
4. Admin Control: A single admin user has full control over managing records for bikes, customers, and bookings.
5. Additional Features: Add bike images and videos.
6. Provide an FAQ section to assist customers with their queries.
7. Streamlining Operations and Enhancing Customer Service.

Additionally, by offering online booking and real-time updates, the system enhances customer service and satisfaction. Efficient Inventory and Sales Management the system is designed to help showrooms manage inventory and sales efficiently. It tracks available bikes, and notifies the owner when it's time to reorder stock. This ensures the showroom maintains an optimal inventory level, preventing overstocking or stock outs [1].

Compared to other e-bike showroom websites, this platform stands out with its seamless navigation, detailed technical specifications, and user-friendly comparison tool. Many competitors struggle with complex navigation, lack of in-depth product details, and an overemphasis on promotional content rather than helpful insights for buyers. In contrast, this system offers a dedicated comparison feature, allowing users to evaluate two e-bike models side by side based on key factors like price, battery life, motor power, and additional specifications. This transparency makes decision-making easier and more efficient. Our e-bike showroom website eliminates these limitations, providing a seamless and user-friendly experience with enhanced navigation, detailed product specifications, and a transparent comparison feature. Our e-bike showroom website is built using HTML, PHP, CSS, JavaScript, and SQL to enhance online shopping efficiency and user experience. It allows users to browse, book, compare, and manage e-bikes through an intuitive dashboard. HTML and CSS ensure a visually appealing and well-structured design, while JavaScript adds interactive features like sorting and filtering. PHP processes user requests and manages backend operations, while SQL handles the storage and retrieval of essential data, including bike specifications, booking records, and comparison details [2].

2. LITERATURE REVIEW

By the early 1900s, electric vehicles, including bicycles, gained some traction due to advancements in battery technology. However, electric bikes never became mainstream, as internal combustion engines for motorcycles and cars started to dominate. With the rise of gasoline-powered motorcycles and cars, the electric bicycle saw a decline in interest. The focus shifted to internal combustion engines for personal transportation, leaving electric bikes as a niche market. In the early 2000s, major improvements in electric motor technology and battery performance, particularly lithium-ion batteries, greatly improved the feasibility and performance of electric bikes. This allowed for longer ranges, faster speeds, and lighter, more powerful designs. The 2010s saw a major boom in the popularity of electric bikes globally, especially in Europe, North America, and Asia. Increased awareness of environmental concerns, coupled with improvements in battery technology, and made e-bikes an attractive alternative to traditional vehicles. 2019 onwards, the market created for electric bike and users are getting attracted over there day by day.

3. METHODOLGY

The E-Bike Showroom Management System is built using HTML, CSS, JavaScript, PHP, and SQL:

1. HTML & CSS – Structure and design the web pages.

2. JavaScript – Adds interactivity and dynamic features.
   PHP – Handles server-side operations like bookings and user management.
3. SQL – Manages database operations for storing and retrieving data.

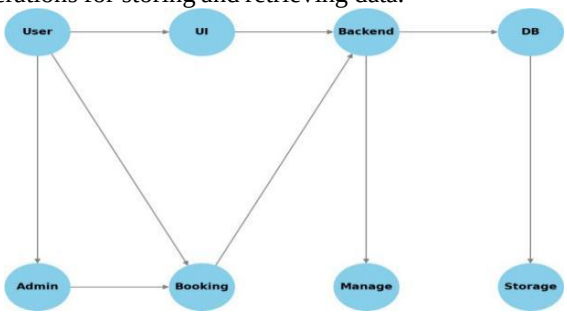


Fig.1 E-Bike Showroom Management System

Develop a web-based system that allows customers to register and reserve e-bikes online while enabling showroom owners to efficiently manage their e-bike sales and booking operations. To simplify the process of purchasing an e-bike for customers. The proposed E-Bike showroom management system is efficient and time-saving. Customers interested in purchasing an e-bike can easily access detailed information about various models through the application. Additionally, the platform enables customers to compare different e-bike brands and models, helping them make informed decisions. This system enhances the overall buying experience, making it more convenient and effective. In the current system, all booking-related tasks are handled manually, making it difficult and time-consuming to maintain records of bookings and e-bike availability. Finding which e-bike is available for purchase or test rides requires significant effort, further complicating the process. The goal of this project is to automate the operations of an e-bike showroom management system, including storing booking records, tracking available e-bikes, managing users and brands, handling customer inquiries, and generating and storing bills. This e-bike showroom management system serves as a comprehensive solution for handling day-to-day operations efficiently [3][4]. It allows users to access customer information online at any time, ensuring better record management. Additionally, the system keeps track of booking data, enabling users to analyze sales trends over different periods, such as the current month, the last six months, or the past year. With this data, showroom owners can make informed decisions for business growth and future planning. This online platform includes multiple modules to enhance user experience and accessibility. The key modules are [5]:

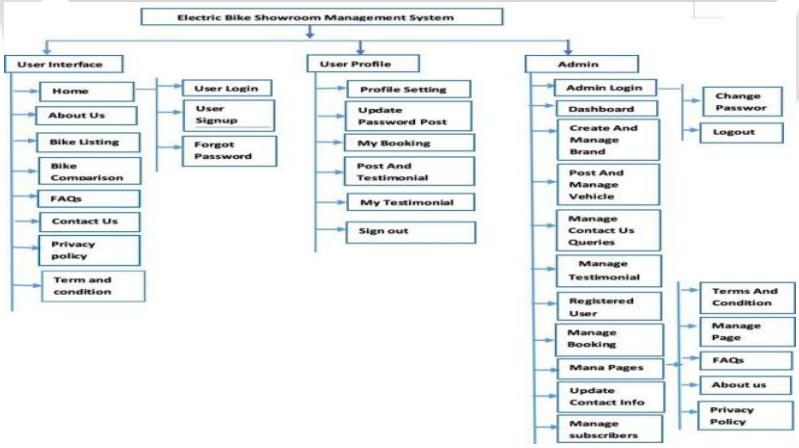


Fig.2 Modules Structure of E-Bike Showroom Management System

3.1 User Interface Modules:

1. Home Page: The home page of the E-Bike website is designed for a seamless user experience. The header includes the company logo, contact details, social media links, and a Login/Signup button, User can login /Signup/ Forgot Password (Password Recovery). A dynamic image slider showcases e-bike models. With a call-to-action for easy exploration. Below, key business statistics highlight credibility, displaying years in

business, available bikes, and customer satisfaction. A customer review section builds trust with testimonials from satisfied users. The footer provides quick access to About Us, FAQs, Privacy Policy, Terms of Use, Admin Login, and a newsletter subscription for updates. The page is visually appealing, informative, and user-friendly.

2. About Us Page: The about us page introduces E-Bikes, highlighting its focus on sustainable, efficient e-bikes and customer-centric service. It showcases the benefits of e-bikes, includes a store image for authenticity, and provides a "Contact Us" button for inquiries and contact with owner.'

3. Bike Listing Page: The E-Bike Listing page displays available electric bikes with images, pricing, key specifications, and model details. Users can search for bikes using filters like brand and fuel type, compare two bikes, and view recently listed models. A "View Details" button provides more information about each bike.

4. Bike Comparison Page: The Bike Comparison page allows users to compare two selected e-bikes side by side. It displays key details such as image, brand, model year, fuel type, seating capacity, and price in a tabular format. This feature helps users make informed decisions by visually analyzing differences and similarities between the selected bikes. The "Back to Listings" button redirects users to explore more options.

5. FAQs Page: The FAQs page provides answers to common user queries about browsing, booking, comparing, and checking e-bike availability. It enhances user experience by offering quick access to essential information.

6. Contact Us Page: The Contact Us page enables users to send inquiries via a form and provides company contact details, including address, email, phone number, and a Google Map for location reference.

7. Privacy Policy: The Privacy Policy page informs users about the data collected, its usage, security measures, and user rights. It ensures transparency and builds trust by outlining how personal information is handled and protected.

8. Terms and Conditions: The Terms and Conditions page outlines the rules for using the website, including user responsibilities, pricing, payments, delivery, warranty, liability, and legal governance. It ensures clarity on rights, obligations, and service limitations.

3.2 User Profile Modules:

1. Profile Settings: The Profile Settings page enables users to update and manage their personal details, including name, email, and phone number, date of birth, address, country, and city. The "Save Changes" button allows them to store any updates [6].

2. Update Password: The Update Password page allows users to change their account password for security purposes. Users must enter their current password, followed by a new password, and confirm it. The "Update" button saves the new password after validation. This ensures secure access to the account.

3. My Booking: The My Booking page displays a user's current and past bookings. It provides details such as the booked vehicle model, confirmation status, registered mobile number, email ID, and the user's address. This page helps users track their reservations and check the status of their booking.

4. Post a Testimonial: The Post a Testimonial page lets users share their experiences by writing a review in a text box. These testimonials help build trust by showcasing customer feedback on the platform.

5. My Testimonials: The My Testimonials page displays the testimonials submitted by the user along with their posting date. A status indicator, such as "Waiting for approval"**,** showing whether it has been reviewed by the admin. Users can track feedback and approval status.

6. Sign Out: The Sign Out option securely logs users out, ending their session to protect privacy and prevent unauthorized access and redirecting them to the home page/login page.

3.3 Admin Modules:

1. Admin Login: The Admin Login page provides a secure gateway for administrators to access the system. It requires a valid username and password for authentication, ensuring only authorized personnel can manage users,

bookings, and other system settings. This enhances security and prevents unauthorized access.

2. Dashboard: The Dashboard Page serves as the control center for administrators, displaying key statistics such as registered users, listed vehicles, total bookings, listed brands, subscribers, queries, and testimonials. It provides a quick overview of system activity and allows administrators to navigate to detailed reports for each category.

3. Create and Manage Brand: The Create Brand page enables admins to add new vehicle brands by entering a name and submitting the form, ensuring proper registration for listings. The Manage Brands page allows viewing, editing, and deleting brands, displaying creation and update timestamps, with search and pagination for efficient management.

4. Post and Manage Vehicles: The Post Vehicle page enables admins to add new vehicles by entering details like title, brand, price, model year, fuel type, and seating capacity, along with uploading images and selecting accessories. The Manage Vehicles page allows admins to view, edit, and delete vehicles, displaying key details in a structured list. Features like search and pagination help efficiently manage the inventory.

5. Manage Booking: The Manage Bookings page enables admins to view, confirm, or cancel customer bookings, displaying key details like customer info, vehicle, delivery address, status, and posting date. A search bar ensures efficient booking management [7].

6. Manage Testimonials: The Manage Testimonials page allows admins to oversee customer feedback. It displays a list of testimonials with details like customer name, email, message, posting date, and status. Admins can activate or deactivate testimonials to control which reviews appear on the website. A search bar helps quickly find specific testimonials, ensuring efficient management of user feedback.

7. Manage Contact Us Queries: The Manage Contact Us Queries page enables admins to view, track, and respond to user inquiries efficiently. It helps streamline communication by displaying messages, filtering queries, and marking them as read or unread.

8. Registered Users: The Registered Users page in the admin panel allows administrators to view and manage all user sign-ups. It displays key details like name, email, contact number, DOB, address, city, country, and registration date. Features include search and sorting options for quick access to user records. This page helps track user activity, maintain records, and ensure smooth system operation.

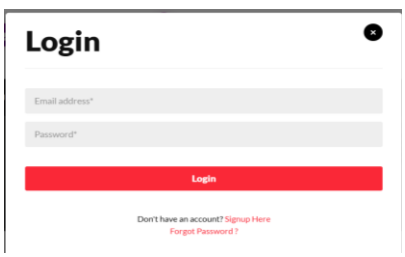
9. Manage Pages: The Manage Pages section in the admin panel allows administrators to edit and update key website pages such as Terms and Conditions, Privacy Policy, About Us, and FAQs. Admins can select a page from the drop-down, modify its content using a text editor, and save the changes by clicking the Update button. This feature ensures that important website information remains up-to-date and relevant for users.

10. Update Contact Info: The Update Contact Info page enables admins to update the business's contact details, including the address, email, and phone number. This ensures that users always have the latest admin contact information.

11. Manage Subscribers: The Manage Subscribers page lets the admin view, search, and remove subscribers by email, showing their subscription date and providing management options.

4. RESULT

The E-Bike Showroom Management System streamlines showroom operations by managing vehicle listings, customer inquiries, and online bookings efficiently. It offers a user-friendly interface for customers to explore models, compare features, and make informed decisions. With secure, role-based access, the system ensures data protection while automating key processes, reducing manual effort, and enhancing overall efficiency and customer experience.



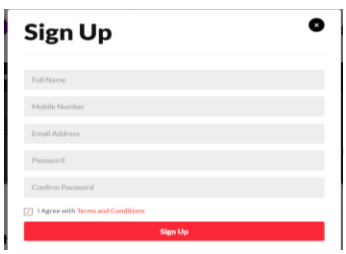
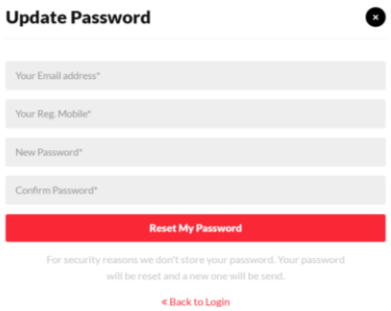


Fig.4 Home page

Fig.5.User Login

Fig6. User Sign Up



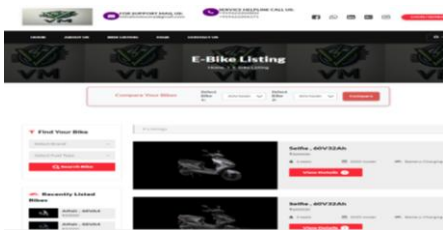
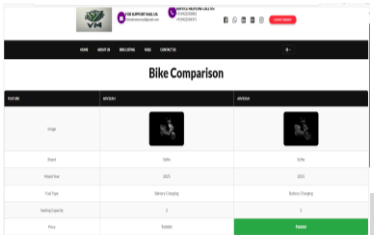
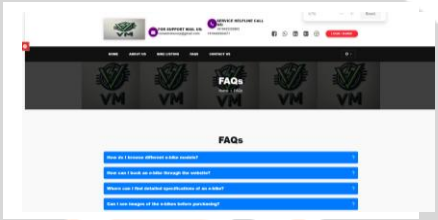


Fig.7 User Update Password

Fig.8 About Us

Fig.9 Bike Listing





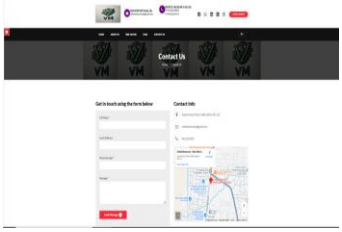


Fig.10 Bike Comparison

Fig.11 FAQs

Fig.12 Contact Us

Fig.13 .Dashboard

6. CONCLUSION

The E-Bike Showroom System is an efficient and well-structured web-based platform that simplifies the process of exploring, comparing, and booking e-bikes. It offers a user-friendly and intuitive interface, allowing customers to easily browse through available bikes, check their availability, and proceed with bookings effortlessly. The system also includes secure user authentication and session management, enabling registered users to log in, manage their bookings, and access their booking history. Additionally, the admin panel provides administrators with the tools to efficiently manage bike listings, handle bookings, and respond to customer inquiries, ensuring the system runs smoothly [8]. While the system performs well in delivering a seamless and engaging user experience, there are opportunities to enhance its functionality. Improving security by preventing SQL injection and enhancing password encryption can further safeguard user data. Moreover, integrating a payment gateway would facilitate secure online transactions, and adding a feedback or review system could enhance customer trust and engagement. In summary, the E-Bike Showroom System effectively fulfills its objective of providing a smooth and convenient e-bike booking service. With minor enhancements in security, user interface design, and additional features such as payment integration and customer feedback, the project has strong potential to be deployed successfully in a real-world setting.

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