

MALINENI LAKSHMAIAH WOMEN'S ENGINEERING COLLEGE





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Pulladigunta (V) Vatticherukuru (M), Guntur (Dist.)

Vahan Bazar – Two Wheeler Marketplace Web App

Problem Statment ID: HACXPB003

Team Name: ByteXelence

Branch: Information Technology

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Problem Statement

In today's digital-first world, the process of buying and selling two-wheelers remains fragmented and inefficient for both customers and dealerships. Vahan Bazar seeks to transform this experience by launching a comprehensive web application that serves as a unified marketplace for bikes, scooters, and electric vehicles (EVs). The platform should enable users to browse a wide range of vehicles, filter listings by brand, price, and fuel type, and view detailed specifications with high-quality images. It must also support side-by-side model comparisons, EMI and fuel cost calculators, and provide insights into upcoming launches. Additionally, users should be able to locate nearby showrooms, book test rides, and list used bikes for sale. The goal is to build a scalable, user-friendly, and feature-rich solution that enhances customer engagement and streamlines dealership operations.

Tech stack

To address the problem statement effectively, we propose a full-stack web application built using modern technologies:

- Frontend: React.js for building a dynamic and responsive user interface
- Backend: Node.js with Express for scalable API development and real-time data handling
- Database: MongoDB for flexible and efficient data storage
- Web Developement: Html, Css

Core Features

- Smart Search & Filtering
- Model Comparison Tool
- EMI & Fuel Cost Calculators
- Upcoming Launch Tracker
- Showroom Locator
- Test Ride Booking
- Used Bike Listing

Key Challenges

Developing a robust and user-friendly marketplace involves addressing several technical and strategic challenges:

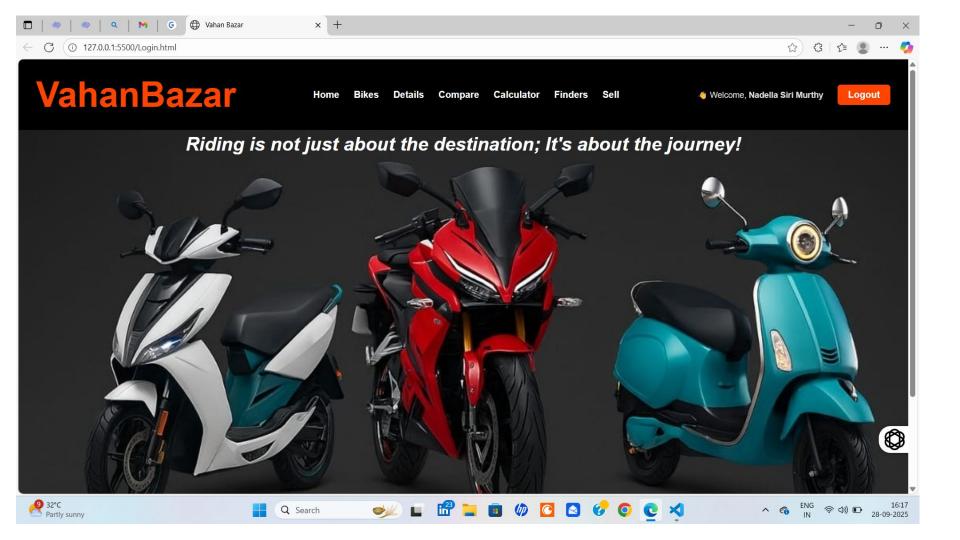
- Handling large volumes of vehicle data, user profiles, and dealership inventories requires efficient data modeling and real-time synchronization.
- Integrating advanced features like EMI calculators, model comparisons, and booking systems demands modular architecture and seamless backend coordination.
- Protecting user data, securing transactions, and ensuring compliance with data protection laws are non-negotiable aspects of the platform.

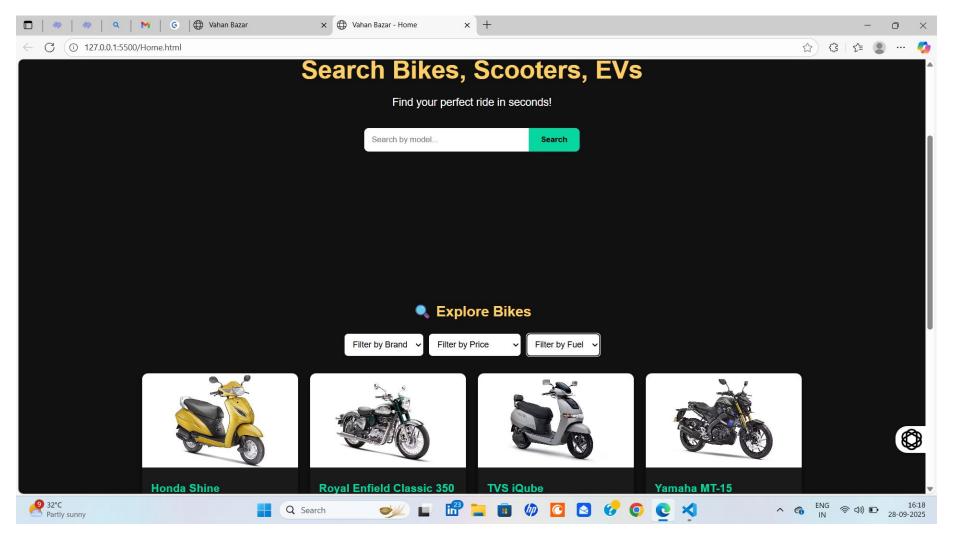
Proposed Solution

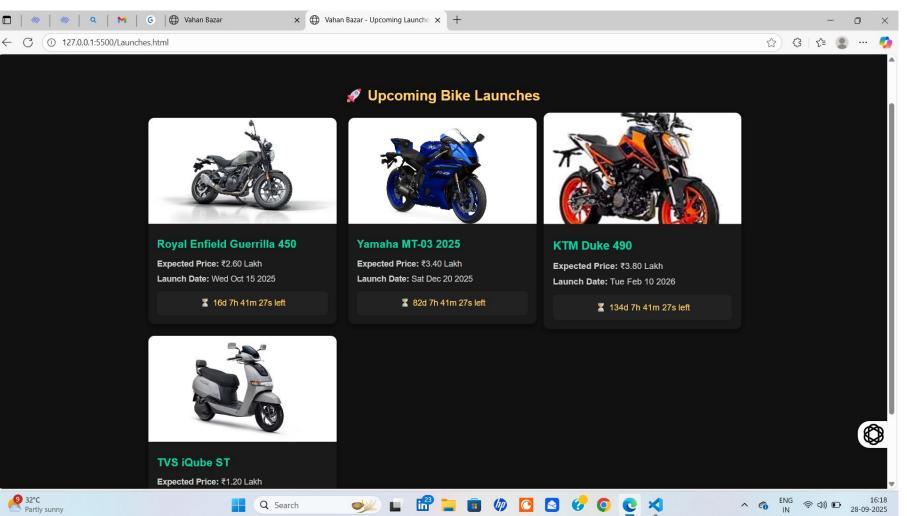
To address the challenges outlined in the problem statement, we propose building a full-featured, scalable, and user-friendly two-wheeler marketplace web application. The platform will be developed using a modern tech stack—React.js for the frontend to ensure a responsive and dynamic user interface, Node.js for the backend to handle API requests and real-time data processing, and MongoDB for flexible data storage.

The application will offer a seamless experience for users to browse bikes, scooters, and EVs with detailed specifications and high-resolution images. Advanced search and filtering options will allow users to narrow down choices by brand, price, and fuel type. A model comparison tool will help users evaluate multiple vehicles side by side. Integrated EMI and fuel cost calculators will assist in financial planning, while a launch tracker will keep users informed about upcoming models.

Additionally, the platform will feature a showroom locator with interactive maps, a test ride booking system, and a portal for listing and selling used bikes. The solution is designed to be modular, secure, and scalable—empowering both customers and dealerships with a smarter way to buy and sell two-wheelers.











































Key Benefits

For Users

- **Convenience:** One-stop platform for browsing, comparing, and booking
- Transparency: Clear pricing, specs, and financial tools for informed decisions
- Accessibility: Mobile-friendly design for on-the-go access

For Dealerships

- **Inventory Management:** Streamlined listing and tracking of vehicles
- **Lead Generation:** Direct engagement with potential buyers
- **Brand Visibility:** Enhanced online presence and customer reach

Conclusion

The proposed two-wheeler marketplace web app is more than a digital catalog—it's a strategic tool that empowers users and dealerships alike. By combining cutting-edge technology with user-focused design, we aim to elevate Vahan Bazar's mission of making bike buying and selling effortless.

Together, let's drive the future of mobility—digitally, efficiently, and intelligently.