A Major Project Synopsis on

AutoTrader's

Submitted to Manipal University, Jaipur

Towards the partial fulfillment for the Award of the Degree of

MASTER OF COMPUTER APPLICATIONS

2023-2025

by

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Jaipur, Rajasthan

2025

I. Introduction

The automobile industry is rapidly evolving, with an increasing demand for online platforms that facilitate buying, selling, and renting vehicles. Traditional methods often involve complex negotiations, lack of transparency, and limited accessibility.

AutoTraders is a web-based platform designed to provide a seamless experience for customers by offering a comprehensive solution for purchasing, selling, and renting vehicles, with a special focus on luxury brands. The platform ensures user satisfaction through trusted transactions, competitive pricing, and exclusive discounts.

Built using the MERN Stack (MongoDB, Express.js, React.js, Node.js) along with HTML and CSS, this project aims to create a reliable and efficient digital marketplace for automobile enthusiasts and customers.

II. Motivation

Many buyers and sellers struggle with traditional vehicle transactions due to lack of transparency, difficulty in price negotiation, and limited accessibility. AutoTraders aims to address these challenges by:

- Offering a user-friendly online marketplace for vehicle transactions.
- Providing reliable listings of luxury vehicles with verified sellers.
- Ensuring transparency in pricing with discount offers and secure transactions.
- Creating an efficient rental system for short-term vehicle usage.

By leveraging modern web technologies, AutoTraders aims to revolutionize the automobile marketplace by enhancing accessibility, reliability, and convenience.

III. Problem Statement

Traditional vehicle buying, selling, and renting methods present several inefficiencies:

- Lack of a centralized platform for luxury vehicle transactions.
- Tedious negotiations and pricing uncertainties.
- Limited accessibility to reliable vehicle rental services.
- Trust issues due to unverified sellers and fraudulent listings.

AutoTraders seeks to resolve these problems by providing a streamlined, secure, and feature-rich platform that enhances the vehicle trading experience for all stakeholders.

IV. Methodology/ Planning of work:

Frontend Development:

- Developed using React.js for a dynamic and interactive user interface.
- HTML and CSS ensure a visually appealing and responsive design.
- Mobile responsiveness for accessibility on various devices.

Backend Development:

- Node.js with Express.js for efficient server-side logic and API management.
- Secure authentication mechanisms for user verification.
- Real-time data updates for smooth transactions.

Database Management:

- MongoDB for managing vehicle listings, transactions, and user data.
- Scalable architecture to support high traffic and multiple transactions.

Key Functionalities:

- Vehicle Listings: Comprehensive catalog of luxury vehicles for sale or rent.
- User Management: Secure registration and profile management for buyers and sellers.
- Transaction Security: Verified seller listings and secure payment processing.
- Rental Service: Efficient vehicle rental system with pricing details.
- Discounts and Offers: Special deals on selected brands.
- Admin Dashboard: Manage users, listings, and transactions efficiently.

Testing and Deployment:

- Extensive unit and integration testing for system stability.
- Deployment on cloud platforms for high availability and scalability.

V. Requirements for proposed work:

1. Software Requirement:
    a. Operating System: Windows, Linux
    b. Frontend: React JS, HTML, CSS
    c. Database: MongoDB
    d. Backend: Node.js with Express.js

2. Hardware Requirement:
    a. Hardware: Pentium based systems with a minimum of P4
    b. RAM: Minimum 256MB (Recommended: 4GB for optimal performance)
    c. Hard Disk: 10 GB Hard Disk Space

VI. Bibliography/References

- MongoDB Documentation: https://www.mongodb.com/docs/
- React.js Official Documentation: https://react.dev/
- Node.js Documentation: https://nodejs.org/en/docs/
- Express.js Guide: https://expressjs.com/en/guide.html