

# **MINI PROJECT**

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## **Purpose:**

The "Car Dealership Management System" revolutionizes the automotive industry by offering a comprehensive solution that redefines car-related activities. With the increasing demand for personalized services and efficient processes, this system aims to provide an integrated platform. It encompasses functionalities such as vehicle inventory management, sales tracking, service scheduling and user configuration. These features are supported by a dynamic MongoDB database. The goal is to enhance user satisfaction, optimize operational efficiency, and introduce innovative ownership options.

## **Methodology:**

Built upon the MERN (MongoDB, Express.js, React.js, Node.js) stack, this project ensures a robust foundation for crafting dynamic web applications. React.js facilitates the creation of a responsive and interactive frontend, while Node.js governs backend logic and data flow. MongoDB is chosen as the database to accommodate real-time data handling and retrieval. The architecture seamlessly integrates components, ensuring a unified user experience.

## **Results:**

Through meticulous implementation and rigorous testing, the "Car Dealership Management System" successfully attains its intended objectives. Users can effortlessly explore vehicle listings, customize configurations, schedule test drives, and receive personalized vehicle suggestions based on the requirement provided by the users. Dealership administrators can manage inventory, track sales, oversee service appointments, and billing information. The system enables a unique ownership option: if funded by a bank, the vehicle ownership will be under the bank's name; otherwise, it remains with the original owner. During the initial free service period user would receive notification regarding the services. The system's user-friendly interface and streamlined functionalities garner positive feedback.

## **Conclusion:**

The success of the "Car Dealership Management System" underscores the potential of a well-structured MERN stack-based solution in transforming the automotive industry. By seamlessly integrating features such as inventory management, sales tracking, configuration options, and billing, the system adapts to evolving customer needs. This project's achievements emphasize the role of technology in enhancing user experiences and operational processes. The innovative ownership model adds a new dimension to car purchasing. The system serves as a pioneering step towards modernizing car dealership management practices and providing tailored ownership choices.

## **ABSTRACT**

The proposed Car Dealership Management System (CDMS) is a feature-rich platform designed to streamline and enhance the operations of a car dealership. The system encompasses modules for administrators, users, sales personnel, and service teams, ensuring a seamless experience for all stakeholders. The CDMS not only facilitates vehicle sales and services but also provides users with a unique vehicle configuration experience, while also suggesting vehicles tailored to their preferences.

## **USERS**

### **Admin Module**

- Secure login and role-based access for administrators.
- Dashboard offering insights into sales, inventory, and service activities.
- Inventory management to add, update, and categorize vehicles.
- User management to oversee staff and user roles.

### **User Module**

- User registration and login capabilities.
- User profiles with personal details, preferences, and saved configurations.
- Intuitive vehicle configurator allowing users to customize vehicle features.
- Vehicle suggestion based on user preferences.

### **Sales Module**

- Sales personnel login with access to customer details.
- Manage and monitor sale process.
- Provide necessary assistance to customers.

### **Service Module**

- Service team login with access to customer service requests.
- Service request management to schedule appointments and track progress.
- Maintenance history tracking for each vehicle.
- Warranty information management and reminders.
- Integration with parts inventory for efficient servicing

## **Technologies**

- Suggestion of car according to user needs.
- Personalized configuration of car.
- 360 view (AR) of car.

## **Software Specifications**

- Frontend: React.js for building dynamic and interactive interfaces.

- Backend: Node.js with Express.js for server-side logic and API handling.
- Database: MongoDB for storing user profiles, vehicle data.

## **MINI-PROJECT MODULE**

### **Admin Module**

- Secure login and role-based access for administrators.
- Dashboard offering insights into sales, inventory, and service activities.
- Inventory management to add, update, and categorize vehicles.
- User management to oversee staff and user roles.

### **User Module**

- User registration and login capabilities.
- User profiles with personal details, preferences, and saved configurations.
- Intuitive vehicle configurator allowing users to customize vehicle features.

### **Sales Module**

- Sales personnel login with access to customer details.
- Provide necessary assistance to customers.

## **MAIN-PROJECT MODULE**

### **Service Module**

- Service team login with access to customer service requests.
- Service request management to schedule appointments and track progress.
- Maintenance history tracking for each vehicle.
- Warranty information management and reminders.
- Integration with parts inventory for efficient servicing

3D view (AR) of car

## **MACHINE LEARNING IMPLEMENTATION**

- Suggestion of car according to user needs.