

# Car Dealership Project

1

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# 1. Introduction

2

## 1.1 Project Objectives

- ▶ The main aim of this project is to design and implement a full web service intended for car dealerships in order to make the showcase, filtering, and management of vehicle inventories easier.

## 1.2 Scope of the Project

- ▶ The scope of this project encompasses creating a robust and user-friendly web service that caters to the operational needs of car dealerships while enhancing the browsing experience for potential customers.

# 2. Design and Architecture

3

## 2.1 System Architecture

- ▶ The system follows a client-server model with React.js for front-end, Node.js and Express.js for back-end, and MongoDB for database.

## 2.2 Database Design

- ▶ MongoDB is used to store vehicle information with fields like name, model, year, and VIN.

## 2.3 Front-End Design

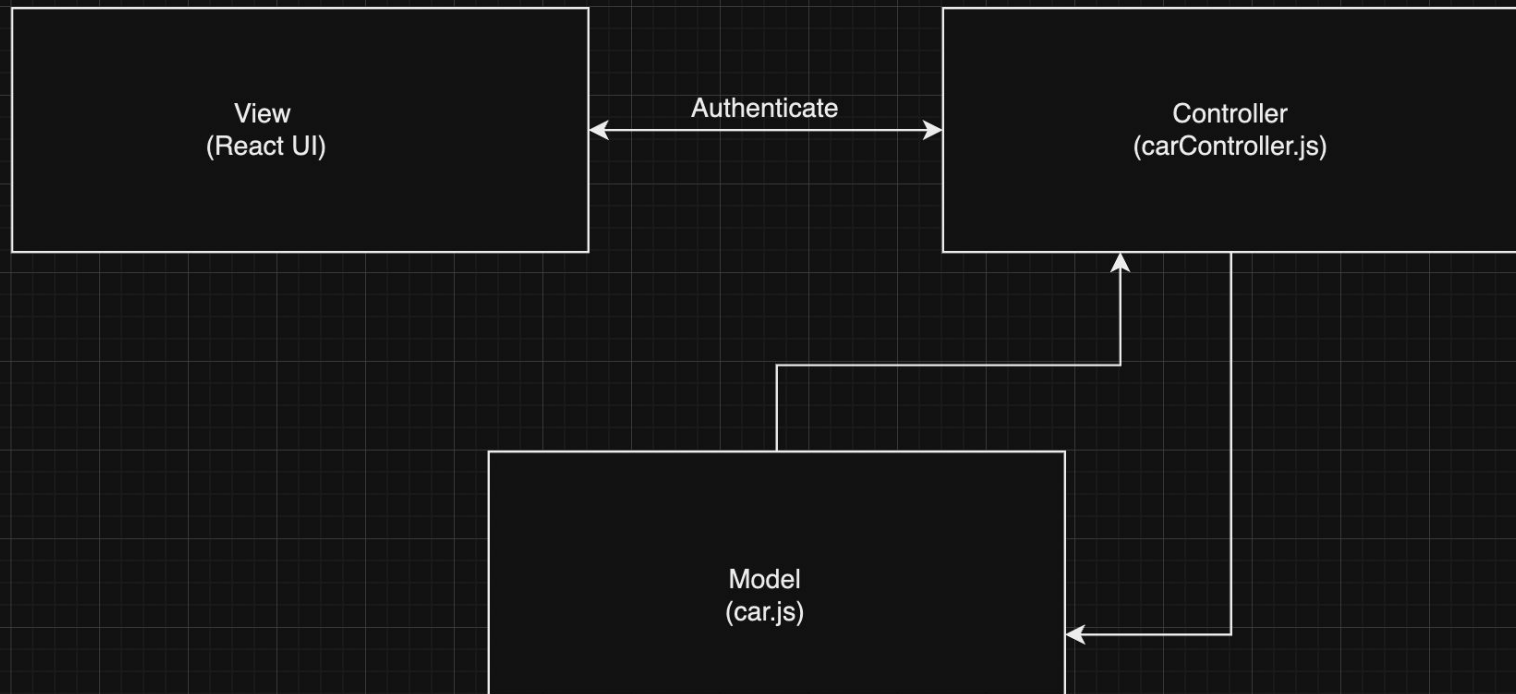
- ▶ React.js and Tailwind CSS are used to build a responsive, user-friendly interface.

## 2.4 Back-End Design

- ▶ Node.js handles the API routes and communicates with MongoDB for data retrieval.

## 2. Design and Architecture

4



# 3. Implementation

5

## 3.1 Technologies Used

- ▶ React.js, Tailwind CSS, Node.js, Express.js, MongoDB.

## 3.2 RESTful Web Services

- ▶ Implemented API endpoints for vehicle data retrieval, including GET /cars and GET /cars/:id.

## 3.3 Front-End Implementation

- ▶ Used React.js for dynamic rendering of vehicle data and Tailwind CSS for styling.

## 3.4 Back-End Implementation

- ▶ Node.js and Express.js handle API requests and interact with MongoDB.

# 4. Features and Functionalities

6

## 4.1 Vehicle Filtering

- ▶ Users can filter vehicles by price or kilometers driven.

## 4.2 Pagination

- ▶ Displays 16 vehicles per page in a 4x4 grid layout.

## 4.3 Vehicle Details Page

- ▶ Shows detailed information and images of the selected vehicle.



# 5. Testing and Validation

## 5.1 Test Scenarios

- ▶ Testing was done to verify the correctness of vehicle filtering, pagination, and detail page functionality.

## 5.2 Results

- ▶ Tests confirmed that the system meets the expected functionality with accurate filtering and proper pagination.

# 6. Conclusion and Future Enhancements

## 6.1 Conclusion

- ▶ The project successfully implemented a modern, responsive vehicle listing platform.

## 6.2 Future Enhancements

- ▶ Future features could include online booking car



**Thank you**