



**DAYANANDA SAGAR  
UNIVERSITY**



**SCHOOL OF  
ENGINEERING**

**Bachelor of Technology  
in  
COMPUTER SCIENCE AND ENGINEERING**

**22CS2403 – DATABASE MANAGEMENT SYSTEMS**

**MINI PROJECT REPORT**

On

**Car Showroom Management System**

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**SCHOOL OF ENGINEERING**

**DAYANANDA SAGAR UNIVERSITY**

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**DAYANANDA SAGAR  
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## **CERTIFICATE**

This is to certify that the DBMS MINI PROJECT titled “**Car showroom management System**” carried out by **Gudla Monish (ENG22AM0096), Chethan S (ENG22AM0084), Mathew Alex (ENG22AM0113), Nallamalli venkata kushal (ENG22AM0116)** Bonafide students of Bachelor of Technology in Computer Science and Engineering at the School of Engineering, Dayananda Sagar University, Bangalore in partial fulfillment for the award of degree in Bachelor of Technology in Computer Science and Engineering, during the year 2023-2024.

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# ABSTRACT

This project focuses on developing a Car Showroom Management System to streamline and enhance the operations of a car showroom. The system maintains comprehensive records of cars, customers, stores, and sales orders. It ensures efficient management by tracking car details, customer information, store locations, and order specifics, including payment methods and sales totals. By implementing this system, the showroom can achieve better organization, reduce manual errors, and provide a seamless experience for both customers and staff. The project aims to simplify the management process, making it easier to handle inventory, customer data, and sales transactions, ultimately improving overall productivity and customer satisfaction.

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# INTRODUCTION

The *Car Showroom Management* System project was conceived to address the challenges faced by car showrooms in managing their daily operations. Traditional methods of handling car inventories, customer records, and sales transactions are often cumbersome and prone to errors. These inefficiencies can lead to customer dissatisfaction, lost sales opportunities, and increased operational costs.

Our project aims to automate and streamline the management processes within a car showroom. By creating a centralized database to store and manage car details, customer information, store locations, and sales data, we can significantly enhance the efficiency and accuracy of showroom operations. This system will enable showroom staff to quickly access necessary information, process transactions smoothly, and maintain up-to-date records.

The benefits of this project extend beyond internal operations. Customers will experience faster service, more accurate information, and a more organized showroom environment. Overall, the Car Showroom Management System is designed to improve productivity, reduce errors, and elevate the customer experience, making it a valuable tool for modern car showrooms.

# **PROBLEM STATEMENT**

Car showrooms often face significant challenges in managing their operations due to the reliance on manual processes and disparate systems. This can lead to inefficiencies such as inaccurate inventory tracking, delayed customer service, and errors in sales transactions. Additionally, maintaining comprehensive records manually is time-consuming and prone to human error, which can impact decision-making and overall showroom performance. These challenges necessitate a streamlined, automated solution to improve accuracy, efficiency, and customer satisfaction.

# **PROJECT DESCRIPTION**

The Car Showroom Management System is designed to address these challenges by creating an integrated, automated platform that consolidates all aspects of showroom operations. This system includes modules for managing car inventories, customer information, store locations, and sales transactions. Each car's details, including make, model, price, and fuel type, are stored in a centralized database, ensuring accurate and accessible information. Customer records, including personal details and purchase history, are maintained to facilitate better customer relationship management and personalized service.

The system also supports the management of sales orders, tracking each transaction from initiation to completion. By incorporating payment methods and sales totals, the system ensures that financial records are precise and up-to-date. Store locations are managed within the system to ensure efficient inventory distribution and customer service across multiple branches. By automating these processes, the Car Showroom Management System reduces the likelihood of errors, enhances operational efficiency, and significantly improves the overall customer experience. This project ultimately aims to transform traditional showroom management into a modern, data-driven operation.

# DESIGN

The design of the Car Showroom Management System integrates a combination of database management, user interface (UI), and backend development techniques to create a user-friendly application. A structured relational database was designed to store and manage all relevant data, including car details, customer information, store locations, and sales transactions. The database schema includes well-defined tables with primary and foreign key constraints to ensure data integrity and relational coherence. Numerous triggers were implemented to automate routine tasks, maintain data consistency, and enforce business rules. For example, triggers were set to update inventory levels automatically when a sale is made and to log any changes to customer information for auditing purposes.

The system features an intuitive UI developed using modern web technologies such as HTML, CSS, and JavaScript. The UI is designed to be user-friendly and accessible, providing an easy-to-navigate interface for showroom staff. Key functions such as adding new car details, processing sales orders, and retrieving customer information are readily accessible through a clear layout.

The design of the Car Showroom Management System was informed by real-world challenges faced by car showrooms and aimed to improve on areas where traditional methods were lacking. Traditional showrooms often struggle with maintaining accurate inventory records. Our system addresses this by providing real-time updates and alerts, ensuring that inventory levels are always current and reducing the chances of overstocking or stockouts. By maintaining detailed customer records, the system enables showrooms to offer personalized service, track customer preferences, and follow up on leads more effectively. This leads to improved customer satisfaction and loyalty. The inclusion of automated triggers ensures that sales transactions are processed quickly and accurately. When a sale is made, triggers automatically update the sales records, adjust inventory levels, and generate invoices, reducing the administrative burden on staff and minimizing errors. The system's comprehensive database and reporting capabilities provide management with valuable insights into sales trends, inventory turnover, and customer behavior. This data-driven approach allows for informed decision-making and strategic planning. By addressing these specific challenges and incorporating feedback from actual showroom operations, the Car Showroom Management System was designed to be a precise, efficient, and user-friendly solution that significantly enhances the operational capabilities and customer service quality of car showrooms.



# METHODOLOGY

The development of the Car Showroom Management System followed a structured and systematic methodology commonly used in database management system (DBMS) projects and service-oriented applications. The methodology includes several key phases. First, during the requirement analysis phase, we documented all functional and non-functional requirements to ensure a clear understanding of the system's objectives and scope. In the system design phase, we created an Entity-Relationship (ER) diagram to visualize the data structure and relationships between entities. We then developed a detailed database schema, defining tables, primary keys, foreign keys, and constraints to ensure data integrity and normalization. Wireframes and mockups were designed for the system's UI, focusing on usability and ease of navigation.

In the development phase, we implemented the database schema using MySQL, setting up tables, relationships, and triggers to automate routine tasks and enforce business rules. The user interface was developed using HTML, CSS, and JavaScript, ensuring a responsive and user-friendly design. The backend logic was implemented using PHP to handle data processing, business logic, and secure communication between the UI and the database. This comprehensive approach ensured the creation of a reliable, efficient, and user-friendly Car Showroom Management System that meets the operational needs of car showrooms and enhances their service quality.

Real-life car showrooms manage various operations, including inventory tracking, customer relationship management, sales processing, and after-sales services. Showroom staff handles car details, customer inquiries, test drives, and sales transactions, ensuring accurate records and efficient service. Our Car Showroom Management System mirrors these operations by automating inventory updates, maintaining detailed customer records, processing sales transactions seamlessly, and providing a user-friendly interface for staff. This system effectively replicates and enhances the key functions of a real-life showroom, improving efficiency and customer satisfaction.

# TESTING AND RESULTS

**Testing and Results** The testing phase of the Car Showroom Management System was crucial to ensure the system's reliability, functionality, and user satisfaction. We adopted a comprehensive testing strategy that included unit testing, integration testing, system testing, and user acceptance testing (UAT). **Unit Testing:** Each individual component of the system, including database triggers, UI elements, and backend functions, was rigorously tested in isolation. This phase aimed to identify and resolve any issues within specific modules before integrating them into the broader system. For example, we tested database triggers to ensure they correctly updated inventory levels and maintained data consistency without human intervention. **Integration Testing:** After unit testing, we moved to integration testing, where different components were combined and tested as a group. This phase ensured that the database, backend, and front end interacted seamlessly. For instance, we verified that when a new car sale was processed through the UI, the backend correctly updated the database and generated accurate sales reports. **System Testing:** System testing involves evaluating the complete system's functionality against the requirements. This phase checked the system's performance under various scenarios, including high user load, concurrent transactions, and data retrieval operations.

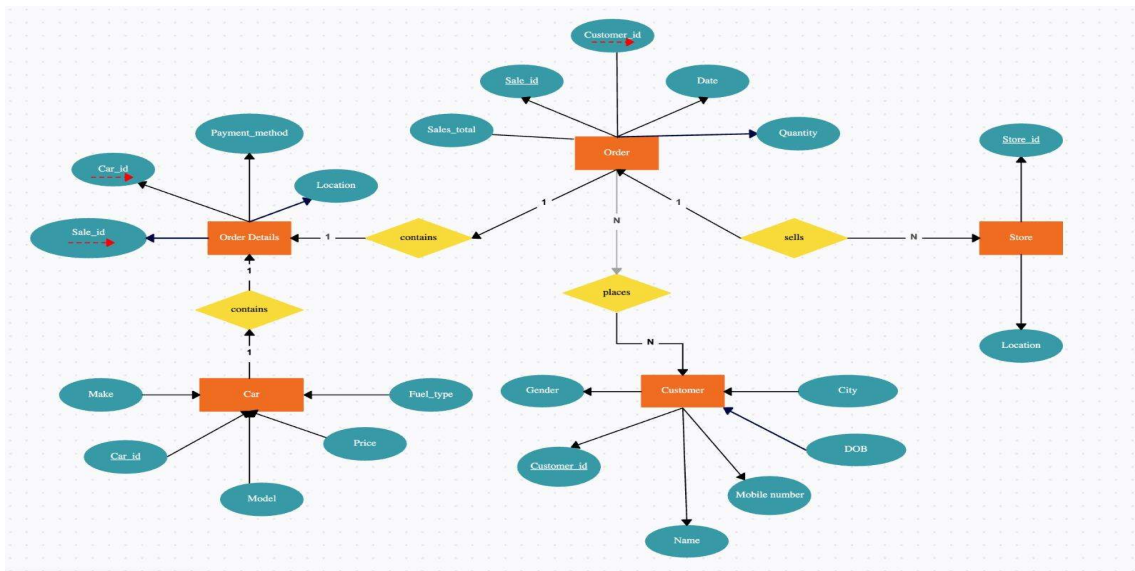
We simulated multiple sales transactions, inventory updates, and customer record changes to ensure the system handled these operations efficiently and without errors. **User Acceptance Testing (UAT):** The final phase involved real users testing the system to validate that it met their needs and expectations. Showroom staff participated in this phase, performing routine tasks such as adding new car details, processing sales, and retrieving customer information. Their feedback was invaluable in identifying usability issues and areas for improvement. **Results:** The testing phases yielded positive results, confirming that the Car Showroom Management System was robust, reliable, and user-friendly.

Unit testing ensured that individual components were error-free and functioned as intended. Integration testing validated the smooth interaction between different system parts, while system testing demonstrated the system's capability to handle real-world usage scenarios efficiently.

# SYSTEM IMPLEMENTATION

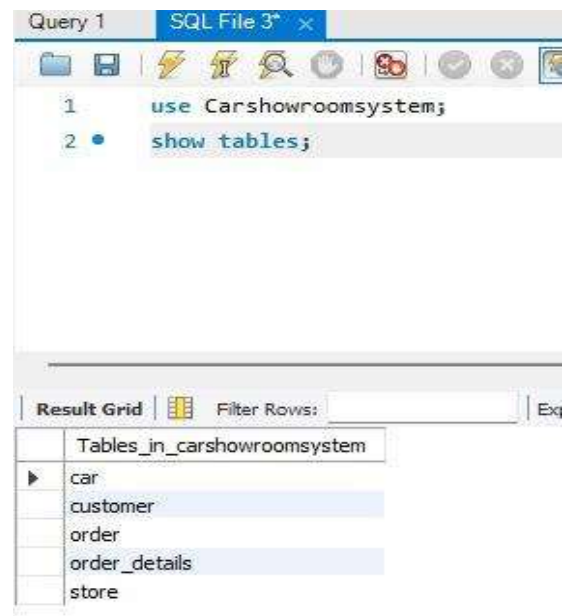
## 1. ER DIG

## 2. CREATION OF TABLES IN MySQL



## 3. CUSTOMER TABLE

```
1 CREATE DATABASE Carshowroomsystem;
2 use Carshowroomsystem;
3 CREATE TABLE Car (
4     Make VARCHAR(20),
5     carID INT(10) PRIMARY KEY,
6     Model VARCHAR(40),
7     Price DECIMAL(10,2),
8     FuelType VARCHAR(10)
9 );
10
11 CREATE TABLE Customer (
12     City VARCHAR(20),
13     DOB DATE,
14     MobileNumber VARCHAR(20),
15     Name VARCHAR(20),
16     cust_ID VARCHAR(20) PRIMARY KEY,
17     Gender VARCHAR(10)
18 );
19
20 CREATE TABLE Store (
21     storeID VARCHAR(20) PRIMARY KEY,
22     Location VARCHAR(50)
23 );
24
25 CREATE TABLE `Order` (
26     SalesTotal INT(20),
27     saleID VARCHAR(20) PRIMARY KEY,
28     cust_ID VARCHAR(20),
29     Date DATE,
30     Quantity INT(30),
31     FOREIGN KEY (cust_ID) REFERENCES Customer(cust_ID)
32 );
33
```



Result Grid						
	City	DOB	MobileNumber	Name	cust_ID	Gender
▶	New York	1985-06-15	1234567890	John Doe	CUST001	Male
	Los Angeles	1990-11-22	0987654321	Jane Smith	CUST002	Female
	Chicago	1992-08-30	1122334455	Alice Johnson	CUST003	Female
★	NULL	NULL	NULL	NULL	NULL	NULL

#### 4.STORE TABLE

Result Grid	
	Filter Rows:
	storeID Location
▶	STORE001 Downtown
	STORE002 Uptown
★	NULL NULL

#### 5.ORDER TABLE

Result Grid					
	Filter Rows:				
	SalesTotal	saleID	cust_ID	Date	Quantity
▶	40000	SALE001	CUST001	2024-05-21	20
	22000	SALE002	CUST002	2024-05-21	10
★	NULL	NULL	NULL	NULL	NULL

#### 6.order\_details table

Result Grid				
	Filter Rows:			
	Export:			
	carID	saleID	PaymentMethod	Location
▶	12	SALE001	Credit	Downtown
	14	SALE002	Cash	Uptown

## 7.Implementing views

```
1 • use Carshowroomsystem;
2 • CREATE VIEW SimpleCarSummary AS
3     SELECT Make, Model, Price
4     FROM Car;
5 • SELECT * FROM SimpleCarSummary;
```

Result Grid			
Filter Rows: <input type="text"/>			
Export:			
Wrap Cell Content:			
	Make	Model	Price
▶	Toyota	Corolla	2000000.00
	Honda	Civic	2200000.00
	Toyota	Corolla	20000.00
	Honda	Civic	22000.00
	Honda	Civic	22000.00
	Toyota	SUpra	20000.00
	Honda	CB100	32000.00

## 8.Implementing Triggers

sqlm   sql2   sql   sql333   SQL File 6" x

Limit to 1000 rows

```
6  -- Drop the trigger if it already exists
7  • DROP TRIGGER IF EXISTS after_customer_insert;
8
9
10 • CREATE TRIGGER after_customer_insert
11     AFTER INSERT ON Customer
12     FOR EACH ROW
13     INSERT INTO CustomerLog (cust_ID, Name, action, timestamp)
14     VALUES (NEW.cust_ID, NEW.Name, 'INSERT', NOW());
15
16
17 • INSERT INTO Customer (City, DOB, MobileNumber, Name, cust_ID, Gender) VALUES
18     ('Chicago', '1992-08-30', '1122334455', 'Alice Johnson', 'CUST003', 'Female');
19
20
21 • SELECT * FROM CustomerLog;
22
```

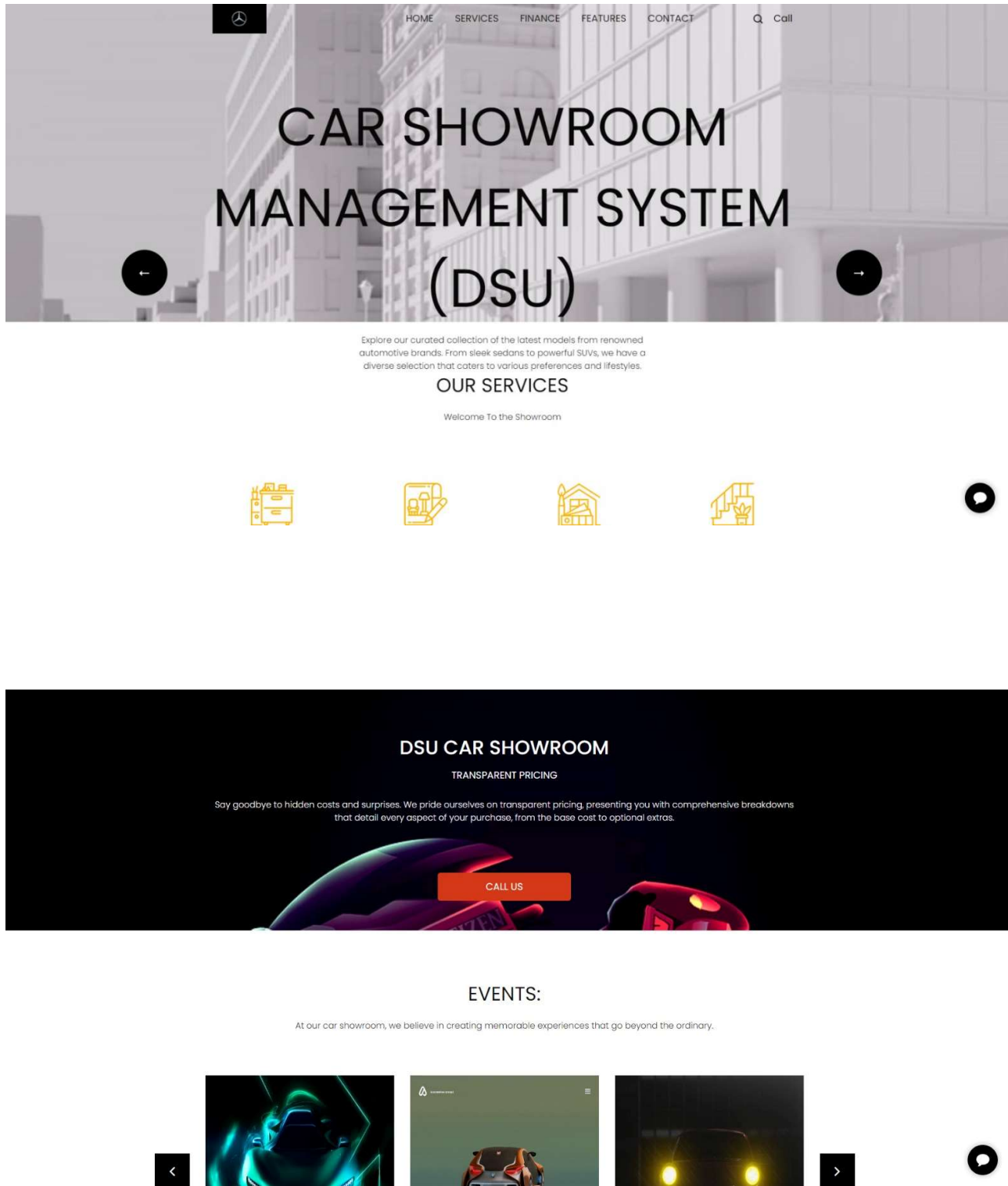
Result Grid Filter Rows:

Edit: Export/Import: Wrap Cell Content:

	logID	cust_ID	Name	action	timestamp
▶	1	CUST003	Alice Johnson	INSERT	2024-05-22 10:18:45
*	NULL	NULL	NULL	NULL	NULL

# Front-end Interface

## Information Display interface:



## CONCLUSION

In conclusion, the Car Showroom Management System has significantly advanced the management of car showroom operations by addressing the inefficiencies of traditional methods. This comprehensive, automated solution integrates a robust database, a user-friendly interface, and efficient backend logic to streamline car inventories, customer records, sales transactions, and store management. Our structured methodology, from thorough requirement analysis to meticulous testing, ensured the system's reliability and functionality.

We are grateful for the positive feedback received during user acceptance testing, which highlighted the system's impact on reducing manual errors, enhancing efficiency, and improving user satisfaction. The system's intuitive design and automated features have simplified daily tasks for showroom staff, making it an effective tool for optimizing inventory management and customer relationships.

So, we conclude that the Car Showroom Management System successfully transforms traditional showroom operations into a modern, efficient, and data-driven process. We thank everyone involved in this project for their contributions and support, paving the way for future enhancements to meet the evolving needs of car showrooms. This system is set to become an indispensable tool for achieving operational excellence and superior customer service.

## REFERENCE

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3. **SOURCE CODE REFERENCE:-** [HTTPS://GITHUB.COM/TOPICS/CAR-SHOWROOM-MANAGEMENT-SYSTEM](https://github.com/topics/car-showroom-management-system)
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