Software Requirements Specification (SRS) for Vehicle Sales Management System (VSMS)

A Tharun (B200026)
K Vinod Babu (B200059)
B Balaji (B201284)

Under the Guidance of
Venkat Raman Sir

Department of Computer Science and Engineering
Rajiv Gandhi University of Knowledge Technologies – Basar
Nirmal (Dist), Telangana - 504107
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Contents

1 Introduction

1.1 Purpose

The purpose of this document is to define the functional, non-functional, and technical requirements for the Vehicle Sales Management System (VSMS). This platform aims to streamline vehicle sales, inventory management, customer interactions, and employee tasks.

1.2 Scope

The VSMS is designed for dealerships to manage their inventory, track sales, interact with customers, and generate detailed reports. Features include:

- Managing vehicle listings.
- Processing and tracking sales.
- Assigning and managing tasks for sales representatives.
- Tracking customer feedback and interactions.
- Role-specific functionalities for administrators, sales representatives, and customers.

1.3 Glossary

Term	Definition
Administrator	The person responsible for overall system management, including user accounts and permissions.
Customer	A person who browses, searches, or purchases vehicles through the system.
Sales Representative	An employee who manages vehicle listings, interacts with customers, and tracks sales.
Vehicle	A car, motorcycle, or other type of vehicle available for sale in the system.
Feedback	Reviews or ratings submitted by customers for vehicles or dealership services.
Report	Summaries generated by the system for sales analysis or inventory tracking.
Secure Login	Authentication mechanism to ensure authorized access to the system.

1.4 Overall Description

The VSMS is a comprehensive solution for dealerships, integrating:

- **Frontend:** A user-friendly interface for administrators, sales representatives, and customers.
- **Backend:** PHP-based logic to handle operations.
- **Database:** A MySQL repository for inventory, sales data, and customer records.

1.5 Overview of Document

- **Chapter 2:** Provides a high-level overview of the product and sets the context for detailed requirements.
- **Chapter 3:** Describes the system's functionality in technical terms for developers.

2 Overall Description

2.1 System Environment

The Vehicle Sales Management System (VSMS) operates in an online environment with various active users and modules:

- **Active Users:**
  - **Administrator:** Manages high-level tasks such as assigning tasks, managing inventory, and generating reports.
  - **Sales Representative:** Handles operational activities like managing vehicle listings and processing sales.
  - **Customer:** Interacts with the system to search for vehicles, view details, and submit feedback.
- **Supporting Modules:**
  - **Inventory Manager:** Handles vehicle data.
  - **Sales Tracker:** Tracks sales and generates reports.
  - **Customer Feedback Manager:** Collects and displays feedback.

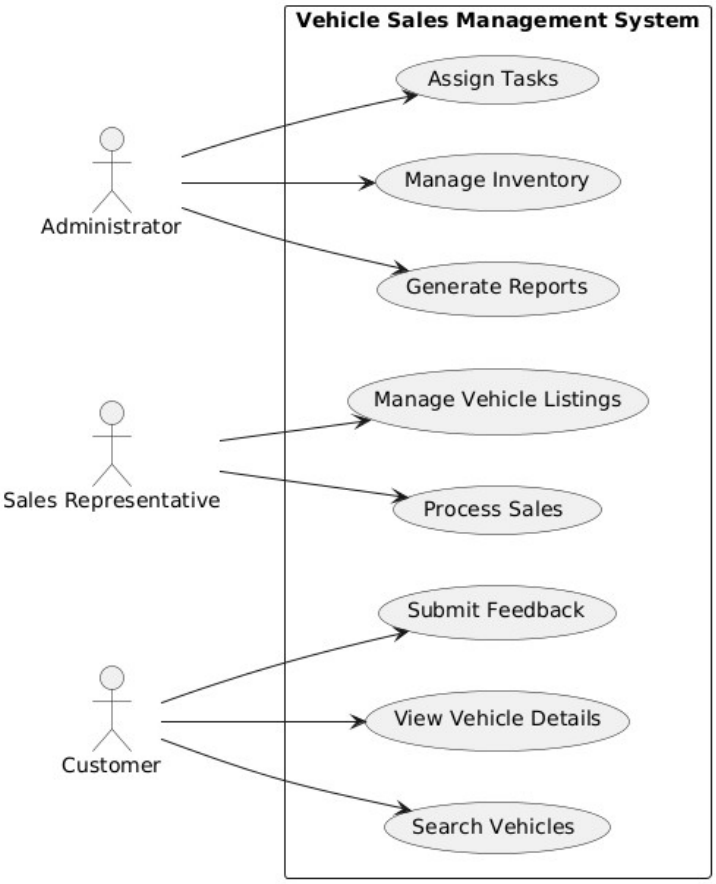

Figure 1: Use Case Diagram for VSMS

2.2 Functional Requirements Specification

2.2.1 2.2.1 Functional Requirements: Customer Use Case - Search Vehicle

Brief Description: The Customer accesses the Vehicle Sales Management System website, searches for a vehicle, views its details, and can save it for later or proceed to purchase.
Diagram: The use case diagram for the **Search Vehicle** functionality is shown below. It illustrates how a customer interacts with the system during this process.

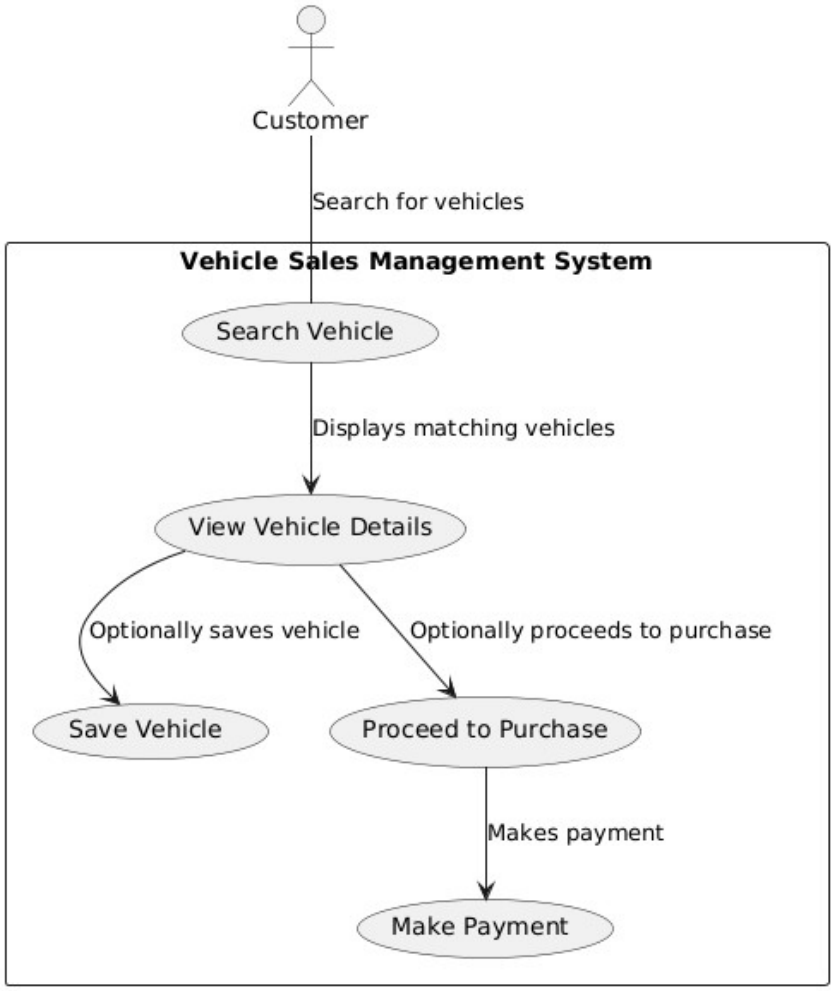

Figure 2: Use Case Diagram for Search Vehicle Functionality

Steps for the Customer:

1. The Customer accesses the website.
2. The Customer chooses search criteria (e.g., brand, model, price).
3. The system displays vehicles matching the search criteria.
4. The Customer selects a vehicle to view its details.
5. The Customer can:
   - Save the vehicle for later reference.
   - Proceed to purchase the vehicle.

2.2.2 2.2.2 Author Use Case: Submit Report

Brief Description: In the VSMS context, this use case refers to a Sales Representative submitting a report or vehicle listing for approval. It allows seamless communication between the Sales Representative and the Administrator for content submission and acknowledgment.
Diagram: The use case diagram for the **Submit Report** functionality is shown below, illustrating how a Sales Representative submits a report to the Administrator via the system.

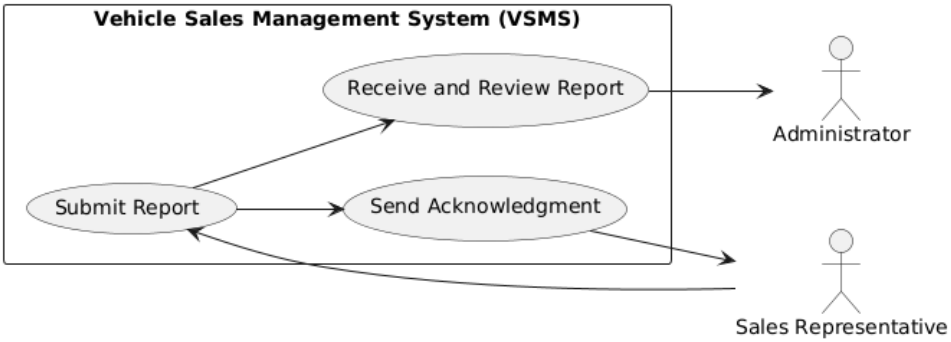

Figure 3: Use Case Diagram for Submit Report Functionality

Initial Step-By-Step Description: Before this use case can be initiated, the Sales Representative has already logged into the Vehicle Sales Management System.

1. The Sales Representative chooses the ”Submit Report” button.
2. The system brings up a form for the Sales Representative to fill in the details (e.g., report name, description, attachments).
3. The Sales Representative attaches the necessary files and submits them.
4. The system validates the inputs and uploads the submission to the Administrator’s dashboard.
5. The system generates and sends an acknowledgment to the Sales Representative.

2.2.3 2.2.3 Administrator Use Case: Manage Vehicle Inventory

Brief Description: The Administrator is responsible for managing the vehicle inventory within the system. This includes adding, editing, and removing vehicles from the inventory.
Diagram: The use case diagram for the **Manage Vehicle Inventory** functionality is shown below.

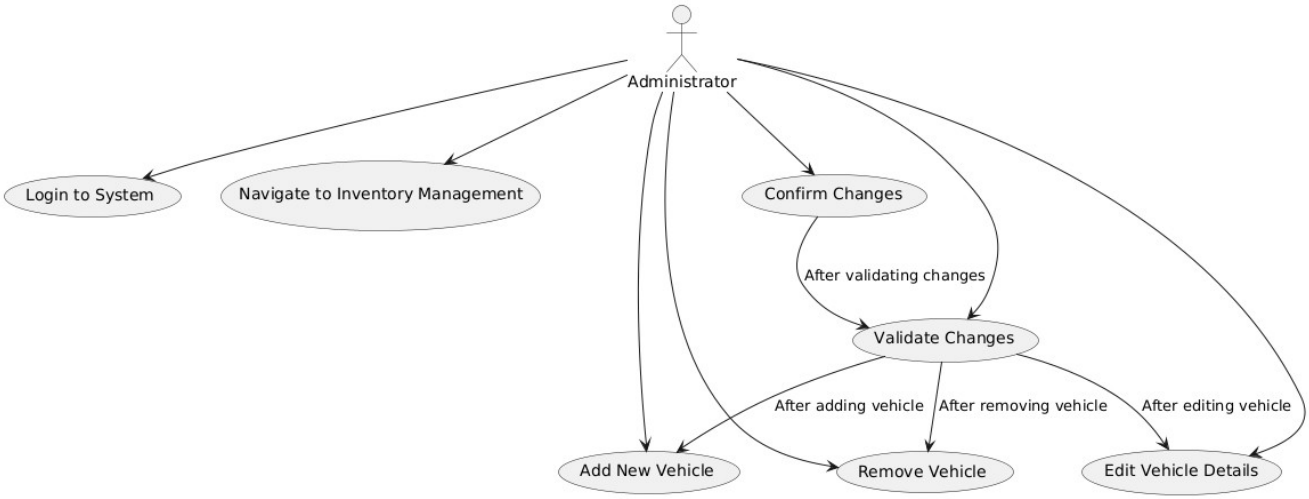

Figure 4: Use Case Diagram for Manage Vehicle Inventory

Steps for the Administrator:

1. The Administrator logs into the system.
2. The Administrator navigates to the vehicle inventory management page.
3. The Administrator can:
   - Add new vehicles to the inventory.
   - Edit existing vehicle details (e.g., price, model, description).
   - Remove vehicles from the inventory.
4. The system validates the changes and updates the inventory in the database.
5. The system displays a confirmation message once the changes are successfully applied.

3 Requirements Specification

3.1 Functional Requirements

3.1.1 Administrator Use Case: Update Vehicle Information

Actors:

- **Administrator:** The person responsible for managing the vehicle inventory in the system.

Brief Description: The Administrator updates the details of an existing vehicle, such as price, availability, or model information, in the Vehicle Sales Management System.
Steps for the Administrator:

1. The Administrator logs into the system.
2. The Administrator selects the option to **Update Vehicle Information**.
3. The system presents a list of vehicles.
4. The Administrator selects a vehicle to update.
5. The system displays the current details of the selected vehicle.
6. The Administrator updates the required vehicle details (e.g., price, availability).
7. The Administrator submits the updated information.
8. The system validates the changes and updates the vehicle record.
9. The system confirms the update and returns the Administrator to the main dashboard.

Use Case Diagram:

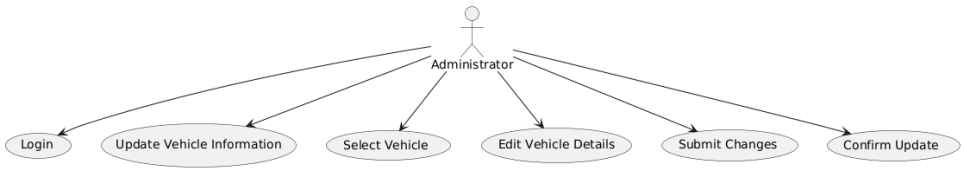

Figure 5: Use Case Diagram for Update Vehicle Information

Use Case Diagram Description:

- The diagram represents the interaction between the **Administrator** and the system to update vehicle information.
- The process includes selecting a vehicle, editing its details, and submitting changes.
- The system confirms and saves the updates after validation.

3.2 3.1.1 Receive Vehicle

Actors:

- **Sales Manager:** The person responsible for managing vehicle inventory in the system.

Brief Description: The **Sales Manager** enters a new vehicle into the inventory system or updates the details of an existing vehicle (e.g., vehicle model, price, specifications, etc.).

Steps for the Sales Manager:

1. The **Sales Manager** logs into the system and navigates to the **Vehicle Inventory Management** page.
2. The **Sales Manager** selects the **Receive Vehicle** option.
3. The system presents a choice to either:
   - Add a new vehicle, or
   - Update the details of an existing vehicle.
4. If the **Sales Manager** selects to update an existing vehicle:
   - The system presents a list of vehicles already in the inventory.
   - The **Sales Manager** selects a vehicle from the list.
   - The system presents a form populated with the current details of the selected vehicle.
5. If the **Sales Manager** chooses to add a new vehicle:
   - The system presents a blank form for entering new vehicle details (e.g., make, model, year, VIN, price).
6. The **Sales Manager** fills in the required information about the vehicle.
7. The **Sales Manager** submits the form.
8. The system verifies the entered information for correctness.
9. Upon successful verification, the system saves the new vehicle or updates the details of the existing vehicle.
10. The system returns the **Sales Manager** to the **Vehicle Inventory Management** page.

Use Case Diagram:

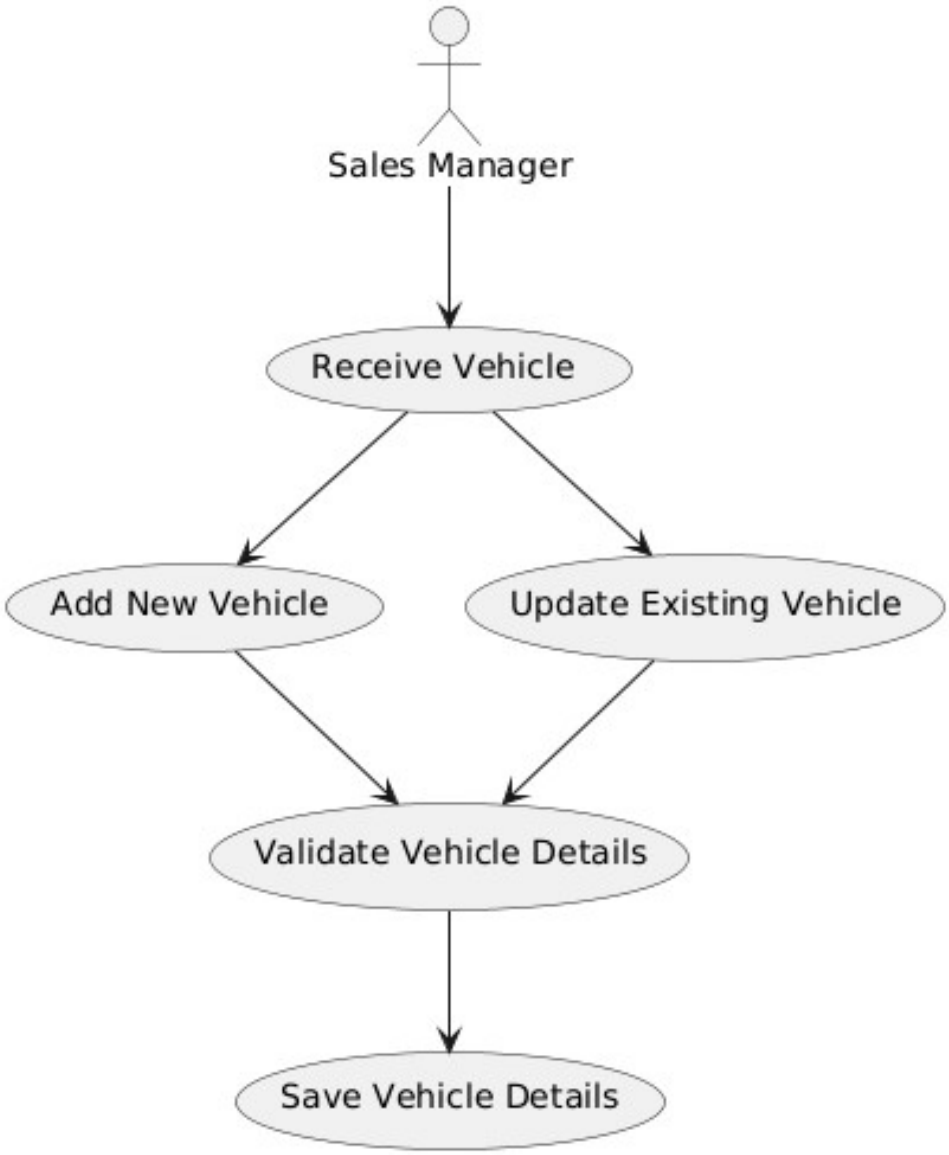

Figure 6: Use Case Diagram for Receive Vehicle

Use Case Diagram Description:

- The diagram illustrates the interaction between the **Sales Manager** and the system to manage vehicle inventory.
- The Sales Manager can choose to either add a new vehicle or update an existing vehicle.
- The system ensures data validation before saving the vehicle to the database.

3.3 Remove Vehicle

Actors:

– **Sales Manager:** The person responsible for managing the vehicle inventory in the system.

Brief Description: The **Sales Manager** removes a vehicle from the active inventory in the system.

Initial Step-By-Step Description: Before this use case can be initiated, the **Sales Manager** has already accessed the vehicle listing through the **Update Vehicle** use case.

1. The **Sales Manager** selects to remove a vehicle from the inventory.
2. The system presents a list of vehicles with their current statuses (e.g., available, sold, etc.).
3. The **Sales Manager** selects a vehicle for removal.
4. The system removes the selected vehicle from the active vehicle inventory and returns the **Sales Manager** to the **Vehicle Inventory Management** page.

Use Case Diagram:

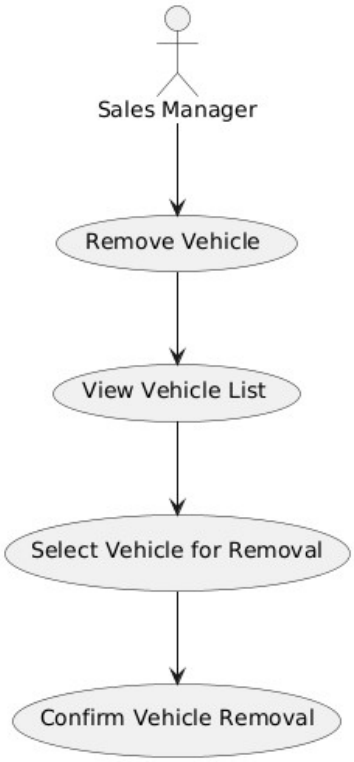

Figure 7: Use Case Diagram for Remove Vehicle

Use Case Diagram Description:

- The diagram illustrates the interaction between the **Sales Manager** and the system to manage vehicle inventory.
- The **Sales Manager** can remove a vehicle from the active inventory by selecting a vehicle from the list.
- The system ensures the vehicle is properly removed from the inventory.
- The system must allow secure login and role-based access control.
- Users should be able to search, filter, and view vehicle details.
- Sales representatives must manage inventory, update vehicle details, and process transactions.
- Administrators must manage users, assign tasks, and generate reports.
- The system must collect and display customer feedback.

4 Vehicle Sales Management Use Cases

Use Case Name	XRef	Trigger
Search Vehicle	Section 3.2.1, Search Vehicle	The Sales Manager accesses the veh
Add Vehicle	Section 3.2.2, Add Vehicle	The Sales Manager selects to add a
Update Vehicle	Section 3.2.3, Update Vehicle	The Sales Manager selects to updat
Remove Vehicle	Section 3.2.4, Remove Vehicle	The Sales Manager selects to remov
View Vehicle Details	Section 3.2.5, View Vehicle Details	The Sales Manager selects a vehicle
Generate Sales Report	Section 3.2.6, Generate Report	The Sales Manager selects to genera

5 Use Case Details

Use Case Name	Description
Add Vehicle	The Sales Manager selects to add a new vehicle to the system. The system provides an entry form for vehicle details like make, model, year, and price. The Sales Manager submits the form to add the vehicle to the database. If any mandatory field is missing, the system requests to fill it.
Update Vehicle	The Sales Manager selects a vehicle from the inventory and edits its details. The system presents the vehicle details in a form for modification. After the changes are made, the Sales Manager submits the form to update the database. If required fields are empty, the system prompts for corrections.
Remove Vehicle	The Sales Manager selects a vehicle to remove from the inventory. The system displays the vehicle's details and asks for confirmation before deletion. Once confirmed, the vehicle is removed from the database.
Search Vehicle	The Sales Manager can search the vehicle database by make, model, year, or price. Based on the search criteria, the system presents a list of matching vehicles. The Sales Manager selects a vehicle to view its details.
View Vehicle Details	After a vehicle is selected from the search results, the system presents the detailed information of the vehicle, including price, specifications, and availability. The Sales Manager can update or remove the vehicle if necessary.
Generate Sales Report	The Sales Manager selects to generate a sales report based on specific filters like time period, vehicle type, and sales performance. The system generates a report and displays it to the Sales Manager.

5.1 Non-Functional Requirements

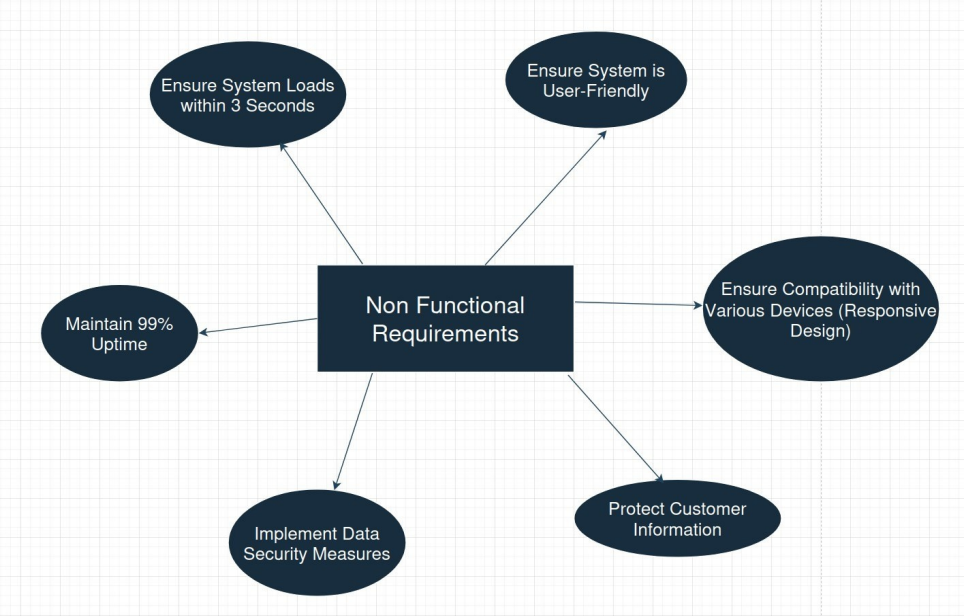

Figure 8: Use Case Diagram for non functional requirements

- Response time should not exceed 3 seconds.
- Data must be encrypted during transmission and storage.
- The system must support at least 1,000 concurrent users.
- Compatibility with major web browsers and mobile devices.

6 System Features

- Inventory Management: Add, update, and remove vehicles.
- Sales Tracking: Track and manage customer purchases.
- Customer Interaction: Collect feedback and manage queries.
- Reporting: Generate sales and inventory reports.
- Role Management: Assign tasks and permissions.

7 Conclusion

The Vehicle Sales Management System will enhance operational efficiency for dealerships, improving both customer satisfaction and business performance. Future iterations could include AI-based vehicle recommendations and integration with third-party platforms for greater reach.