**PROJECT REPORT**

**Vehicle Management System using Salesforce**

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**1. Introduction**

**1.1 Purpose of the Document**

This document serves as a comprehensive guide for the development and implementation of a Vehicle Management System using Salesforce. It outlines the project's objectives, scope, features, architecture, requirements, implementation steps, testing, deployment plan, and more.

**1.2 Scope**

The Vehicle Management System will be designed to assist an organization in managing its vehicle inventory, tracking maintenance activities, monitoring fuel consumption, and handling service requests. It will also provide a user-friendly interface for different user roles.

**1.3 Project Overview**

The Vehicle Management System will be built using the Salesforce platform, taking advantage of its robust cloud capabilities, scalability, and customization features. Salesforce provides a flexible and secure environment for developing enterprise-level applications.

**2. Project Overview**

**2.1 Objective**

The main objective of the Vehicle Management System is to streamline vehicle-related processes and enhance efficiency by centralizing data in one place. The system aims to simplify vehicle tracking, maintenance, and service management while providing real-time insights.

**2.2 Features**

* Vehicle Inventory Management
* Vehicle Service and Maintenance Tracking
* Fuel Consumption Monitoring
* Service Request Management
* User Management and Roles
* Reporting and Analytics

**2.3 Technologies Used**

* Salesforce Platform
* Salesforce Lightning Web Components (LWC)
* Apex (Salesforce programming language)
* Visualforce (for legacy components)
* Salesforce Object Query Language (SOQL)
* Salesforce Object Search Language (SOSL)

**2.4 Target Audience**

The primary users of the Vehicle Management System include fleet managers, vehicle maintenance personnel, service technicians, and administrative staff responsible for vehicle-related tasks.

**3. System Architecture**

**3.1 High-Level Architecture**

(Include a diagram depicting the system architecture)

**3.2 Data Model**

(Include a detailed data model describing the custom objects and relationships)

**3.3 Integration Points**

Outline any external systems or APIs that need to be integrated with the Vehicle Management System.

**4. Requirements**

**4.1 Functional Requirements**

1. User should be able to add new vehicles to the system.
2. User should be able to record maintenance and service activities for each vehicle.
3. System should track fuel consumption and calculate mileage for vehicles.
4. Users should have different roles with appropriate access permissions.
5. Service requests should be managed and assigned to service technicians.
6. The system should provide reports and analytics on vehicle data.

**4.2 Non-Functional Requirements**

1. System should be highly secure to protect sensitive vehicle data.
2. The user interface should be intuitive and easy to navigate.
3. Performance should be optimized for large datasets.
4. The system should be accessible from various devices and browsers.
5. Data backups and disaster recovery mechanisms should be in place.

**5. Implementation**

**5.1 Salesforce Setup**

* Create a new Salesforce organization (sandbox/developer edition/production).
* Enable necessary features and permissions.

**5.2 Custom Objects and Fields**

* Create custom objects to store vehicle, maintenance, and service request data.
* Define appropriate custom fields for each object.

**5.3 User Interface Design**

* Develop Lightning Web Components (LWC) for different functionalities.
* Implement Visualforce pages if required for specific use cases.

**5.4 Business Logic Implementation**

* Write Apex classes and triggers to implement business logic.
* Use workflows and validation rules for data integrity.

**6. Testing**

**6.1 Test Plan**

* Define test scenarios and test cases based on requirements.
* Include unit testing, integration testing, and system testing.

**6.2 Unit Testing**

* Perform unit testing for individual components and classes.
* Use Salesforce testing frameworks like ApexMocks, etc.

**6.3 User Acceptance Testing (UAT)**

* Engage end-users to perform UAT and gather feedback.
* Address issues and make necessary improvements.

**7. Deployment**

**7.1 Deployment Plan**

* Plan the deployment strategy (e.g., phased rollout, full deployment).
* Identify any potential risks and mitigation plans.

**7.2 Post Deployment Support**

* Provide support and address post-deployment issues.
* Plan for future enhancements and updates.

**8. Conclusion**

Summarize the project's achievements, challenges, and lessons learned during the development of the Vehicle Management System using Salesforce.