

Vehicle Management System Using Salesforce

INTRODUCTION

Overview :

A vehicle management system is a software application that helps organizations manage their vehicles, drivers, and related activities such as fuel consumption, maintenance, and repairs. The system is designed to improve efficiency, reduce costs, and increase safety by providing real-time visibility into the location and status of vehicles and drivers. The vehicle management system can be used by a variety of organizations such as transportation companies, government agencies, logistics providers, and field service organizations. The system typically consists of several modules that address different aspects of vehicle management such as fleet tracking, driver management, fuel management, maintenance management, and compliance management.

Purpose

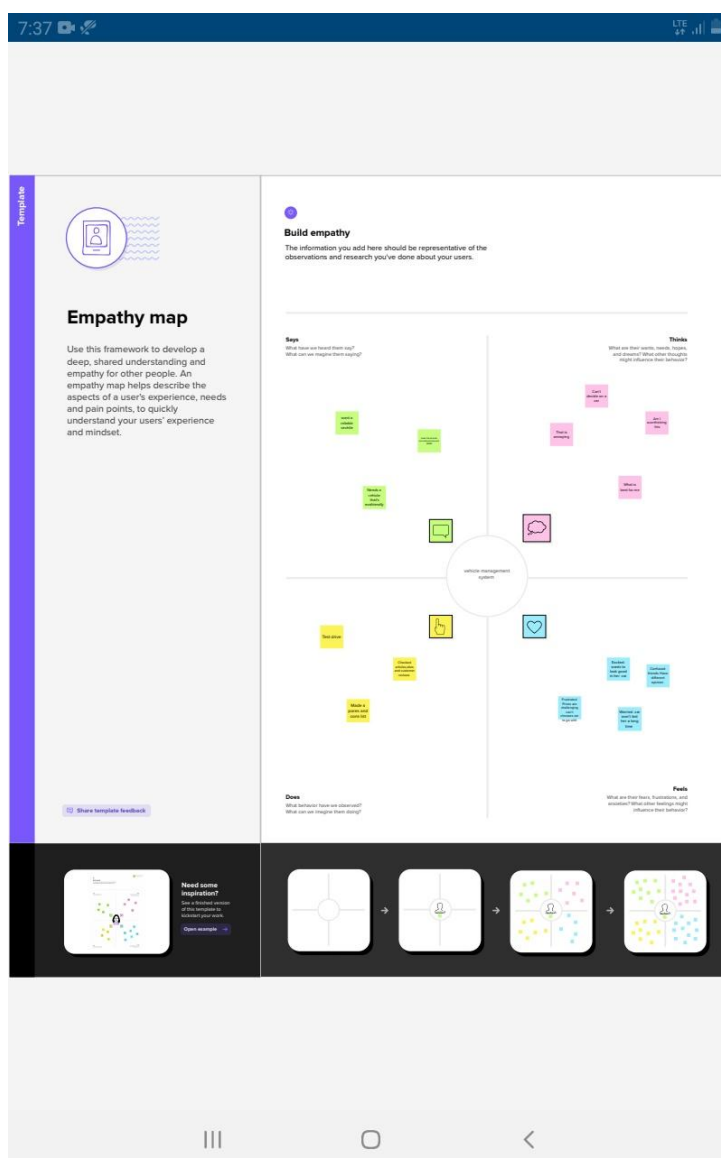
The purpose of a vehicle management system is to help organizations manage their vehicles, drivers, and related activities more effectively and efficiently. By using a vehicle management system, organizations can achieve several benefits such as:

- Improved fleet visibility and control:** A vehicle management system provides real-time information on the location and status of vehicles, enabling organizations to track their fleets and optimize their operations.
- Better driver performance and safety:** A vehicle management system can monitor driver behavior, such as speeding, harsh braking, or idling, and provide feedback to drivers to improve their performance and safety.
- Reduced fuel consumption and costs:** A vehicle management system can monitor fuel consumption and identify opportunities for reducing fuel usage and costs, such as by optimizing routes or reducing idling time.

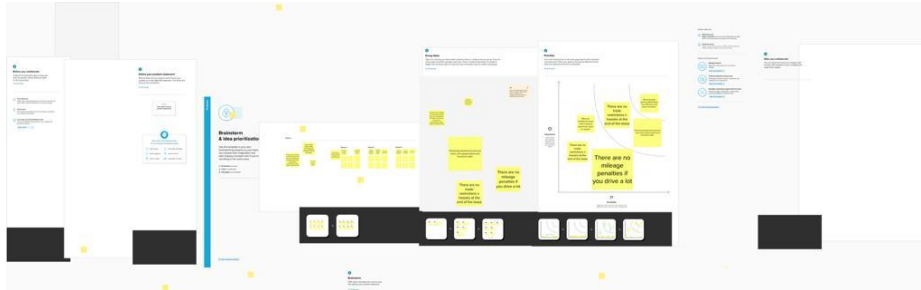
Enhanced maintenance and repair management: A vehicle management system can schedule and track maintenance and repairs, reducing downtime and extending the lifespan of vehicles.

Problem Definition & Design Thinking

Empathy Map



Ideation & Brainstorming



RESULT

Data Model :

Object Name	Fields in the Object	
Vehicles	Field Lable	Data Type
	Customer Name	Text
	Customer Mobile No	Number
	Vehicle Type i)2 wheeler ii)4 wheeler	Picklist
	2WHEELERS i)HERO ii)HONDA iii)BAJAJ iv)ROYAL ENFIELD v)TVS vi)KINETIC vii)OLA viii)JAWA ix)SD x)BATTERY	Picklist
	4WHEELERS i)RENAULT ii)SKODA iii) HONDA iv) iv)HYUNDAI v)SUZUKI vi)MAHINDRA vii)VOLKSWAGEN viii)BENZ	Picklist

	ix)AUDI x)VOLVO	
	Vehicle Name	Text

	Vehicle No	Number
	Chassic No	Number
	Vehicle Includes i)Fire Extenuation ii)First Aid Kit iii)Multi Charger kit iv)Stepney v)Stereo vi)Tool Kit vii)Tracking Device viii)Tyre Jack	Multi Picklist
	Colour	Text
	Body Type	Text
	Condition i)Good ii)Medium iii)Least	Picklist
	Mileage	Number
	Seats	Number
	Start Date	Date/Time
	End Date	Date/Time
	Opportunity	Lookup(opportunities)

Driver	Field Lable	Data Type
	Driver	Text
	Licence No	Number
	Mobile No	Number
	Fair Per Hour	Number
	Vehicle	Lookup (vehicle)

--	--	--

Activity & ScreenShot

Milestone 1:Creation Salesforce Org:

Activity 1:

Creating Developer Account

Creating a developer org in salesforce.



Username

1 Saved Username

Password

Log In

☒ Remember me

Forgot Your Password?

Use Custom Domain

© 2023 Salesforce, Inc. All rights reserved. | [Privacy](#)

Milestone-2:Object

Activity 1: To Create an object:

Creation of Objects for Vehicle Management, For this Vehicle Management to creating two objects i.e Vehicles ,

Search Setup

Setup Home Object Manager

+ New Object

RECENT RECORDS

Account

Vehicle

Driver

Quick Find Schema Builder Create

LABEL	TYPE	DESCRIPTION	LAST MODIFIED
Account	Custom Object		22/04/202
Account	Standard Object	Account	
Activity	Standard Object	Activity	
Alternative Payment Method	Standard Object	AlternativePaymentMethod	
API Anomaly Event Store	Standard Object	ApiAnomalyEventStore	
Appointment Invitation	Standard Object	AppointmentInvitation	
Appointment Invitee	Standard Object	AppointmentInvitee	
Appointment Topic Time Slot	Standard Object	AppointmentTopicTimeSlot	
Asset	Standard Object	Asset	
Asset Action	Standard Object	AssetAction	
Asset Action Source	Standard Object	AssetActionSource	
Asset Relationship	Standard Object	AssetRelationship	
Asset State Period	Standard Object	AssetStatePeriod	
Assigned Resource	Standard Object	AssignedResource	
Associated Location	Standard Object	AssociatedLocation	
Authorization Form	Standard Object	AuthorizationForm	
Authorization Form Consent	Standard Object	AuthorizationFormConsent	
Authorization Form Data Use	Standard Object	AuthorizationFormDataUse	

Milestone -3:

Fields and Relationship

Activity-1:


Creation of fields:








Creating a Fields in Vehicles objects


The screenshot shows the Salesforce Setup interface for the 'Vehicle' object. The 'Fields & Relationships' tab is selected, displaying a list of 23 fields. The fields are organized into columns: FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields include various data types such as Picklist, Text, Date/Time, and Lookup. Some fields are indexed, and some have a controlling field.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
2 wheelers	X2_wheelers__c	Picklist	Vehicle type	
4wheelers	X4wheelers__c	Picklist	Vehicle type	
API Anomaly Event Store	API_Anomaly_Event_Store__c	Lookup(API Anomaly Event Store)		✓
Body name	Body_name__c	Text(13)		
Chassic No	Chassic_No__c	Text(7)		
Colour	Colour__c	Text(5)		
Condition good medium least	Condition__c	Picklist	Vehicle type	
Created By	CreatedById	Lookup(User)		
Customer mobile no	Customer_mobile_no__c	Number(18, 0)		
Customer name	Customer_name__c	Text(13)		
End date	End_date__c	Date/Time		
Last Modified By	LastModifiedById	Lookup(User)		
Milleage	Milleage__c	Text(5)		
Opportunity	Opportunity__c	Lookup(Opportunity)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Seats	Seats__c	Number(18, 0)		
Start date	Start_date__c	Date/Time		
Vehicle includes	Vehicle_includes__c	Picklist (Multi-Select)	Vehicle type	
Vehicle name	Vehicle_name__c	Text(7)		


Activity-2:
Create a Fields in Driver objects





Setup

Home

Object Manager 



SETUP > OBJECT MANAGER

Driver

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout


Restriction Rules

Scoping Rules

Triggers

Flow Triggers

Validation Rules

Field 

Quick Find







New

Deleted Fields

Field Dependencies

Set History Tracking

9 Items, ordered by relevance

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Driver name	Driver_name__c	Text(15)		
Driver Name	Name	Text(80)	✓	
Fair per hour	Fair_per_hour__c	Text(15)		
Last Modified By	LastModifiedById	Lookup(User)		
Licence No	Licence_No__c	Text(14)		
Mobile No	Mobile_No__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)	✓	
Vehicle	Vehicle__c	Lookup(Vehicle)	✓	

Activity-3:

Fields In Driver Object:

Creating a dependency between these two picklists, so that when a Vehicle type is selected, only respective 2Wheeler Brands are available in the 2Wheeler field, Similarly for 4 wheelers.

- Details
- Fields & Relationships**
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types
- Related Lookup Filters
- Search Layouts
- List View Button Layout
- Restriction Rules
- Scoping Rules
- Triggers
- Flow Triggers
- Validation Rules

Vehicle Field Dependencies

Help for this Page

Back to Custom Object: Vehicle

This page allows you to define dependencies between fields (e.g., dependent picklists).

Field Dependencies			
Action	Controlling Field	Dependent Field	Modified By
Edit Del	Vehicle type	Condition good medium least	E Mahadevan, 29/03/2023, 6:26 am
Edit Del	Vehicle type	2 wheelers	E Mahadevan, 29/03/2023, 6:38 am
Edit Del	Vehicle type	4wheelers	E Mahadevan, 29/03/2023, 6:40 am
Edit Del	Vehicle type	Vehicle includes	E Mahadevan, 29/03/2023, 6:42 am

ed.develop.lightning.force.com

Lightning App Builder

App Settings

Pages

Vehicle management

Help

App Settings

App Details & Branding

App Options

Utility Items (Desktop Only)

Navigation Items

User Profiles

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

* App Name ⓘ
Vehicle management

* Developer Name ⓘ
Vehicle_management

Description ⓘ
Enter a description...

App Branding

Image ⓘ
Upload

Primary Color Hex Value ⓘ
#0070D2

Org Theme Options

☐ Use the app's image and color instead of the org's custom theme

App Launcher Preview

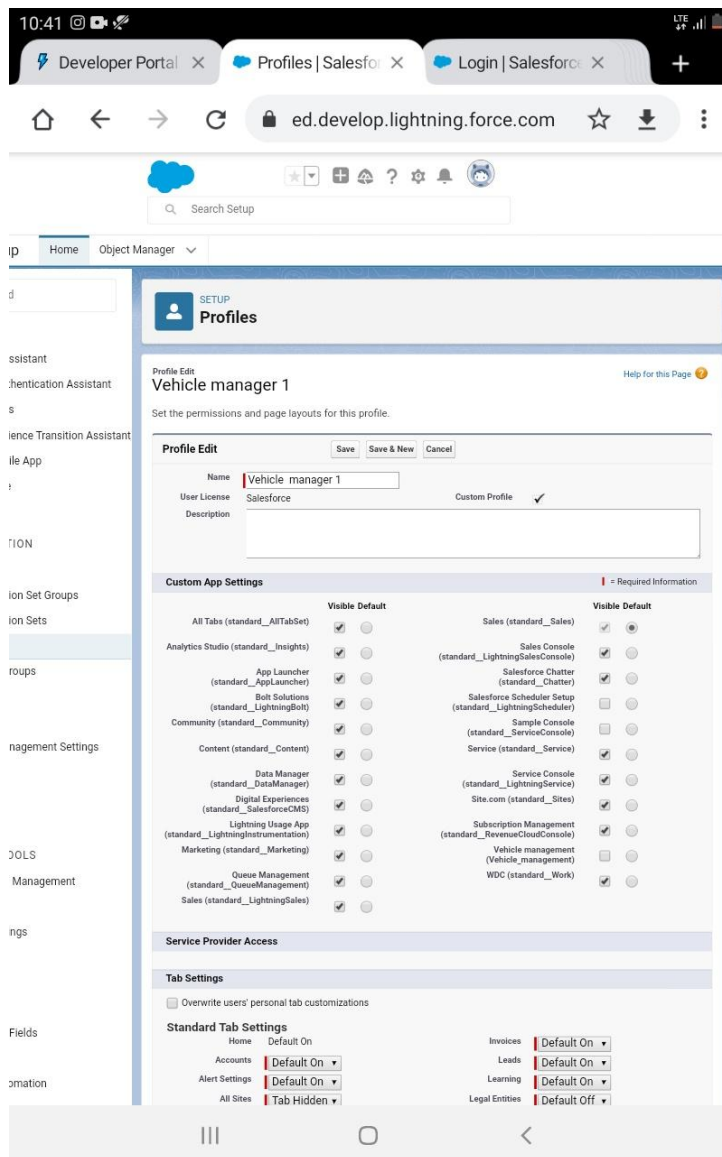
Vm

Vehicle management

Milestone-5: Profile

Activity 1:

Creating a Profiles:Now create a Vehicle Manager profile and set its object permissions



Milestone-6: Users

Activity 1:

Creating a Users:

Search Setup

Setup Home

Service Setup Assistant

Multi-Factor Authentication Assistant

Please Updates

Lightning Experience Transition Assistant

Salesforce Mobile App

Lightning Usage

Optimizer

ADMINISTRATION

Users

Permission Set Groups

Permission Sets

Profiles

Public Groups

Queues

Roles

User Management Settings

Users

Data

Email

LATFORM TOOLS

Subscription Management

Apps

App Manager

AppExchange Marketplace

> Connected Apps

> Lightning Bolt

> Mobile Apps

> Packaging

Feature Settings

Slack

MuleSoft

Einstein

Objects and Fields

SETUP Users

User Edit Maha Devan

Save Save & New Cancel

General Information

First Name Maha

Last Name Devan

Alias mdeva

Email mahadevan2003@icloud.com

Username mahadevan2003@icloud.com

Nickname User16800803546291948351

Title

Company

Department

Division

Role Vehicle manager

User License Salesforce

Profile Vehicle manager 1

Active

Marketing User

Offline User

Knowledge User

Flow User

Service Cloud User

Site.com Contributor User

Site.com Publisher User

WDC User

Data.com User Type --None--

Data.com Monthly Addition Limit 300

Accessibility Mode (Classic Only)

High-Contrast Palette on Charts

Load Lightning Pages While Scrolling

Debug Mode

Make Setup My Default Landing Page

Salesforce CRM Content User

Receive Salesforce CRM Content Email Alerts

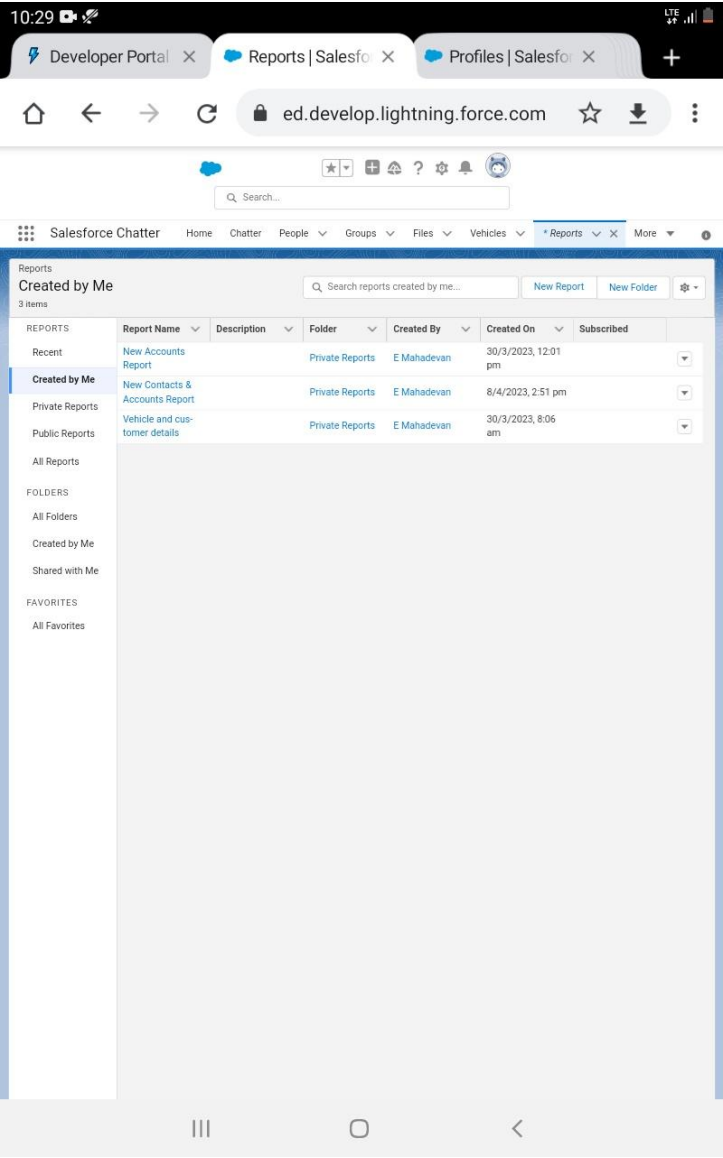
Receive Salesforce CRM Content Alerts as Daily Digest

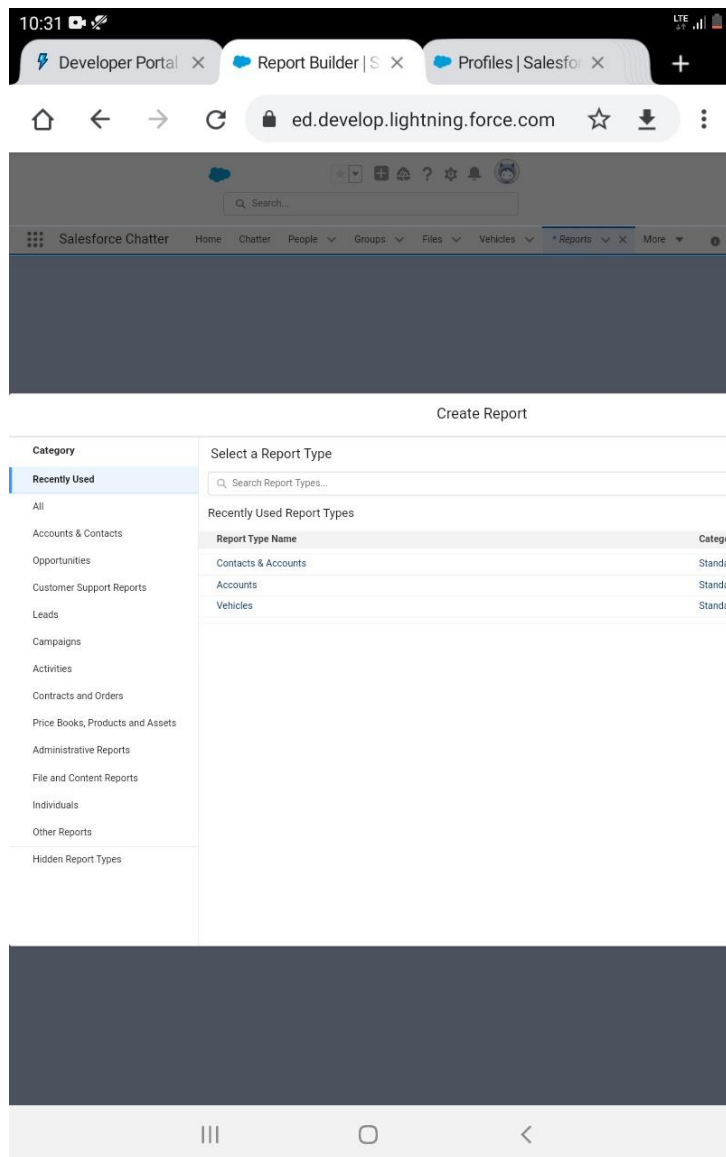
Milestone-7:Reports

Activity 1:

Reports And Dashboards.

Creating a Reports in Vehicle and Customer Details





Activity 2:
 Dashboard:
 Creatin dashboard in Vehicle and Customer Details

Dashboard

Vehicle and customer details

Refresh

Edit

St...

Last refreshed 4 days ago. Refresh this dashboard to see the latest data.

As of 22-Apr-2023, 7:57 am Viewing as E Mahadevan

Vehicle and customer details

Vehicle: Vehicl...	Ch...	Cust...	Custome...	Mill...
Audi	3687	Ps	365k	68
BENZ	9876	KN	2k	100
Bike	8976	Tttt	565k	65
Hero	7658	Yyyy	6M	74
HONDA	4579 6	DM	6M	56
Honda	4567 8	Velu	6B	60

[View Report \(Vehicle and customer details\)](#)

Vehicle and customer details

No data.
Try refreshing the dashboard.

[View Report](#)

Vehicle and customer details

No data.
Try refreshing the dashboard.

Trailhead Profile Public URL

Team Leader: <https://trailblazer.me/id/mahadevan12>

Team Member1: <https://trailblazer.me/id/ramjr2>

Team Member2: <https://trailblazer.me/id/mprakashraj>

Team Member 3: <https://trailblazer.me/id/suths1>

Advantages & Disadvantages

Advantages:

Improved Efficiency: A VMS can help optimize vehicle usage by providing real-time visibility into the location, status, and availability of each vehicle. This can help organizations make better use of their resources and reduce costs.

Increased Safety: VMS can help improve safety by monitoring driver behavior and providing alerts for any violations of safety rules. This can help reduce accidents and protect both drivers and other road users.

Enhanced Productivity: With the ability to monitor vehicle performance and maintenance requirements, a VMS can help reduce downtime and improve the productivity of the fleet.

Better Customer Service: With a VMS, organizations can track and manage their vehicles in real-time, allowing them to provide better customer service by providing accurate information on vehicle arrival times and delivery status.

Cost Savings: A VMS can help organizations save money by reducing fuel consumption, minimizing vehicle wear and tear, and optimizing maintenance schedules.

Disadvantages:

Implementation Costs: The initial cost of implementing a VMS can be high, including hardware, software, and training costs.

Technical Issues: Like any technology, VMS can have technical issues such as software bugs, connectivity problems, and data accuracy issues.

Employee Resistance: Some employees may be resistant to using a VMS, either due to a lack of familiarity with technology or concerns about privacy.

Maintenance Requirements: VMS requires ongoing maintenance to keep the system up-to-date and functioning correctly.

Data Security Risks: VMS systems contain sensitive data such as vehicle locations and driver information, which can be vulnerable to hacking or cyber attacks if not properly secured.

APPLICATIONS

Logistics and transportation companies: Vehicle management system can help logistics and transportation companies track and manage their vehicles, optimize routes, and improve delivery times.

Public transportation: Vehicle management system can be used by public transportation companies to track buses, trains, and other vehicles, and provide real-time information to passengers about arrival times and delays.

Emergency services: Vehicle management system can help emergency services such as police, fire, and ambulance services to quickly locate and dispatch vehicles to emergencies, and monitor the status of vehicles in real-time.

Construction and maintenance companies: Vehicle management system can be used by construction and maintenance companies to track the location and status of their vehicles and equipment, and optimize maintenance schedules to minimize downtime.

Field service companies: Vehicle management system can be used by field service companies such as utilities, telecommunications, and HVAC companies to manage their fleets of service vehicles, optimize routes, and monitor the status of vehicles and equipment in real-time.

Car rental companies: VMS can help car rental companies manage their fleets of vehicles, track their location and status, and optimize rental schedules to increase utilization.

CONCLUSION

A vehicle management system is a software-based solution that allows organizations to track, manage, and optimize their fleets of vehicles. The use of a vehicle management system can provide numerous benefits such as improved efficiency, increased safety, enhanced productivity, better customer service, and cost savings. However, there are also potential disadvantages such as high implementation costs, technical issues, employee resistance, maintenance requirements, and data security risks.

The applications of a vehicle management system are widespread and can be useful in various areas such as logistics and transportation, public transportation, emergency services, construction and maintenance, car rental, and field service companies. Overall, the benefits of a vehicle management system typically outweigh the disadvantages, making it a worthwhile investment for organizations that manage a fleet of vehicles. However, it is important to carefully consider the costs, potential risks, and specific needs of the organization before implementing a vehicle management system.

A vehicle management system can be applied in various areas, including logistics and transportation, public transportation, emergency services, construction and maintenance, car rental, and field service companies. For organizations with a fleet of vehicles, implementing a vehicle management system can be a worthwhile investment. However, it is essential to carefully consider the organization's specific needs and challenges to ensure that the selected vehicle management system meets their requirements.

FUTURE SCOPE

Integration with other technologies: vehicle management system could be integrated with other technologies such as artificial intelligence, machine learning, and the Internet of Things (IoT) to provide more advanced features such as predictive

maintenance and real-time route optimization.

Improved data analytics: The data collected by vehicle management system could be analyzed more comprehensively to provide insights into vehicle usage patterns, maintenance requirements, and fuel consumption. This could help organizations make more informed decisions about fleet management.

Enhanced driver monitoring: vehicle management system could be further developed to monitor driver behavior more comprehensively, including monitoring for distracted driving and identifying driver fatigue. This could help further improve safety and reduce accidents.

Expanded communication capabilities: vehicle management system could be developed to provide more advanced communication capabilities between drivers, dispatchers, and customers. This could include the ability to send alerts and notifications in real-time, as well as support for two-way communication.

Greater scalability: vehicle management system could be developed to support larger fleets of vehicles and be more scalable to accommodate the needs of growing organizations.
