

# Problem Statement:

Problem Statement for Vehicle Registration System for an Insurance Company.

Vehicle insurance is one solution to manage risks posed by the road transport industry and means to ameliorate (improve) damages arising from accidents and other mishaps. With compulsory insurance in place financial risks arising from the operation of vehicles can be better managed. Damage to personal property (such as to vehicles and personal items), public property (road signs, lights, and other infrastructure) and personal injuries arising from accidents can be managed without imposing an undue burden on private or public persons and organization.

The current manual system of vehicle registration requires the following:

- Receiving and verifying vehicle registration applications from customers, which may include checking for missing information, errors, or inconsistencies.
- Manually entering customer and vehicle data into the insurance company's system, ensuring accuracy and consistency across all records.
- Reviewing and processing vehicle registration requests, which may involve checking for coverage, eligibility, and compliance with company policies and regulations.
- Generating and issuing registration documents, such as registration cards and certificates to customers.
- Maintaining and updating records of registered vehicles, including tracking the status of vehicle registrations, updating insurance coverage, and addressing any issues that may arise.
- Manually calculating and processing payments for vehicle registration fees, ensuring accurate billing and timely collection.
- Addressing customer inquiries and concerns related to vehicle registration, which may involve phone calls, emails, or in-person visits.

The proposed system should perform the following functions:

- Issue of login ID and password to the members (drivers and insurance agents) for vehicle registration.
- Maintenance of personal details of the vehicle owners and drivers.
- Maintenance of the details of the vehicles, including make, model, year, and registration number.
- Issuance of a registration card to the vehicle owner.
- Generation of lists of registered vehicles, including registration number-wise, owner-wise, and insurance policy-wise.
- Compilation of a list of vehicle registration requirements and procedures.

The automation of these processes is aimed at reducing administrative burdens, improving data accuracy, and enhancing the overall efficiency of the insurance company's vehicle registration procedures. The proposed system will also contribute to a more seamless and user-friendly experience for both vehicle owners and insurance agents.

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# **Software Requirements Specification Document**

## **for**

### **Vehicle Registration System for a Insurance Company**

#### **1. Introduction**

The Vehicle Registration System for the Insurance Company manages the registration and insurance details of vehicles insured by the company. The system provides a comprehensive platform for users, including insurance agents and vehicle owners, to access and manage relevant information.

Insurance agents are required to obtain a login ID and password from the System Administrator to access the "Vehicle Insurance Management System." Once logged in, agents can register new vehicles, update insurance details, and process claims. Vehicle owners can also access the system using login credentials provided by the System Administrator to view and manage their insurance information.

##### **1.1. Purpose**

The purpose of the Vehicle Registration System is to streamline the registration and insurance management process for both insurance agents and vehicle owners. The system aims to facilitate efficient handling of vehicle insurance details, claims, and renewals.

##### **1.2. Scope**

The proposed 'Vehicle Registration System' shall encompass the following functionalities:

Issuing login ID and password to insurance agents and vehicle owners.

Registering new vehicles into the system.

Updating and managing insurance details for registered vehicles.

Processing insurance claims.

Providing a list of registered vehicles:

Vehicle registration number-wise.

Insurance status-wise.

Claims history-wise.

### **1.3. Definitions, Acronyms, and Abbreviations**

**VRS:** Vehicle Registration System

**User:** Any user (Insurance Agent, Vehicle Owner, or Administrator)

**LAN:** Local Area Network

**RAM:** Random Access Memory

**Vehicle Owner:** The individual or entity owning a registered vehicle.

**System Administrator/Administrator:** User with all privileges to operate the VRS.

**Insurance Agent:** Representative responsible for handling insurance-related tasks.

**Registration:** Inclusion of a new vehicle into the system.

### **1.4. References**

- (a) 'A Practitioner's Guide to Software Test Design' by Lee Copeland, Artech House, 2004.
- (b) 'Software Engineering' by K.K. Aggarwal & Yogesh Singh, New Age Publishing House, 2nd Ed.
- (c) IEEE Recommended Practice for Software Requirements Specifications – IEEE Std 830-1998.
- (d) IEEE Standard for Software Test Documentation – IEEE Std. 829-1998.

### **1.5. Overview**

The remaining sections of the SRS document provide detailed information on system requirements, interfaces, features, and functionalities specific to the Vehicle Registration System for the Insurance Company.

## **2. Overall Description**

The Vehicle Registration System (VRS) for the Insurance Company is a robust and efficient solution designed to manage the complete lifecycle of vehicle registrations and insurance processes. This system provides a user-friendly interface for insurance agents, vehicle owners, and administrators, streamlining the registration, insurance management, and claims processing activities.

### **2.1. Product Perspective**

The Vehicle Registration System for the Insurance Company operates within the broader context of insurance management systems. It interfaces with external entities, including insurance agents, vehicle owners, and the internal systems of the insurance company

#### **2.1.1. System Interfaces**

The Vehicle Registration System interacts with:

External Databases: To validate vehicle details during registration.

Insurance Claim Processing System: For seamless processing of insurance claims.

Authentication Services: To verify login credentials for insurance agents and vehicle owners.

#### **2.1.2. User Interfaces**

The system provides user interfaces for:

Insurance Agents: To register new vehicles, update insurance details, and process claims.

Vehicle Owners: To view and manage their vehicle registration and insurance information.

System Administrator: To manage user accounts, system configurations, and generate reports.

#### **2.1.3. Hardware Interfaces**

The Vehicle Registration System requires standard hardware components such as servers, databases, and network infrastructure. It should be compatible with commonly used devices, including computers, tablets, and smartphones.

#### **2.1.4. Software Interfaces**

The system interfaces with various software components, including:

Database Management System (DBMS): For storing and retrieving vehicle and insurance information.

Authentication and Authorization Software: To manage user access and permissions.

External APIs: For integrating with external databases and services.

### **2.1.5. Communication Interfaces**

The system uses standard communication protocols (e.g., HTTPS) for secure data exchange between components. It communicates with external systems and databases through APIs.

### **2.1.6. Memory Constraints**

The system should efficiently manage memory resources to ensure optimal performance, especially during high-volume operations such as batch processing and report generation.

### **2.1.7. Operations**

The primary operations supported by the system include:

Vehicle Registration: Capturing and validating details of newly insured vehicles.

Insurance Update: Modifying and updating insurance information for registered vehicles.

Claim Processing: Efficient handling and processing of insurance claims.

Reporting: Generating various reports for internal and regulatory purposes.

### **2.1.8. Site Adaptation Requirements**

The system should be adaptable to different insurance company locations, considering variations in regulatory requirements and business processes.

## **2.2. Product Functions**

The key functions of the Vehicle Registration System include:

Vehicle Registration: Capturing and validating vehicle details during the registration process.

Insurance Management: Updating, renewing, and managing insurance details for registered vehicles.

Claim Processing: Efficiently processing and documenting insurance claims.

Reporting: Generating various reports related to vehicle registrations, insurance status, and claims history.

Use Case	Description
<b>Vehicle Registration Insurance Management</b>	Captures and validates details of newly insured vehicles, including vehicle identification, owner information, and insurance plan selection. Allows users to update, renew, and manage insurance details for registered vehicles. This includes modifying coverage, updating policy terms, and managing premiums.
<b>Claim Processing</b>	Facilitates the efficient handling and processing of insurance claims submitted by vehicle owners. This involves claim verification, documentation, and approval.
<b>Reporting</b>	Generates various reports for internal and regulatory purposes, providing insights into vehicle registrations, insurance statuses, and claims history.
<b>User Authentication</b>	Verifies and authenticates user credentials during login, ensuring secure access to the system for insurance agents, vehicle owners, and the system administrator.
<b>User Account Management</b>	Enables the system administrator to manage user accounts, including creating new accounts, updating user details, and handling account permissions.
<b>Roll Number-wise Listing</b>	Provides a list of registered vehicles, organized by their roll numbers, facilitating easy tracking and identification of vehicles within the system.
<b>Subject-wise Listing</b>	Offers a subject-wise listing of registered vehicles, assisting in categorizing vehicles based on specific criteria such as insurance coverage or type.
<b>Faculty Listing</b>	Presents a list of faculty associated with the insurance system, aiding in communication and collaboration between insurance agents and university staff.

## 2.3. User Characteristics

The system caters to three main user roles:

**Insurance Agents:** Responsible for vehicle registration, insurance updates, and claim processing.

**Vehicle Owners:** Accessing and managing their vehicle registration and insurance information.

**System Administrator:** Managing user accounts, system configurations, and ensuring system integrity.

## 2.4. Constraints

**Compliance:** The system must comply with relevant regulatory requirements for insurance management.

**Security:** Ensuring the security and privacy of sensitive information, adhering to industry standards.



## **2.5. Assumptions and Dependencies**

The availability and reliability of external databases and APIs.

Users have access to standard computing devices with internet connectivity.

## **2.6. Apportioning of Requirements**

The system can be designed to accommodate future enhancements, such as:

Integration with telematics for real-time vehicle tracking.

Advanced analytics for risk assessment and pricing models.

### 3. Special Interface Requirement

**This** section contains the software requirements in detail along with the various screens to be developed.

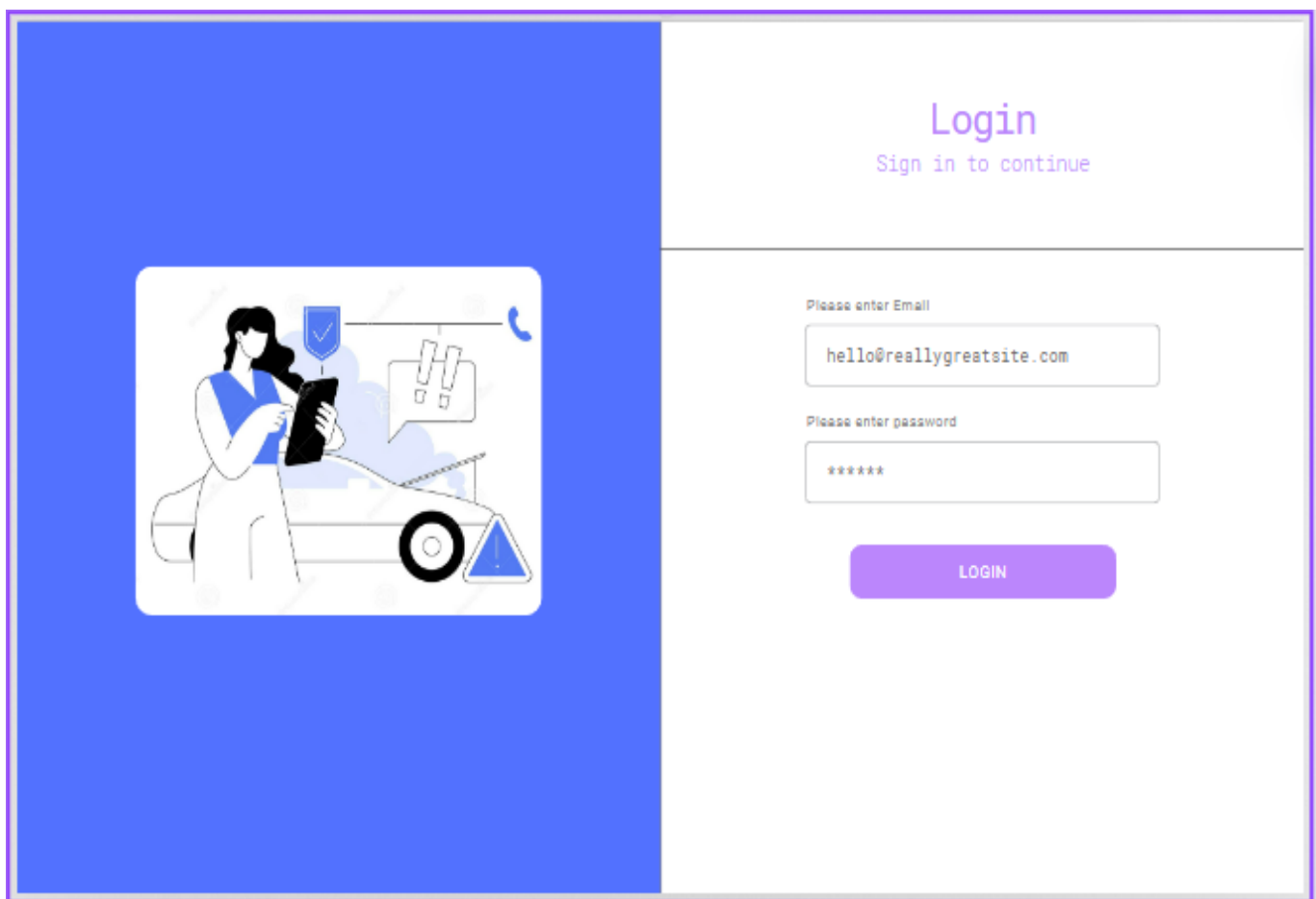
#### 3.1 External Interface Requirements

##### 3.1.1 User Interface

The following user-interfaces (or screens) will be provided by the system.

##### i) **Login Form**

This will be the first form which will be displayed. It will allow user to access the different forms based on his/her role.



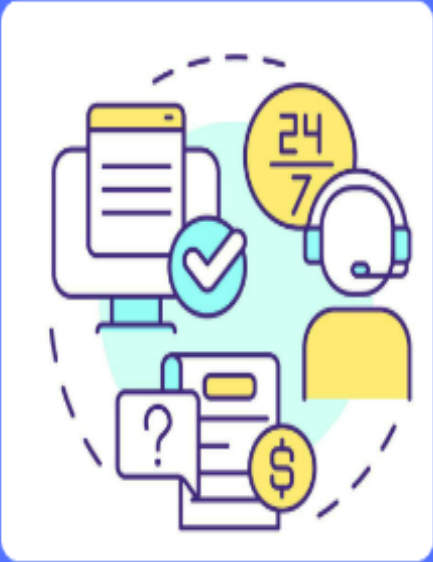
**Various fields available on this form will be**

- **Email Id:** The Login Id will be their Email Address. Alphanumeric of length 11 characters and only digits from 0 to 9 are allowed.
- **Password:** Alphanumeric of length in the range of 4 to 15 characters. Blank spaces are not allowed. However, special characters are allowed.

## ii) Forget Password

The change password form facilitates the user whether it is the Customers or the Agent to change the password. Various fields available on this form will be

- **Email Id** : Alphanumeric length of 11 characters and only digits from 0 to 9 are allowed. Blank spaces are not allowed. A email is send to their specified email address and their they can set their password as per the conditions under the password section.



## Forgot Password

New Password

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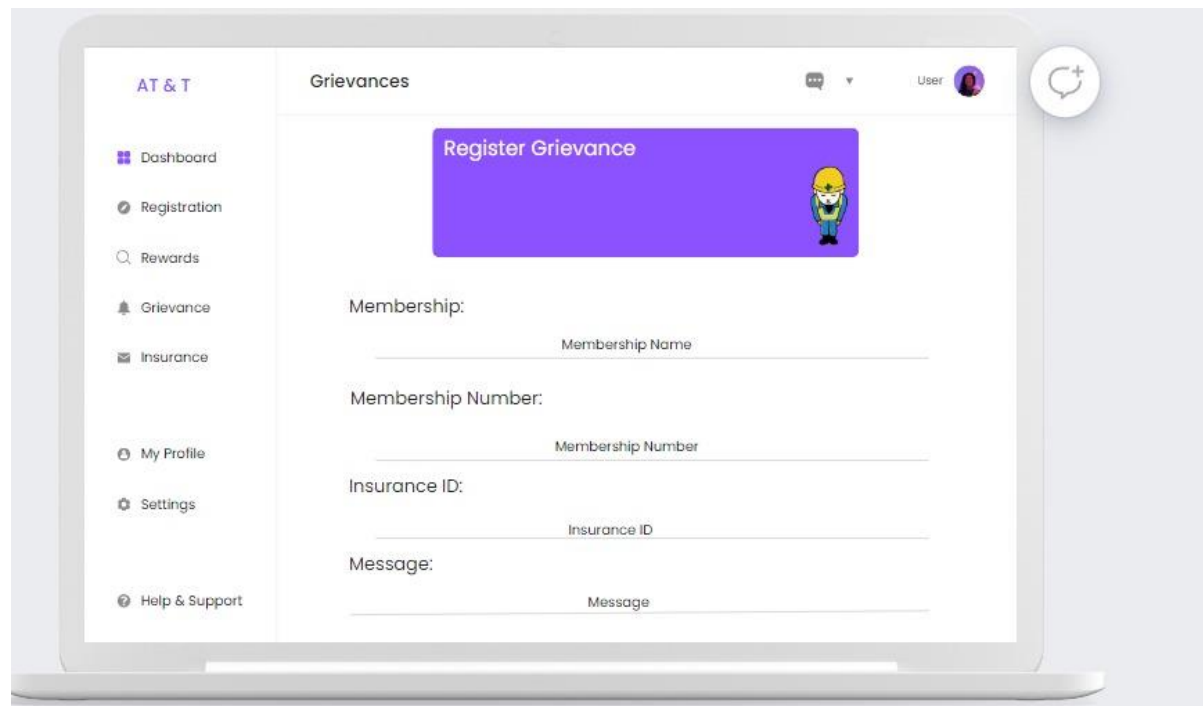
Please enter Email

SEND

### iii)Grievance System

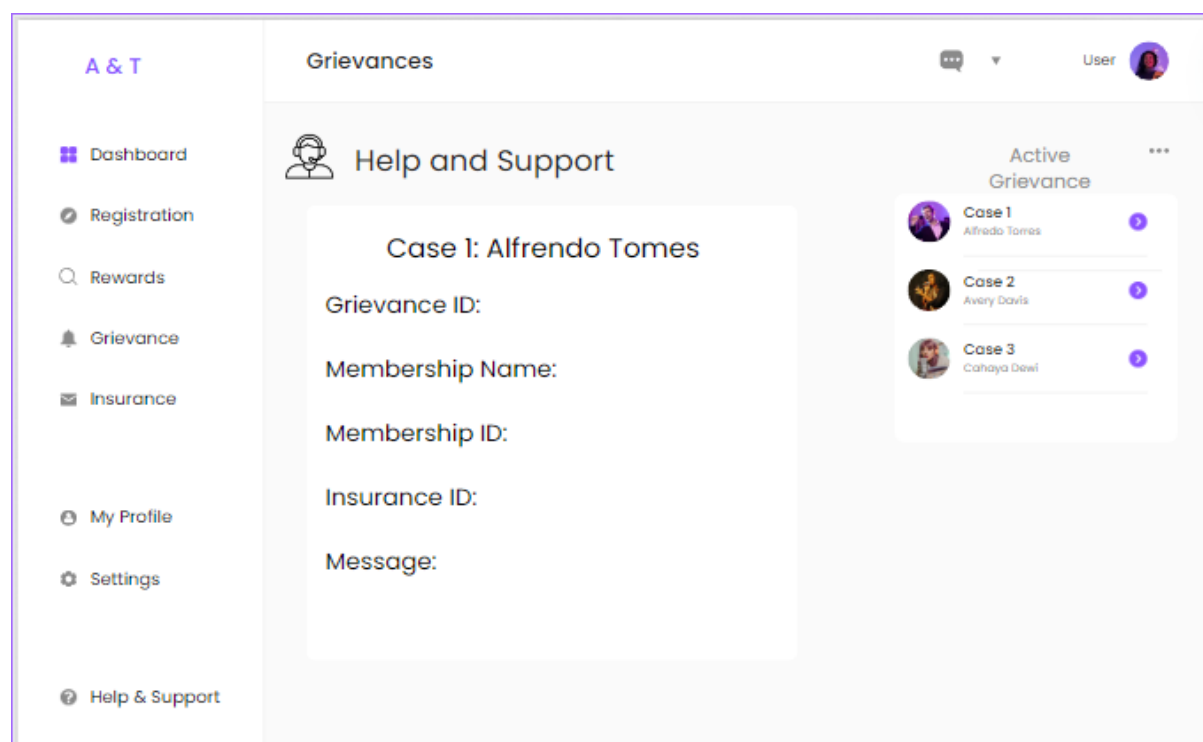
This form will be accessible by the Customer and the Support Agent. It will allow the Customer to register their complaints to the company which he/she is facing. then the support agent will try to rectify the complaint and try to resolve it as soon as possible.

The below form is for the Customers.



The screenshot shows a web application interface for 'AT & T' with a sidebar menu containing: Dashboard, Registration, Rewards, Grievance, Insurance, My Profile, Settings, and Help & Support. The main content area is titled 'Grievances' and features a purple 'Register Grievance' button with a worker icon. Below the button are input fields for: Membership (with a sub-label 'Membership Name'), Membership Number (with a sub-label 'Membership Number'), Insurance ID (with a sub-label 'Insurance ID'), and Message (with a sub-label 'Message'). A user profile icon and a refresh icon are visible in the top right corner.

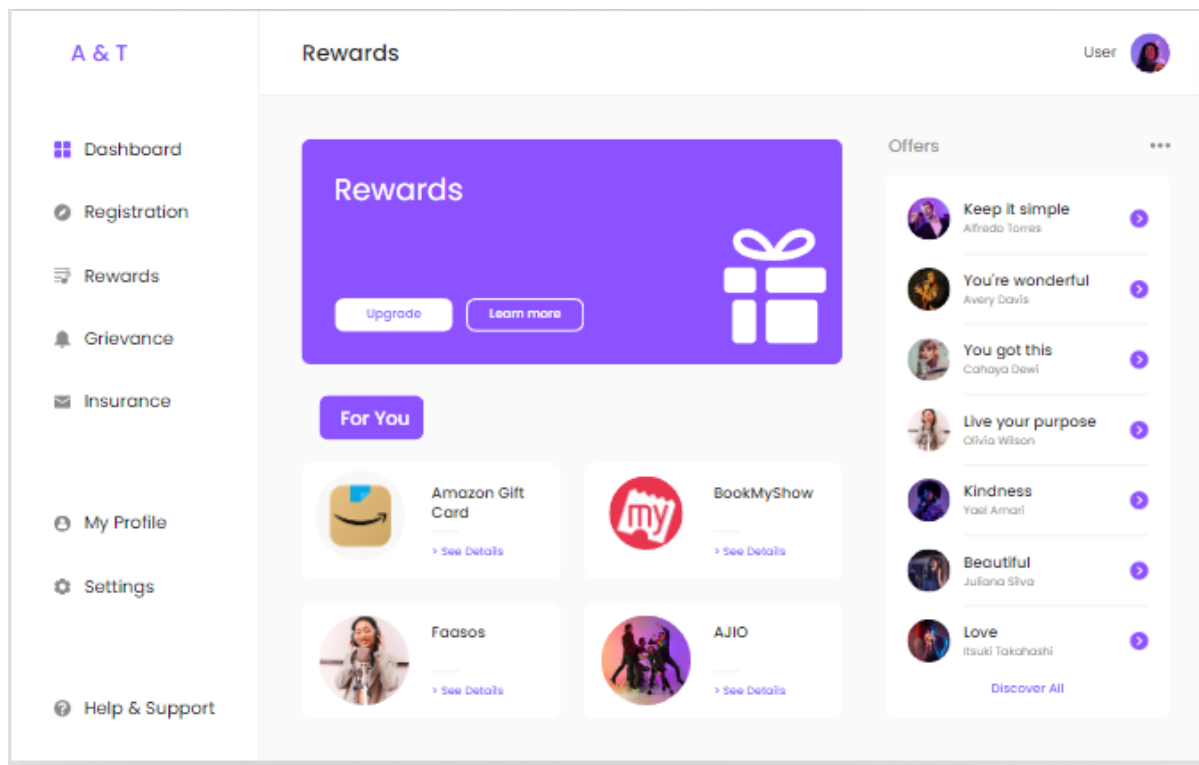
The below form is for the Support Agent.



The screenshot shows a web application interface for 'A & T' with a sidebar menu containing: Dashboard, Registration, Rewards, Grievance, Insurance, My Profile, Settings, and Help & Support. The main content area is titled 'Grievances' and features a 'Help and Support' section with a worker icon. Below this is a form for 'Case 1: Alfredo Tomes' with input fields for: Grievance ID, Membership Name, Membership ID, Insurance ID, and Message. To the right of the form is a list of 'Active Grievance' cases: Case 1 (Alfredo Tomes), Case 2 (Avery Davis), and Case 3 (Cahaya Dewi). A user profile icon and a refresh icon are visible in the top right corner.

#### iv)Rewards System

This form is only accessible to the customers so that they can avail the exciting offers given by the company.






## v)Payment System

This form is only accessible by the customers so that they can make a payment to the company with any of the methods such as: -

1)Credit Card

2)Debit Card

BILLING ADDRESS	PAYMENT
<div>Full name</div> <div>Enter name</div>	<div>Accepted Card</div> <div></div>
<div>Email</div> <div>Enter email</div>	<div>Credit card number</div> <div>Enter card number</div>
<div>Address</div> <div>Enter address</div>	<div>Exp month</div> <div>Enter Month</div>
<div>City</div> <div>Enter City</div>	<div>Exp year</div> <div>Choose Year.. ▾</div>
<div>State</div> <div>Choose State.. ▾</div>	<div>CVV</div> <div>CVV</div>
<div>Zip code</div> <div>Zip code ▴ ▾</div>	<div>Proceed to Checkout</div>

## vi) Compliance System

This form is only accessible to the customers so that they can register their complaints to the insurance and the support agent regarding any of the vehicle related or payment issues.

### Compliance

**Vehicle Identification and Documentation**  
VIN (Vehicle Identification Number):  
  
Registration Certificate:

**Physical Condition of the Car**  
Exterior Condition:  
  
Interior Condition:

**Mechanical Components**  
Engine:  
  
Transmission:

**Safety Features**  
Airbags:

**Tire Condition and Tread Depth**  
Tire Condition:  
  
Tread Depth:

## vii) Vehicle Inspection Form

This form is only accessible by the customers and the vehicle inspection agent so that a two no error is witnessed.

### Vehicle Inspection Form

**Vehicle Identification and Documentation**

VIN (Vehicle Identification Number):

Registration Certificate:

**Physical Condition of the Car**

Exterior Condition:

Interior Condition:

**Mechanical Components**

Engine:

Transmission:

**Safety Features**

Airbags:

**Tire Condition and Tread Depth**

Tire Condition:

Tread Depth:



### **viii)Maintain Vehicle Details:**

This form allows the customer to fill in all the vehicle details that are required for the insurance.

## Vehicle Details

**Vehicle Identification and Documentation**  
VIN (Vehicle Identification Number):  
  
Registration Certificate:

**Physical Condition of the Car**  
Exterior Condition:  
  
Interior Condition:

**Mechanical Components**  
Engine:  
  
Transmission:

**Safety Features**  
Airbags:

**Tire Condition and Tread Depth**  
Tire Condition:  
  
Tread Depth:

## ix)Insurance Renew Form

This form allows the customer to apply for the insurance renew and thus circulated to the insurance company for better verification:

### Insurance Renewal

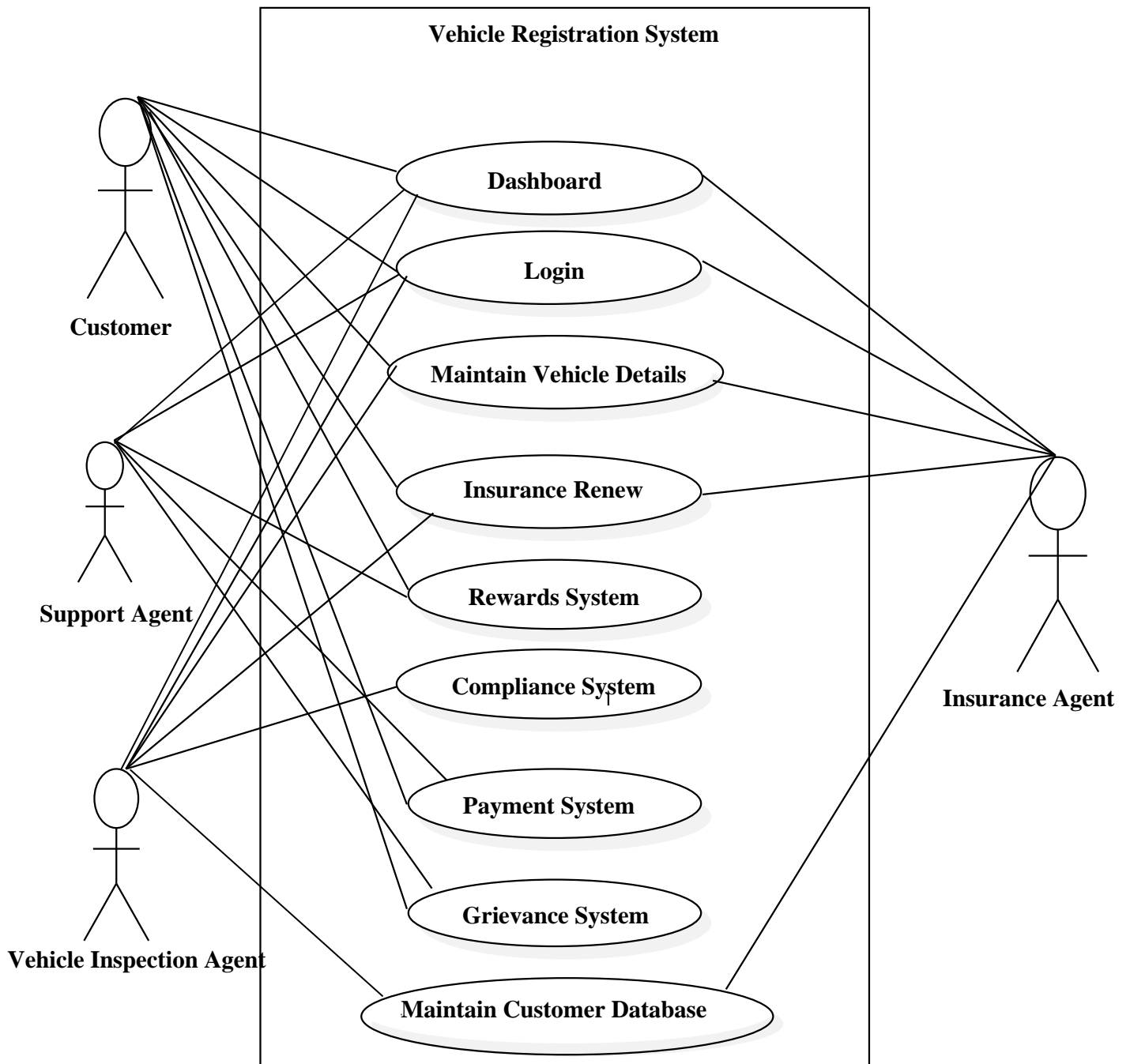
**Vehicle Identification and Documentation**  
VIN (Vehicle Identification Number):  
  
Registration Certificate:  
  
Pollution Certificate:

**Customer Information**  
Customer Name:  
  
Customer Address:  
  
Date of Birth:  
  
DL number:

**Physical Condition of the Car**  
Exterior Condition:  
  
Interior Condition:

**Mechanical Components**  
Engine Number:  
  
Chasis Number:

# Use Case Diagram



# Functional Requirements

## Dashboard

### 1.1 Introduction:

The Vehicle Registration System Dashboard is a centralized web-based interface designed to facilitate efficient management and monitoring of vehicle registration processes within a government or registration authority. This tool serves as a comprehensive platform for government officials and registration authority staff to streamline workflows, track registration activities, and ensure compliance with relevant regulations.

### 1.2 Actors:

Primary Actor: Customer, Insurance Agent, Vehicle Inspection Agent, Support Agent.

### 1.3 Pre-Conditions:

Customer possesses valid credentials to log in to the system.

The dashboard application is installed and accessible.

### 1.4 Post-Conditions:

The user successfully logs in to the dashboard.

The dashboard displays relevant registration metrics and summaries.

Customers can initiate and monitor vehicle registration processes and can also view their rewards and complaints if initiated. The Insurance agent can also view any ongoing requests and expirations and the databases related to customer details. Vehicle Inspection Agent can review an ongoing request and add additional data if required. The support agent can review any ongoing grievance that has occurred to the customer and resolve them.

### 1.5 Basic Flow:

Customer logs in using secure credentials. Upon successful authentication, the dashboard presents an overview of key registration statistics. The customer navigates the dashboard to initiate or monitor vehicle registration processes.

The dashboard provides tools for monitoring and ensuring compliance with safety and environmental standards and can be reviewed by Vehicle Inspection agent.

The Insurance agent can review and modify any ongoing cases. The support agent can provide their feedback on any grievances that occurred to the customer.

The dashboard allows a system overview and performs tasks as requested by the user.

### 1.6 Alternative Flow:

In case of unsuccessful login attempts, the system prompts the user to enter valid credentials.

If compliance issues are detected during monitoring, the system generates alerts and notifies support agents to review the requests.

1.7 Special Requirements:

None

1.8 Use Case Relationships:

None

# Login

## 2.1 Introduction

This use case describes how a user logs into the Management System.

## 2.2 Actors

Primary Actor: Customer, Insurance Agent, Vehicle Inspection Agent, Support Agent.

## 2.3 Pre-Conditions

The user possesses the correct details to login.

## 2.4 Post Conditions

If the use case is successful, the actor is logged into the system. If not, the system state is unchanged.

## 2.5 Basic Flow

The user can access the vehicle registration website and provide the login details.

## 2.6 Alternate Flows

If unsuccessful the user can use the forgot password feature to set the new password for login.

## 2.7 Special Requirements:

None

## 2.8 Use case Relationships:

None

## **Maintain Vehicle Details**

### 3.1 Introduction

Allow Insurance Agent to maintain the vehicle details. This includes add, modify, delete and update of the vehicle details.

### 3.2 Actors

Primary Actor: Insurance Agent , Customer, Vehicle Inspection Agent

### 3.3 Pre-Conditions

Customer and Insurance Agent should be logged in.

### 3.4 Post-Conditions

If use cases are successful, vehicle information is added/updated/modified/deleted from the system. Otherwise the system state is unchanged.

### 3.5 Basic Flow

Start when Insurance Agent wishes to add/modify/delete Vehicle Information.

(i) The system requests the Insurance Agent to specify the function he/she would like to perform (ADD/UPDATE/DELETE).

(ii) One of the sub-flow will execute after getting the information.

- If Insurance Agent selects “Add a Vehicle Details”. “Add a vehicle Details “sub-flow will be executed.
- If Insurance Agent selects “Update a Vehicle Details”. “Update a Vehicle Details “sub-flow will be executed.
- If Insurance Agent selects “Delete a Vehicle Details”. “Delete a Vehicle Details “sub-flow will be executed.

#### 3.5.1 Add a Vehicle Detail

The system requests the Insurance Agent to enter:

Name

Address

Vehicle Number

Chassis Number

Engine Number

Pollution Number

Driving Licence

### 3.5.2 Update a Vehicle Detail

- (i) The System requires the Insurance Agent to enter the Vehicle Number.
- (ii) Insurance Agent enters the Vehicle Number. The system retrieves and displays the vehicle information.
- (iii) Insurance Agent will update the vehicle information of the vehicle by the information.
- (iv) It will update the vehicle information.

### 3.5.3 Delete a Vehicle Detail

- (i) The system requires the Insurance Agent to enter a vehicle number.
- (ii) Insurance Agent enters the Vehicle Number. The system retrieves and displays the vehicle information.
- (iii) Insurance Agent will delete all the information of the vehicle where the vehicle\_number matches.
- (iv) The Insurance Agent will then confirm and the vehicle details will be deleted.

## 3.6 Alternative Flow

### 3.6.1 Vehicle Number not Found

If in the update a vehicle or delete a vehicle detail sub-flows, a vehicle with specified-id does not exist, the system displays an error message. The Insurance Agent may enter a different vehicle number or cancel the operation. At this point, use cases end.

### 3.6.2 Update Canceled

If in the update a vehicle sub-flow, the Insurance Agent decides not to update the vehicle information, the update is canceled and the basic flow is restarted at the beginning.

### 3.6.3 Delete Canceled

If in the delete a vehicle detail sub-flows, Insurance Agents decides not to delete vehicle record, the delete is canceled and the basic flow is restarted at the beginning.

## 3.7 Special Requirements

None

## 3.8 Use Case Relationships

None



# Insurance Renew

## 4.1 Introduction

The Insurance Renewal feature within the Vehicle Registration System is designed to facilitate the seamless renewal of insurance policies for registered vehicles. This functionality ensures that vehicles maintain valid insurance coverage as required by regulations, providing a crucial element in the overall vehicle registration process.

## 4.2 Actors

Primary Actor: Customer, Vehicle Inspection Agent, Insurance Agent

## 4.3 Pre-Conditions

The current insurance policy is nearing expiration or has expired.

Vehicle owner and insurance agent has valid login credentials.

## 4.4 Post-Conditions

If the customer requests for renewal, it can be renewed along with details to be verified by insurance and vehicle inspection agents..

## 4.5 Basic Flow

It starts with a customer wishing to renew the insurance, the customer data request is fetched by forwarded to the insurance agent. The agent assigns a vehicle inspection agent from the database and forwards the request to the customer and vehicle inspection agent.

The vehicle inspection agent can VIEW and ADD to the database.

If the vehicle inspection agent verifies the details the request is forwarded back to the insurance agent. The insurance agent adds the customer details, vehicle details and insurance details to database,

### 4.5.1 Customer requests insurance renewal. The system requests the following details:

- 1) Name
- 2) Address
- 3) DL Number
- 4) Vehicle Number
- 5) Chassis Number
- 6) Engine Number
- 7) Pollution-Certificate
- 8) Registration-Certificate
- 9) Customer Photograph
- 10) Vehicle Photograph

### 4.5.2 Insurance agent views the request.

- 1) Insurance agents can view the registered form.
- 2) Insurance agent attaches a vehicle agent (VA.ID) and the required documents.
- 3) Insurance agent forwards the request to vehicle inspection agent.

#### 4.5.3 Vehicle Inspection Agent MODIFY request

- 1) If Verification is completed then the request is sent back to the insurance agent.

#### 4.5.4 Agent adds Customers to Vehicle Insurance

- 1) Agent MODIFY and ADD insurance id and verify the document and save the details to the system.
- 2) Agents can delete details of customers whose insurance has expired.

#### 4.6 Alternative Flow

If there are discrepancies or issues with the provided insurance information, the system alerts the user and prompts for correction.

In case of unsuccessful renewal, the system provides error messages and guidance for resolution.

#### 4.7 Special Requirements

None

#### 4.8 Use Case Relationships

None

## **Rewards System**

### 5.1 Introduction:

The Rewards System will only be availed by the customers only. The Support Agent will help the customer if the rewards are not granted to the customers.

### 5.2 Actors:

Primary Actor: Customer and Support Agent

### 5.3 Pre-Conditions:

The Rewards System is integrated into the Vehicle Registration System.

Customers should be registered in the system and should be logged in to avail the rewards.

### 5.4 Post-Conditions:

Customers are rewarded points based on specific criteria.

Rewards points can be redeemed for benefits, discounts, or additional services.

The system updates customer profiles with earned rewards.

### 5.5 Basic Flow:

Customers log in to the Vehicle Registration System.

The system tracks and evaluates compliance metrics, timely renewals, and positive contributions. They can earn rewards points based on predefined criteria, such as adherence to safety standards, prompt renewals, and voluntary participation in surveys or feedback.

The dashboard displays the accumulated rewards points. They can redeem rewards points for benefits, discounts on registration fees, or additional services. The system updates user profiles with the redeemed rewards and notifies users of successful redemptions.

### 5.6 Alternative Flow:

If a user faces issues redeeming rewards, the support agent will assist.

In case of disputes regarding earned rewards, a resolution process is initiated with involvement from the Support Agent .

### 5.7 Special Requirements:

None

### 5.8 Use Case Relationships:

None

## **Compliance System**

### 6.1 Introduction

The Compliance System in the Vehicle Registration System is a crucial component designed to monitor and enforce adherence to safety, environmental, and regulatory standards during the vehicle registration process. This system ensures that registered vehicles comply with legal requirements, promoting public safety and environmental responsibility.

### 6.2 Actors

Primary Actor: Vehicle Inspection Agent.

### 6.3 Pre-Conditions

The Compliance System is integrated into the Vehicle Registration System. Vehicle registration data is up-to-date and accessible.

### 6.4 Post-Conditions

Vehicles are classified as compliant or non-compliant based on predefined standards. Non-compliant vehicles trigger alerts and initiate follow-up actions. The Compliance System updates the registration status of vehicles accordingly.

### 6.5 Basic Flow

The Vehicle Inspection agent can review each case, and ensure that it meets the set standards. The system fetches the latest vehicle registration data from the central database. Vehicles are assessed for compliance with safety and environmental standards during the inspection process.

The Compliance System categorizes vehicles as compliant or non-compliant based on the inspection results. Non-compliant vehicles trigger alerts, and the system notifies insurance agents for further action.

### 6.6 Alternative Flow

If a Vehicle Inspection Agent encounters difficulties during an inspection, the system provides a mechanism to report and resolve issues.

### 6.7 Special Requirements

None

### 6.8 Use Case Relationships

None

## **Payment System**

### 7.1 Introduction:

The Payment System in the Vehicle Registration System is a fundamental component that facilitates secure and efficient transactions related to vehicle registration fees, fines, and other financial aspects. This system ensures a seamless and reliable process for users to make payments and for government authorities to manage and track financial transactions associated with vehicle registration.

### 7.2 Actors:

Primary Actor: Customers

Secondary Actor: Support Agent

### 7.3 Pre-Conditions:

The Payment System is integrated into the Vehicle Registration System. Vehicle registration details are accurate and up-to-date. Customers have access to a secure payment gateway.

### 7.4 Post-Conditions:

Payments are successfully processed and recorded in the system. Vehicle registration status is updated based on payment confirmation. Customers will receive receipts or confirmation of successful transactions.

### 7.5 Basic Flow:

- Customers will access the Payment System through the Vehicle Registration Dashboard.
- The system presents a breakdown of registration fees, fines, or other applicable charges.
- Users select the desired payment method (e.g., credit card, online banking) and enter payment details.
- The Payment System securely communicates with the payment gateway to process the transaction.
- Upon successful payment, the system updates the vehicle registration status, marking it as paid.
- Users receive electronic receipts or confirmations of the transaction.
- If a customer faces an issue with the payment the Support Agent will assist with adequate resources. (videos, on a call etc.)

### 7.6 Alternative Flow:

In the event of a failed payment transaction, the system provides clear error messages and suggests alternative payment methods.

If there are discrepancies in payment records, a dispute resolution process is initiated, involving both users and government officials.

7.7 Special Requirements:

None

7.8 Use Case Relationships:

None

## **Grievance System**

### **8.1 Introduction:**

The Grievance System in the Vehicle Registration System is an essential module designed to address and resolve user complaints, concerns, or disputes related to the vehicle registration process. This system ensures an efficient and transparent mechanism for Customers to report issues, seek resolution, and provide feedback, enhancing overall user satisfaction.

### **8.2 Actors:**

Primary Actor: Customer, Support Agent.

### **8.3 Pre-Conditions:**

The Grievance System is integrated into the Vehicle Registration System. Vehicle owners have registered profiles in the system. Users have access to a secure communication channel for grievance submission. The Support Agent is logged in and can review any ongoing cases.

### **8.4 Post-Conditions:**

Grievances are successfully submitted and recorded in the system.

Support Agent review and respond to submitted grievances.

Resolutions are communicated to customers, and necessary actions are taken.

### **8.5 Basic Flow:**

Customers can access the Grievance System through the Vehicle Registration Dashboard. Customers submit grievances by providing details of the issue, attaching relevant documents, and selecting the type of resolution they seek.

The system logs the grievance, assigns a unique identifier, and notifies the Support Agent.

Support agents can review submitted grievances, gather additional information if needed, and propose resolutions. Customers can receive notifications regarding the status of their grievances and proposed resolutions. If the proposed resolution is accepted, the system updates relevant records and informs users accordingly.

### **8.6 Alternative Flow:**

In the event of incomplete or unclear grievance submissions, the system prompts users to provide additional information.

### **8.7 Special Requirements:**

None

### **8.8 Use Case Relationships:**

None

## **Maintain Customer Database**

### **9.1 Introduction:**

The Maintain Customer Database module in the Vehicle Registration System is a critical component responsible for the accurate and up-to-date management of customer information. This system ensures the availability of reliable data for all registered vehicle owners, facilitating effective communication, record-keeping, and overall system functionality.

### **9.2 Actors:**

Primary Actor: Vehicle Inspection Agent and Insurance Agent

### **9.3 Pre-Conditions:**

The Maintain Customer Database module is integrated into the Vehicle Registration System.

Vehicle registration data is regularly updated and synchronized with the customer database by the Insurance Agent.

### **9.4 Post-Conditions:**

Customer records are accurate, complete, and accessible for verification during the registration process. Changes or updates to customer information are reflected in real-time across the system. The Maintain Customer Database module ensures data integrity and security.

### **9.5 Basic Flow:**

Vehicle Inspection Agent and Insurance Agent will only have access to maintain the customer database through the Vehicle Registration Dashboard. The system displays relevant customer information, including contact details, address, and vehicle ownership history.

The system verifies and approves the submitted changes, updating the customer database in real-time. During the vehicle registration process, the system retrieves customer information from the database for verification and validation.

### **9.6 Alternative Flow:**

If there are discrepancies in customer information, the system triggers a verification process involving additional documentation or validation steps. In case of system downtime, the Maintain Customer Database module employs backup mechanisms to ensure data availability once the system is restored.

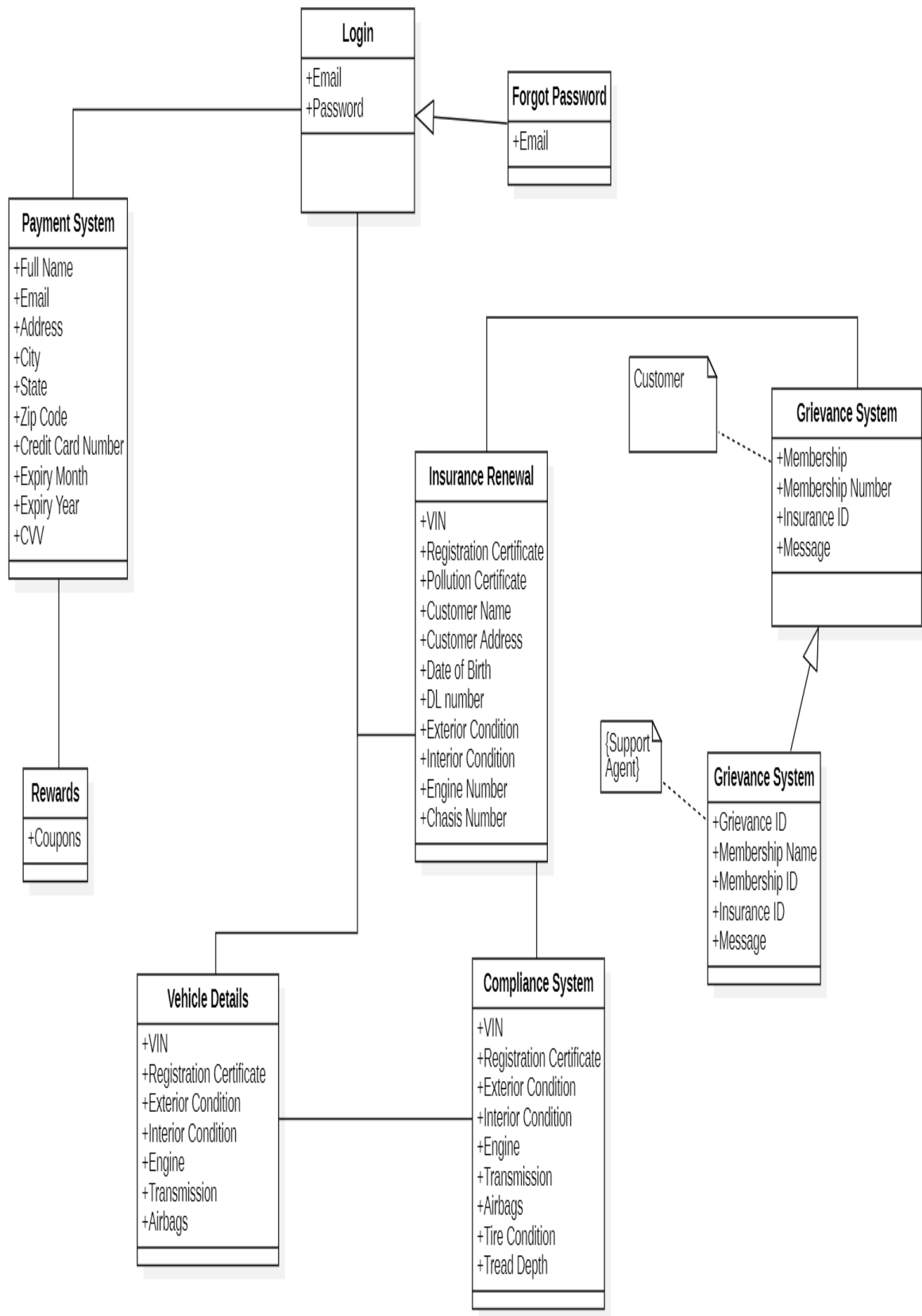
### **9.7 Special Requirements:**

None

### **9.8 Use Case Relationships:**

None





<b>Table Name:</b> <b>LOGIN</b>	<b>PRIMARY KEY: LOGIN ID</b>			
<b>Field Name</b>	<b>Description</b>	<b>Type</b>	<b>Size</b>	<b>Attributes</b>
<b>LOGIN ID</b>	This field contains the login Id of the user.	Alphanumeric	11	Primary Key
Password	This field contains the password of the user.	Alphanumeric	15	Not null
Role	This field contains the role of the user (Insurance Agent, Customer, Support Agent and Vehicle Inspection Agent).	Alphanumeric	13	Not null

<b>Table Name :</b>	<b>PRIMARY KEY: Rewards System</b>			
<b>Field Name</b>	<b>Description</b>	<b>Type</b>	<b>Size</b>	<b>Attributes</b>
<b>Rewards System</b>	This field contains the various rewards.	Numeric	2	Primary Key
<b>Email</b>	This field contains the password of the user.	Alphanumeric	50	Not null

<b>Table Name:</b> <b>PROGRAMME</b>	<b>PRIMARY KEY: Grievance System</b>			
<b>Field Name</b>	<b>Description</b>	<b>Type</b>	<b>Size</b>	<b>Attributes</b>
<b>Grievance System</b>	This field contains the complaints of the customers.	Numeric	2	Primary Key
<b>Grievance id</b>	This field generates a unique code	Numeric	2	Primary Key: Foreign Key: LOGIN from table Customer
<b>Membership id</b>	This field contains the membership id.	Alphanumeric	50	Not null
<b>Membership name</b>	This field contains the membership name.	Char	2	Not null
<b>Insurance Id</b>	This field contains the insurance id.	Numeric	2	Not null
<b>Email</b>	This field contains the password of the user.	Alphanumeric	30	Primary Key: Login