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VAHAAN GPT 4.0

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VahaanGPT

Mini Project – I Report

Submitted as

The Partial Fulfillment of

Master of Computer Applications (MCA)

SEMESTER- II

Developed By

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GLS UNIVERSITY
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This is to certify that

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Students of MCA semester II of

Faculty of Computer Applications & Information Technology
GLS University

have successfully completed the Mini Project - I work entitled

"VahanGPT"

as a partial fulfillment of the study of
Master of Computer Application

(Dr. Devarshi Mehta)	**(Dr. Devarshi Mehta)**	**(Dr. Harshal Arolkar)**
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Dean

24 April 2025

Acknowledgement

We would like to express our sincere gratitude to all those who contributed to the successful development and completion of the *VahaanGPT* project. This ReactJS-based vehicle management system has been an enriching journey, combining innovative ideas with practical applications to streamline and automate vehicle-related tasks for both administrators and users.

We are especially thankful to our mentors and faculty members for their continuous guidance, encouragement, and valuable insights throughout the project lifecycle. Their support played a crucial role in shaping the design and functionality of the system.

Our heartfelt thanks also go to the development team for their hard work, dedication, and collaborative spirit. Their efforts in integrating advanced features such as AI-powered chatbot support, automated alert systems, and comprehensive document management have brought the vision of a smart and user-friendly vehicle management platform to life.

Lastly, we acknowledge the use of modern tools and technologies that made the realization of this project possible, with ReactJS at the core, providing a robust and dynamic foundation for the system.

The *VahaanGPT* project stands as a testament to the power of teamwork, innovation, and technology in creating meaningful and efficient solutions for everyday problems.

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INTRODUCTION

The project titled "VahaanGPT" is a vehicle management system developed using ReactJS, aimed at simplifying the vehicle -related tasks for both administrators and end-users. This application offers a structured and

intuitive flow where admins can efficiently manage user accounts, while users are provided with a comprehensive interface to handle various aspects of vehicle management. Upon logging in, users can access a vehicle

list, through which they can perform actions such as managing insurance, PUC (Pollution Under Control) certificates, and important documents. The system also includes a feature to troubleshoot car problems using an AI chatbot, enhancing user convenience. A notable functionality of VahaanGPT is its proactive alert system, which notifies users about renewal deadlines for insurance and PUC, ensuring they stay compliant and avoid penalties. This project integrates utility with automation to provide a smarter, more efficient approach to vehicle maintenance and documentation.

PROJECT DEFINATION

The **VahaanGPT** project is a **ReactJS-based vehicle management system** designed to simplify and automate various vehicle-related tasks for both administrators and end-users. It enables admins to manage user accounts efficiently, while users can access a comprehensive vehicle list to manage **insurance**, **PUC (Pollution Under Control) certificates**, and **important documents**. The system incorporates an **AI-powered chatbot** to assist users in troubleshooting car problems and features an **automated alert system** that notifies users about upcoming **insurance and PUC renewals**. The project aims to deliver a smart, intuitive, and user-friendly solution for streamlined vehicle management.

PROJECT PROFILE

> Project Name :-	Vahaan GPT
> Devloped By :-	Patel Sohum Patel Kinal Makwana Anjali Modi Purvil Pankhaniya Pratik
> Front End Tool :-	React JS
> Back End Tool :-	Node JS, Express JS , MongoDB
> Operating System :-	Microsoft windows 7 & Microsoft windows 10
> Project Details :-	VahaanGPT is a ReactJS app for managing vehicles, with user/admin roles, insurance/PUC tracking, alerts, and AI chatbot support.
> Completion Time :-	3 Months
> Guide By :-	Dr. Devarshi Mehta
> Submitted By :-	GLS University

Tools and Technology

- **Front End :**

  React JS HTML5/CSS

- **Back End :**

  Node JS|

  OR Express JS|

  OR MongoDB

FEASIBILITY STUDY

The *VahaanGPT* project aims to deliver a ReactJS-based vehicle management system featuring AI chatbot support, document tracking, and automated alerts. Its feasibility has been evaluated across four key areas:

1. **Technical Feasibility:**

   The use of modern, scalable technologies like ReactJS and AI APIs ensures reliable development and deployment. Cloud-based storage adds to security and scalability.

2. **Operational Feasibility:**

   The system meets real-world needs by simplifying tasks such as insurance and PUC tracking. Its user-friendly interface and chatbot support promote easy adoption.

3. **Economic Feasibility:**

   With low-cost tools and open-source frameworks, the project requires minimal investment. It promises high ROI by reducing manual workload and enhancing user efficiency.

4. **Schedule Feasibility:**

   ReactJS's modular nature supports fast, phased development. A clear timeline and team collaboration ensure timely project completion.

MODULE's OF SYSTEM

ADMIN MODULE:

MANAGE USER:

- Allows administrators to add, update, or remove user accounts.

USER MODULE:

MANAGE VEHICLE LIST:

- Users can view a list of their registered vehicles to manage associated services.

FEATURES

➢ User Authentication & Registration

➢ Ai Powered Chatbot ➢ Vehicle Search and comparison

➢ Add Documents like DL,RC Book, etc.

➢ API integration

➢ Add and Manage Insurance Policy

➢ Add and Manage PUC

➢ Get Reminder for Renewal of Insurance and PUC

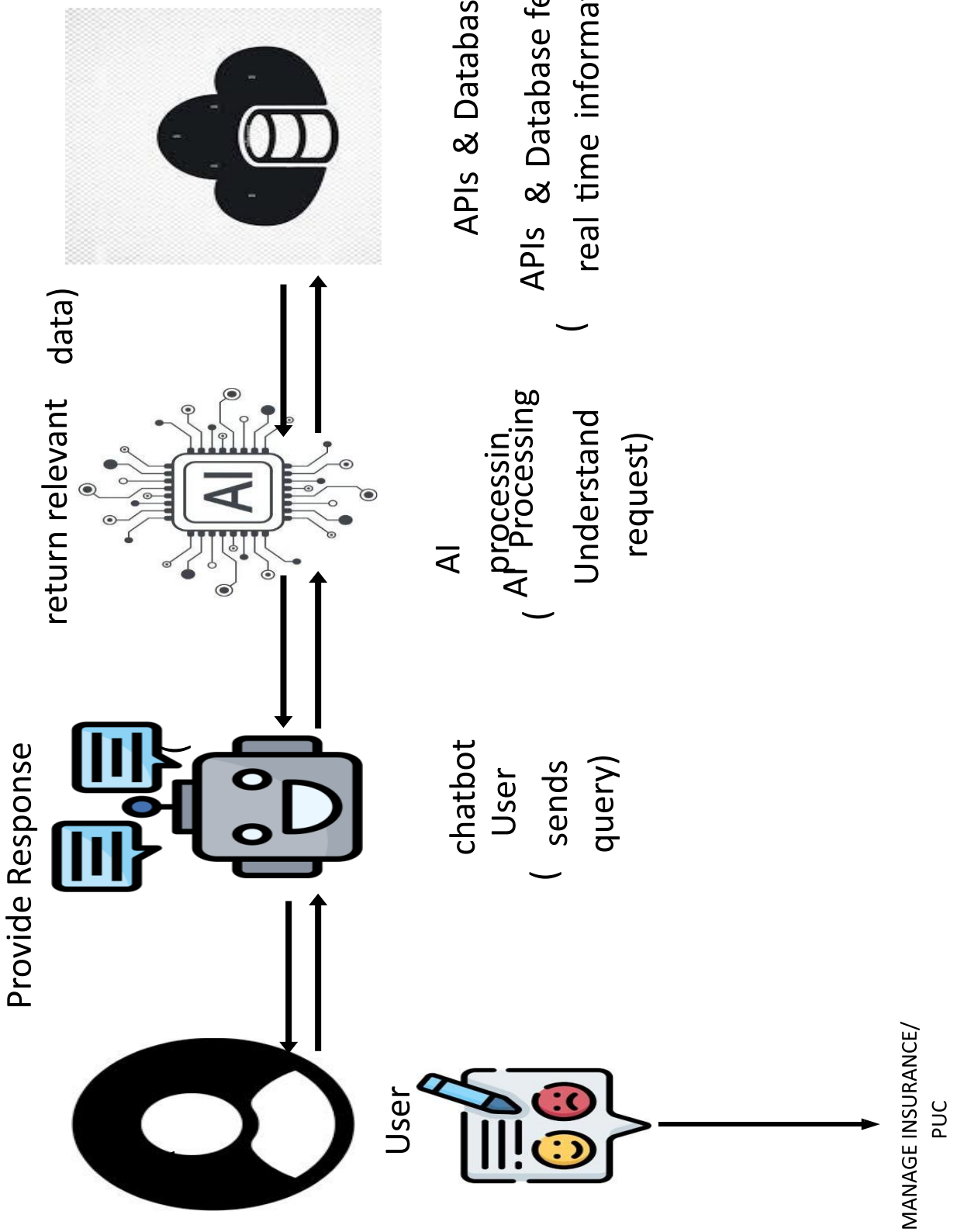
➢ Admin dashboard

➢ Data Validation

USER OF THE SYSTEM

- General User
- Automobile Dealers & Showrooms
- Mechanics And Service providers
- System Administrator

ARCHITECTURE DIAGRAM



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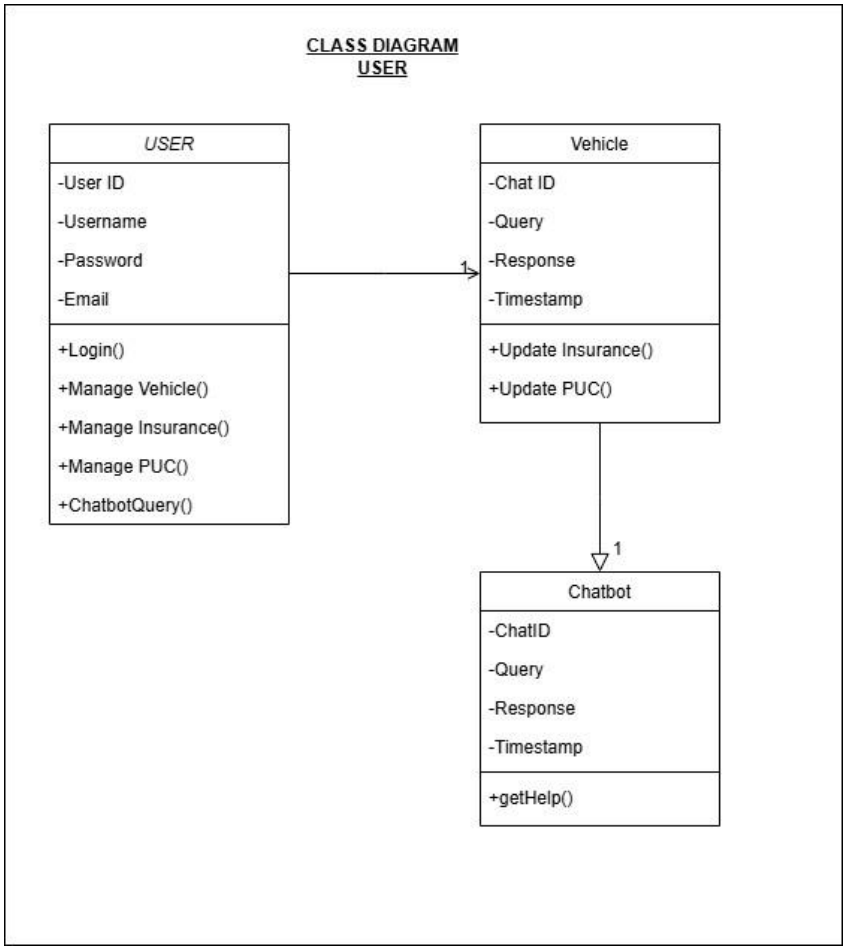
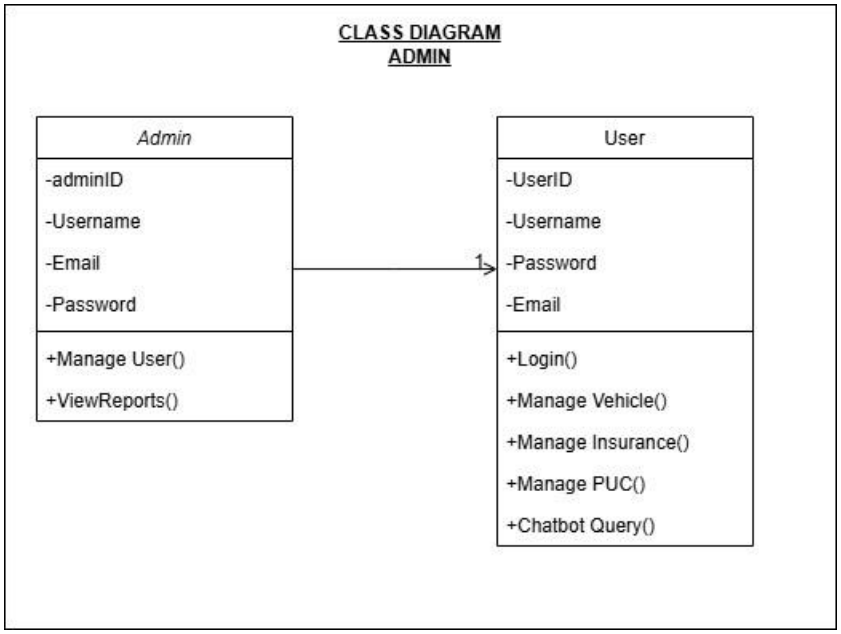
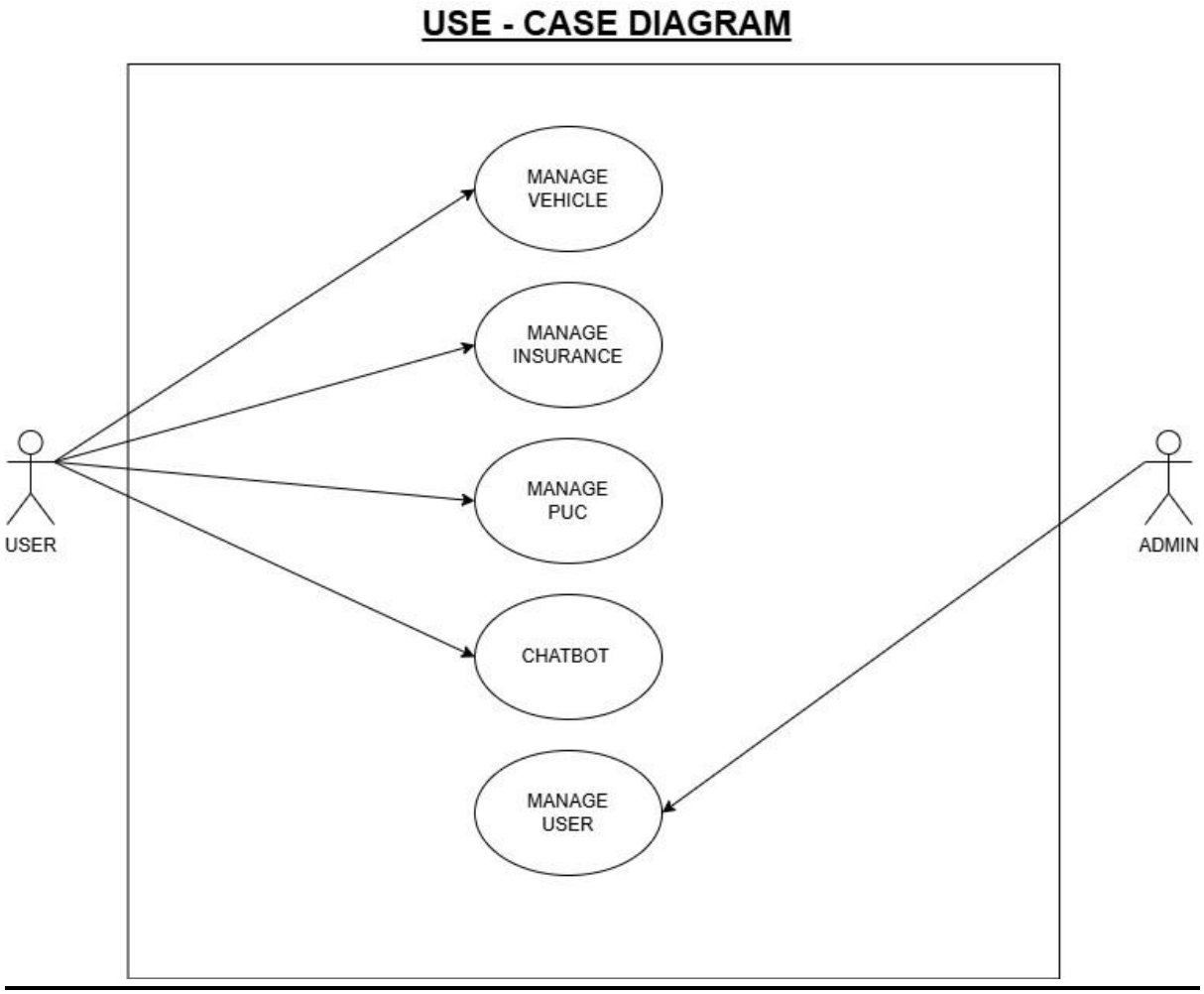
UML DIAGRAM

CLASS DIAGRAM

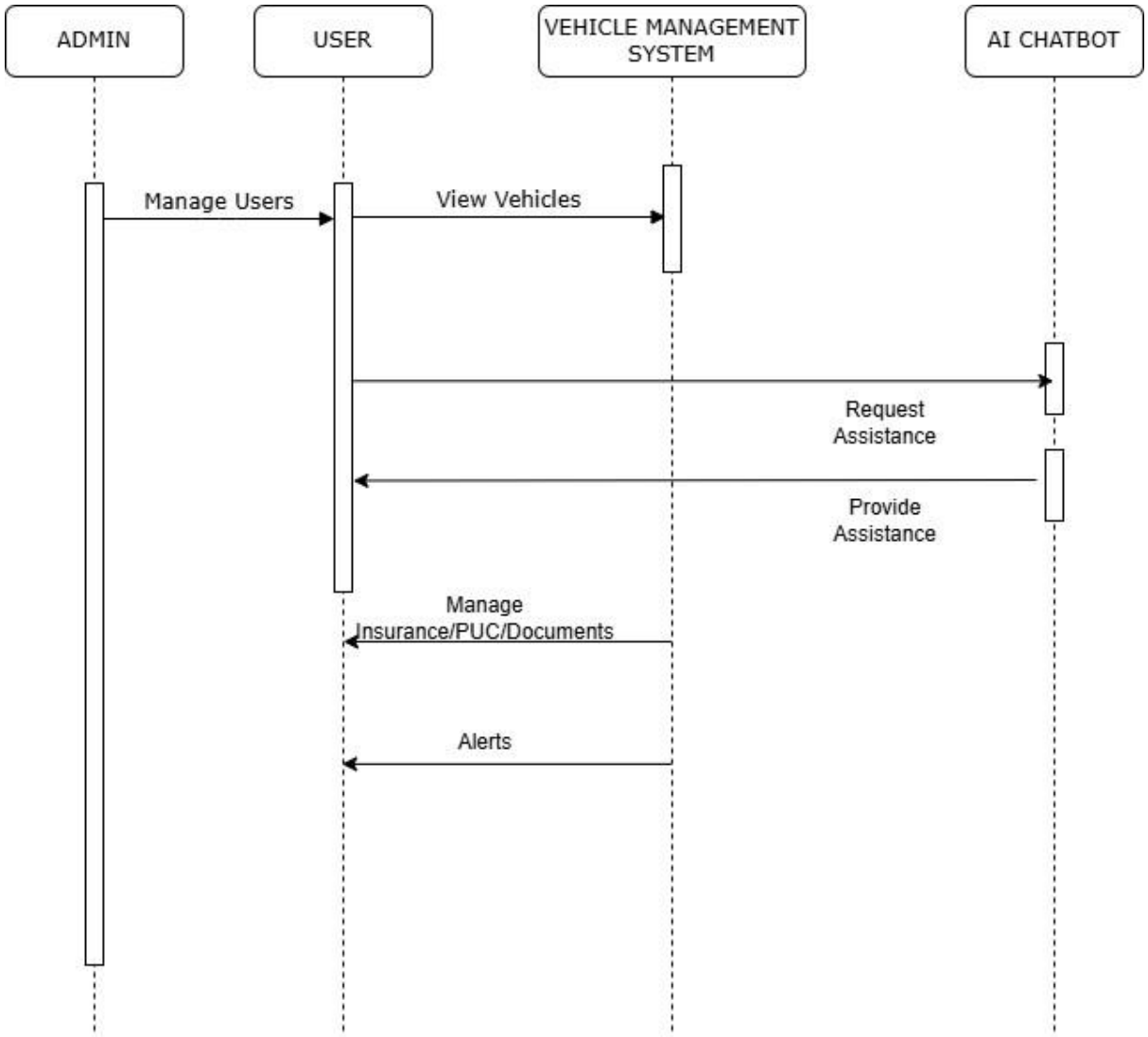




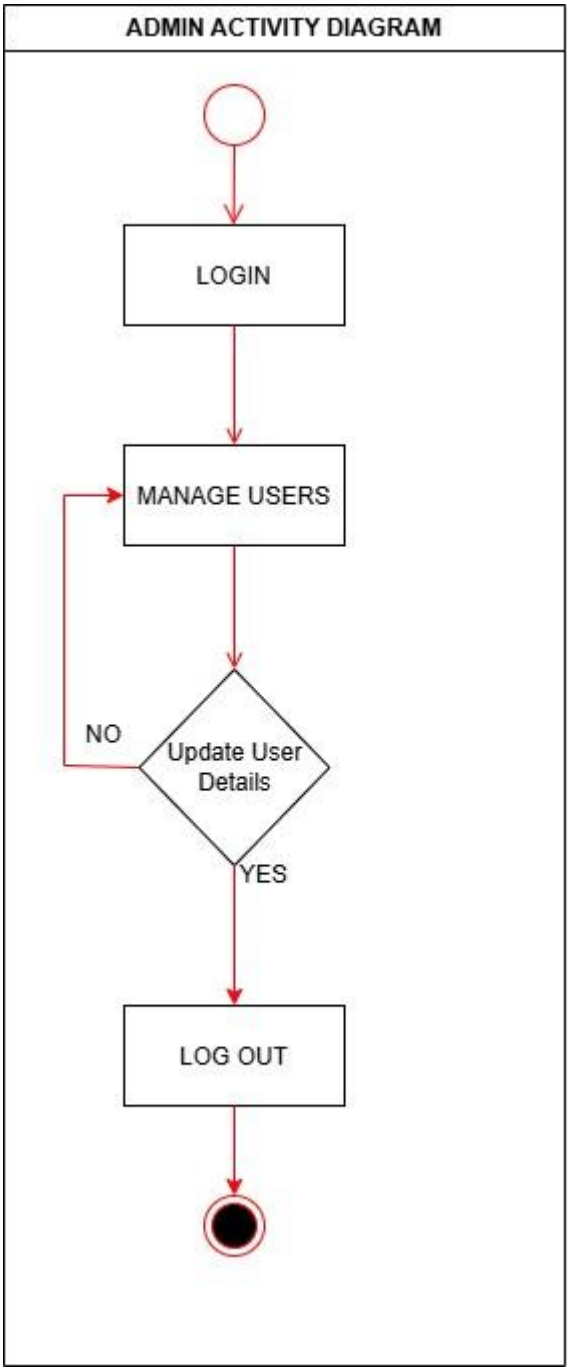
USE_CASE DIAGRAM



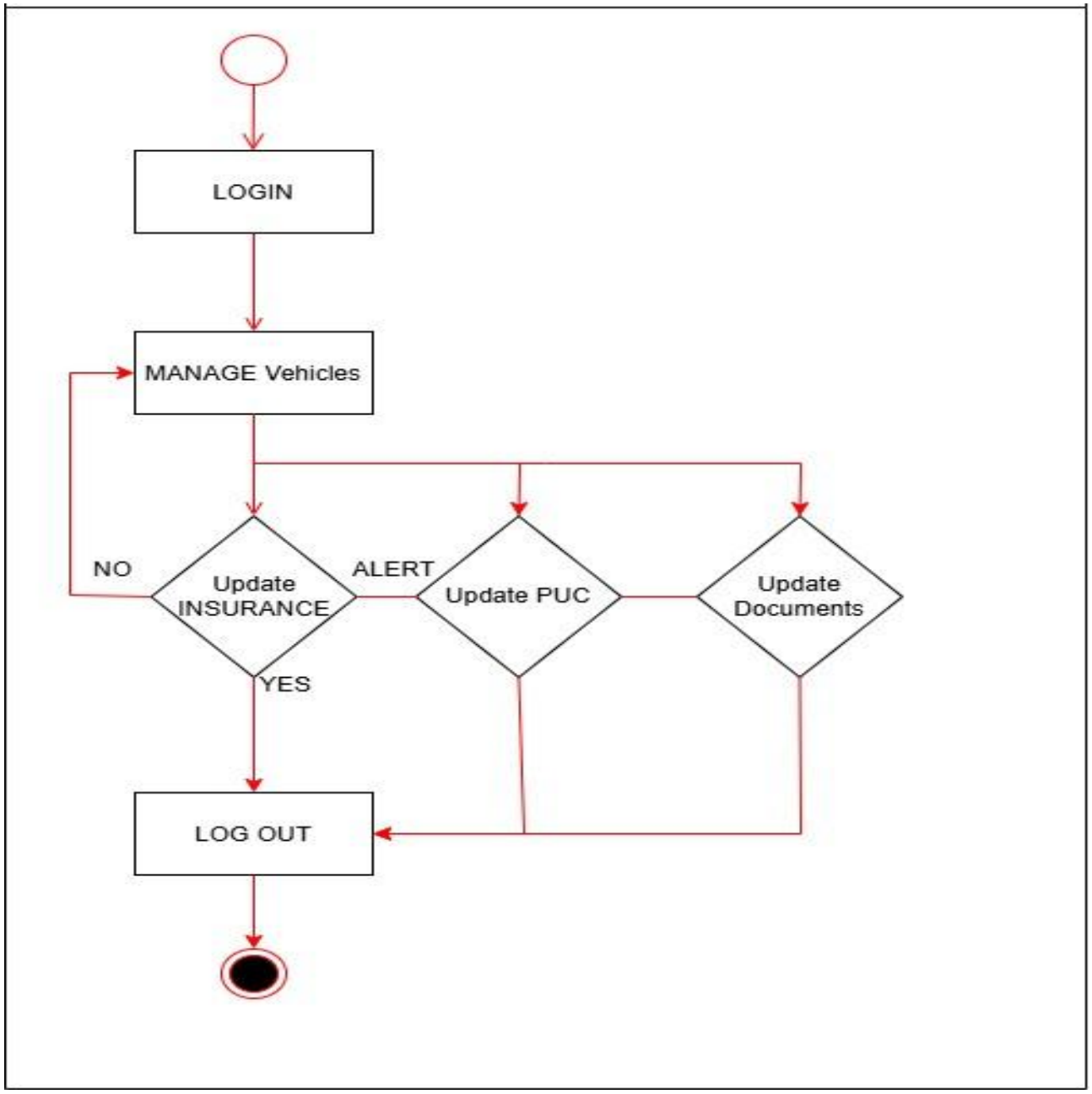
SEQUENCE DIAGRAM



ACTIVITY DIAGRAM



USER ACTIVITY DIAGRAM



DATA DICTIONARY

USER TABLE

Field Name	Data Type	Description
user_id	UUID / String	Unique identifier for each user.
username	String	Name chosen by the user.
email	String	User's email for notifications and communication.
password	String (hashed)	Encrypted password for security.
created_at	DateTime	Account creation timestamp.

VEHICLE LIST TABLE

Field Name	Data Type	Description
vehicle_id	UUID / String	Unique identifier for each vehicle.
user_id	UUID / String	Foreign key linking vehicle to a user.
vehicle_number	String	Official registration number of the vehicle.
vehicle_type	String	Type of vehicle (Car, Bike, etc.).
vehicle_model	String	Model name of the vehicle.
insurance_status	Enum (Active/Expired)	Insurance coverage status.
insurance_expiry_date	Date	Expiry date of the current insurance policy.
puc_status	Enum (Valid/Expired)	Pollution Under Control certificate status.
puc_expiry_date	Date	PUC certificate expiry date.
document_url	String (URL)	Link to uploaded documents (RC, insurance, etc.).

CHATBOT HISTORTY TABLE

Field Name	Data Type	Description
chat_id	UUID / String	Unique identifier for each chat session.
user_id	UUID / String	Foreign key linking chat to a specific user.

query	Text	User's input for vehicle troubleshooting.
response	Text	AI chatbot's response to the query.
timestamp	DateTime	Date and time of the interaction.

ALERT TABLE

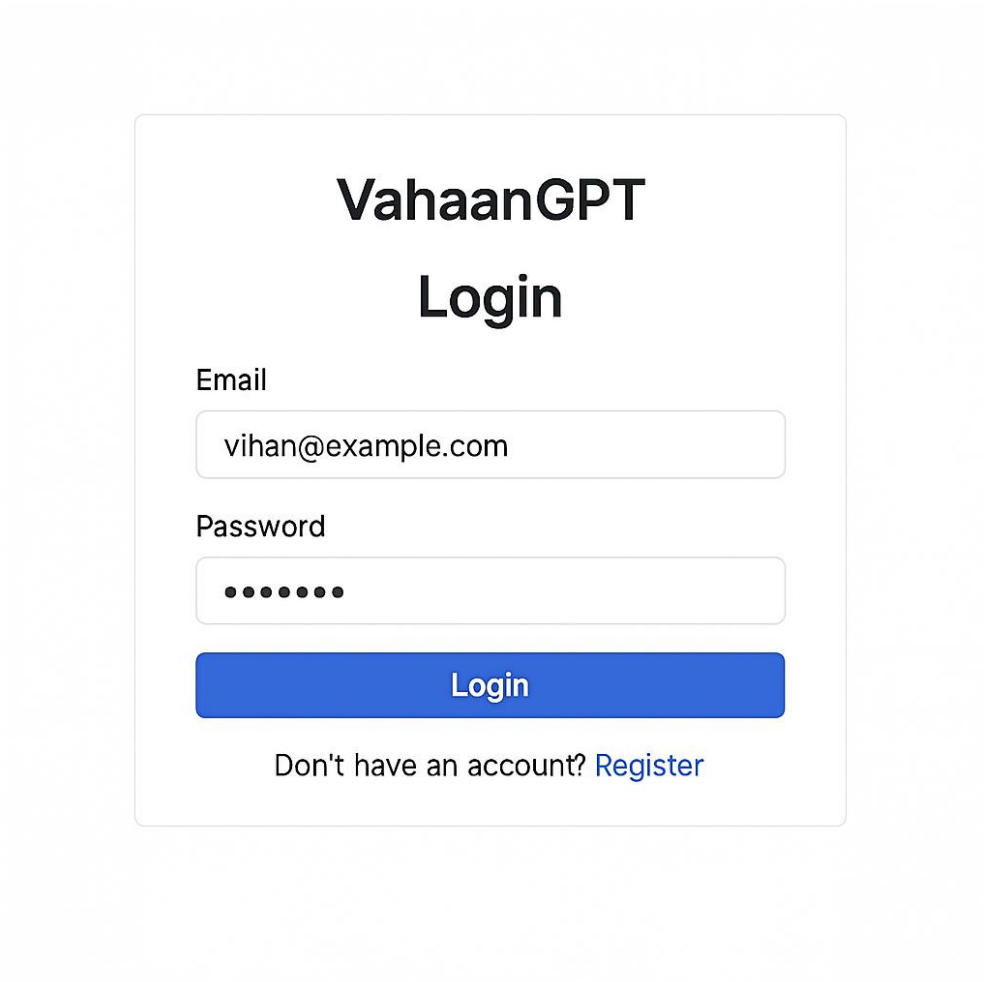
Field Name	Data Type	Description
alert_id	UUID / String	Unique identifier for each alert.
user_id	UUID / String	Foreign key linking alert to a user.
vehicle_id	UUID / String	Related vehicle ID for which the alert is raised.
alert_type	String	Type of alert (Insurance / PUC / Document, etc.).
alert_status	Enum (Sent/Read)	Whether the alert has been sent/read.
alert_date	DateTime	When the alert was generated.

ADMIN TABLE

Field Name	Data Type	Description
admin_id	UUID / String	Unique identifier for each admin
username	String	Name chosen by the admin.
email	String	User’s email address.
password	String (hashed)	Encrypted password for security.
created_at	DateTime	Account creation timestamp.

Screenshots

Login Page

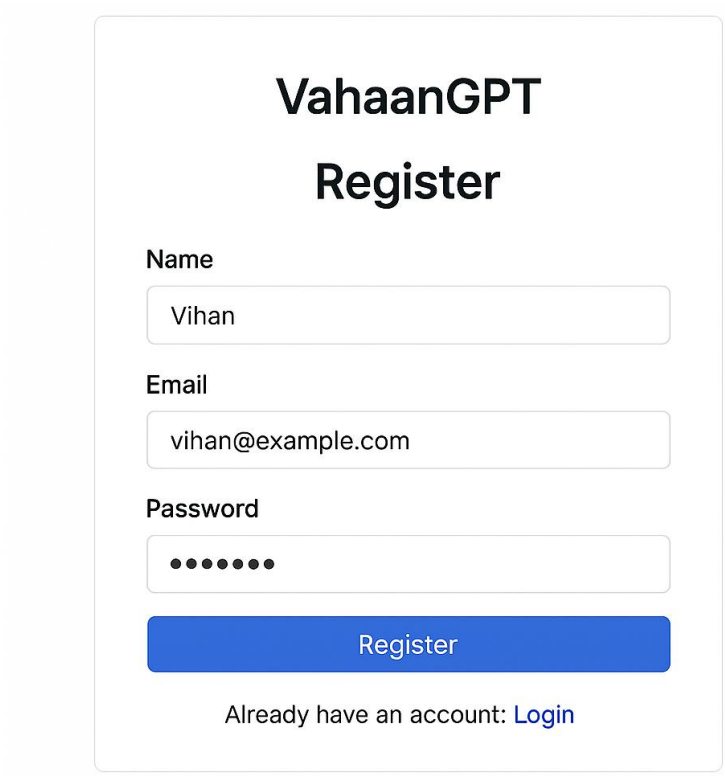


The **VahaanGPT Login Page** is the secure entry point for registered users to access their accounts. Designed with a clean and user-friendly layout, it features the following elements:

Email Field – Allows users to enter their registered email address.
Password Field – Enables users to securely input their password.
Login Button – Authenticates user credentials and grants access to the application dashboard.
Registration Link – A prompt below the form guides new users to the registration page if they don't already have an account.

This login page ensures a smooth and intuitive experience, helping users quickly access VahaanGPT's smart vehicle management features.

Register Page



This image shows a user registration page for a platform called "VahaanGPT". Here's a breakdown of the elements:

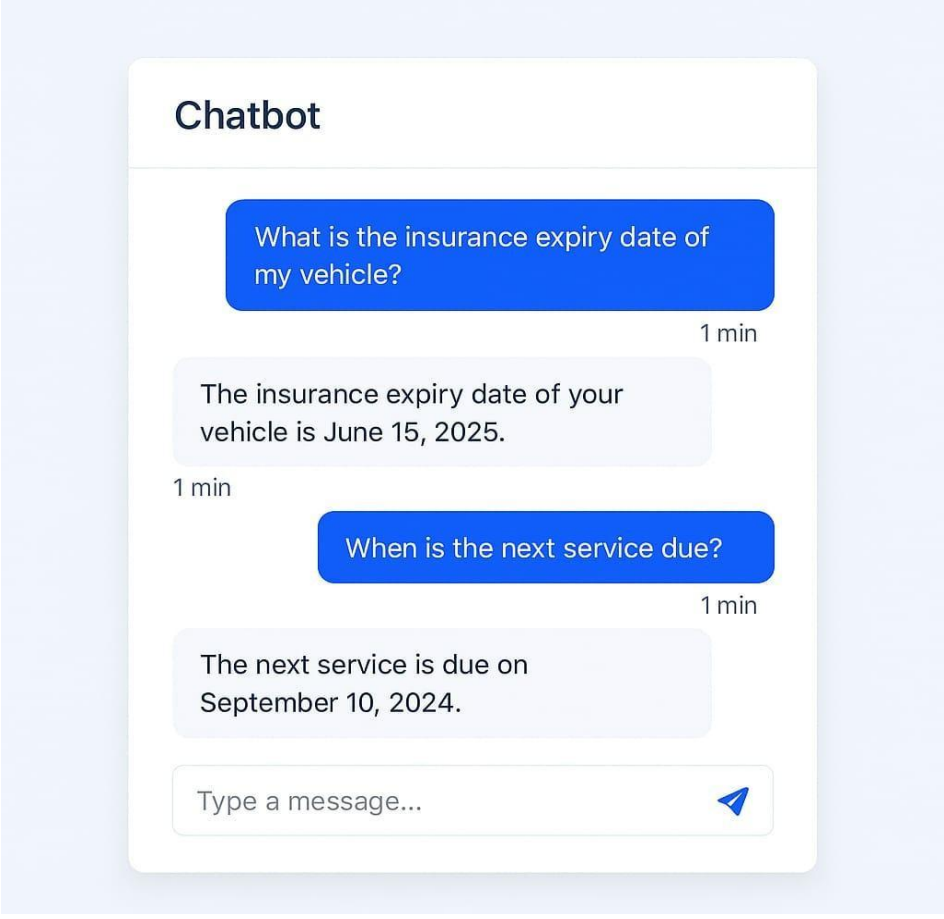
1. **Input Fields**:
   Name Field - Allows users to enter their name.
   Email Field - Allows users to enter their email address.
   Password Field - Allows users to enter their Password.

2. Register Button: A prominent blue button labeled "Register" to submit the registration form.

3. Login Link: Below the button, there's a message — "Already have an account: Login" — with a clickable **"Login"** link for users who already have an account.

This page allows new users to create an account by entering their name, email, and password. Once submitted, their information will likely be stored in a database and used for authentication and user identification across the platform.

Chatbot Page

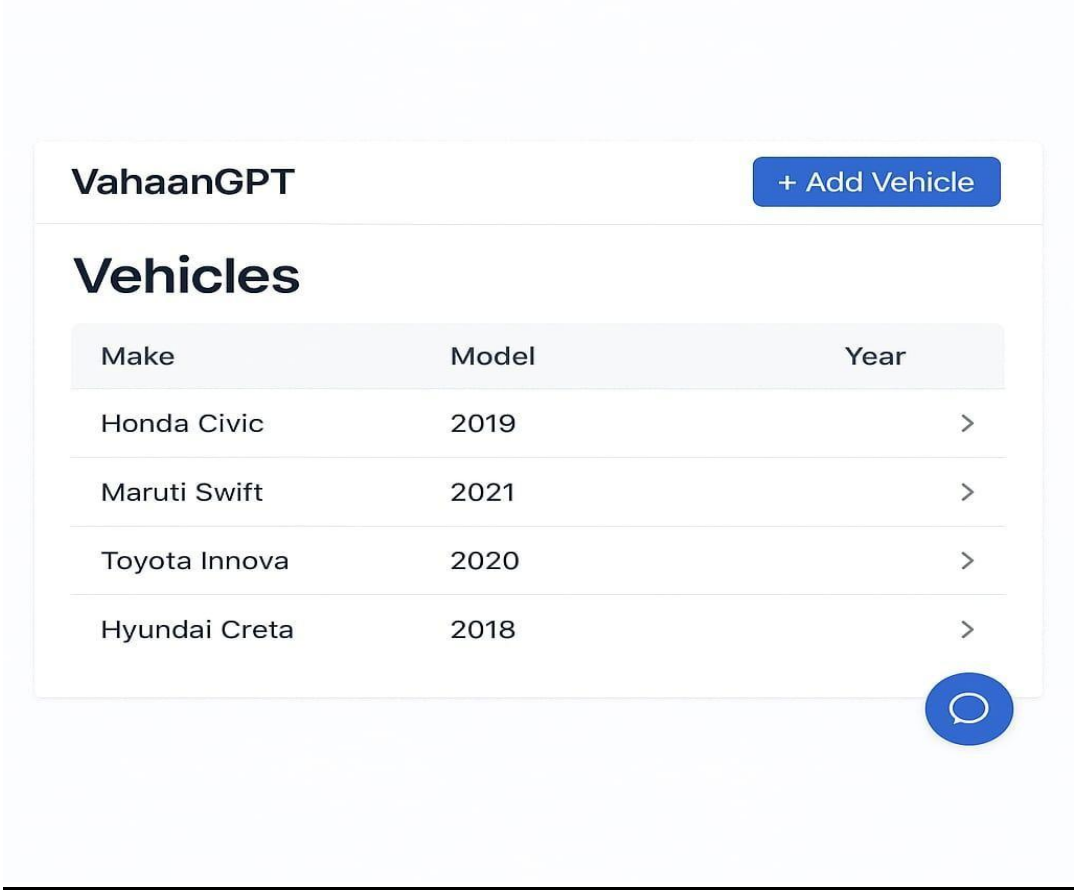


This page is likely part of a vehicle management app, automobile service portal, or insurance assistant tool where users can quickly check critical dates and reminders for their vehicles using a conversational interface.

At the bottom, there's a **text input field** with a send button, allowing users to type their own questions or commands in real-time.

This feature demonstrates how VahaanGPT offers a **conversational, AI-powered experience** to keep users informed about crucial vehicle updates like insurance, maintenance schedules, and more—making vehicle management simple, efficient, and user-friendly.

Vehicles Page



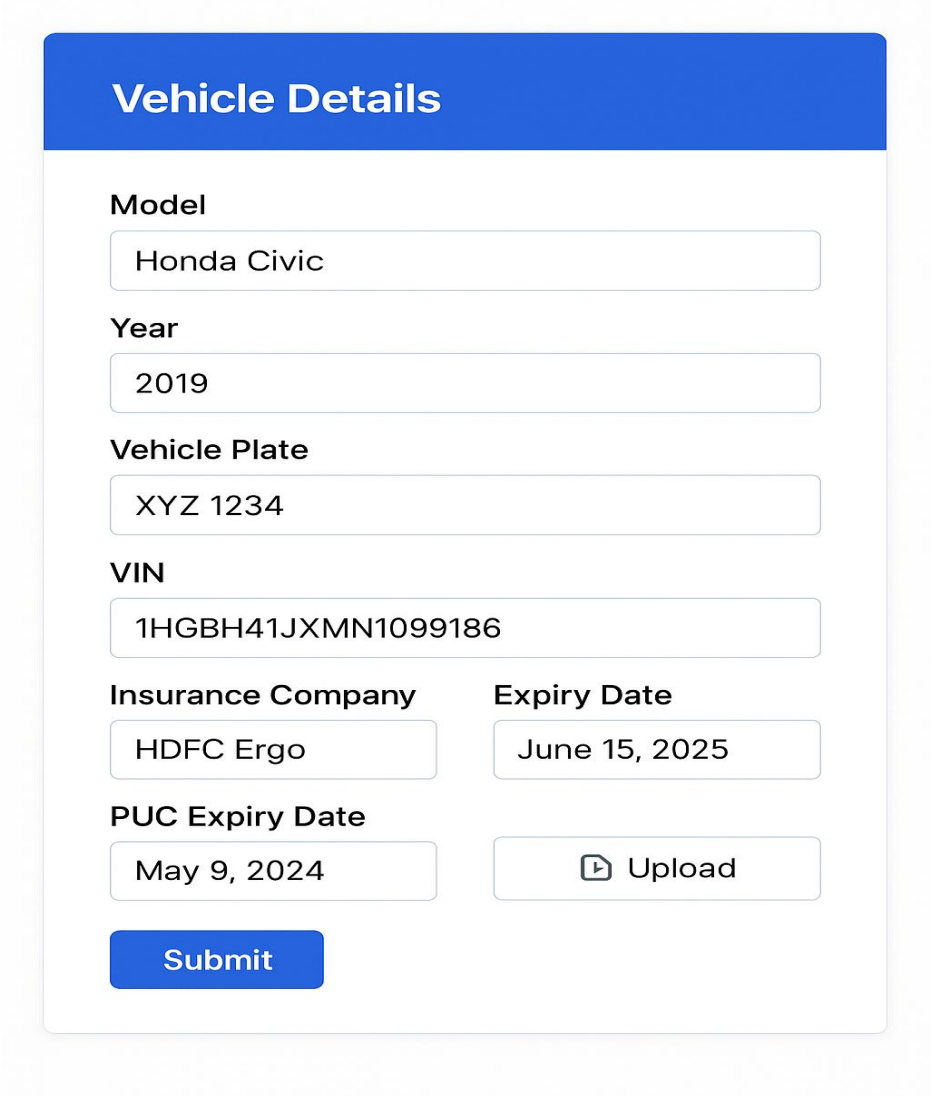
The Vehicles Dashboard page in the VahaanGPT app provides users with a centralized view of all their registered vehicles. Designed for simplicity and clarity, this dashboard displays a structured table listing each vehicle's make, model year, and registration year, allowing users to easily manage and access their vehicle information.

At the top of the page, users can quickly add new vehicles using the prominent "+ Add Vehicle" button. Each vehicle listed is interactive, enabling users to click and view detailed records such as insurance status, service schedules, and other essential documents.

The interface also includes a floating chat assistant icon, giving users immediate access to VahaanGPT's smart chatbot — capable of answering questions like insurance expiry dates, upcoming services, and maintenance reminders in a conversational format.

Whether you're an individual with multiple vehicles or a small business managing a fleet, this dashboard simplifies vehicle tracking and ensures you stay updated with important dates and tasks all in one place.

Add Vehicle details page

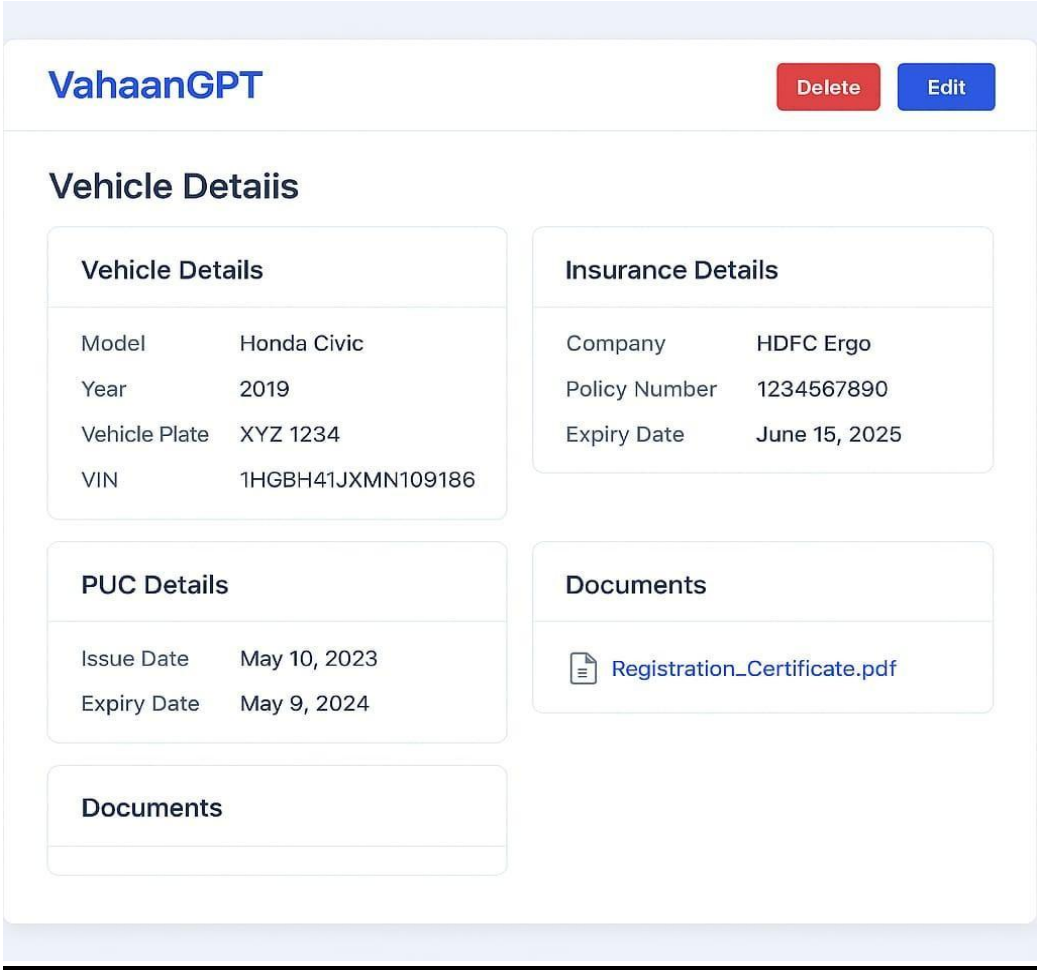


This page is a Vehicle Information Entry Form designed for users to input and manage essential vehicle details in a structured and intuitive format. It is part of a system like a vehicle registration or management platform—potentially for personal, governmental, or insurance-related use.

Purpose of the Page:

This page is designed for:
1.Registering or updating vehicle information.
2.Uploading and tracking related documents.
3.Ensuring all regulatory data (like insurance and PUC) is recorded and up to date.

Vehicle details page



This page is part of the VahaanGPT application, designed to provide comprehensive information about an individual vehicle in a structured and user-friendly format.

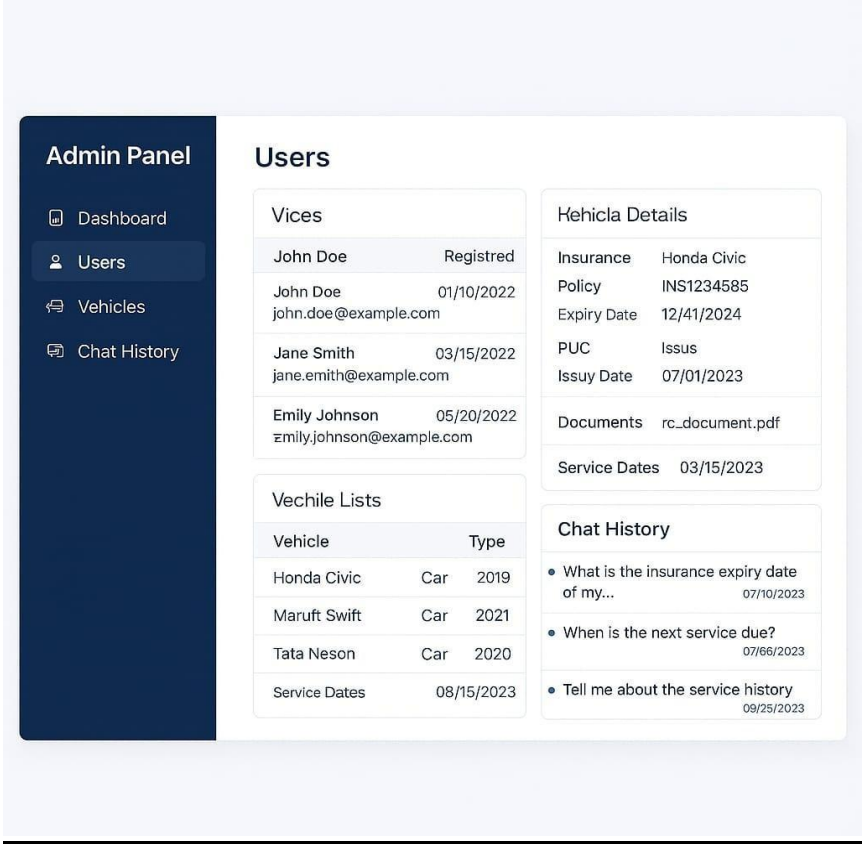
Actions Available:

Edit Button (Blue): Allows users to update or modify vehicle information.

Delete Button (Red): Enables the user to remove this vehicle entry from their profile.

This layout is ideal for users needing a quick yet detailed snapshot of their vehicle's legal and compliance status, all organized in easily navigable panels. It ensures users stay up to date on critical documents like insurance and PUC, enhancing efficiency and peace of mind.

Admin page



This image displays the Admin Panel of the VahaanGPT platform, providing the administrator with a centralized dashboard to manage users, vehicles, and chatbot interactions.

Navigation Sidebar (Left)

1.Dashboard – Home page of the admin panel
2.Users – Section currently active, used for managing registered users
3.Vehicles – View and manage vehicle information
4.Chat History – Track user queries and chatbot responses

It is a critical interface for ensuring smooth backend operations, helping admins maintain accurate vehicle and user records.

CONCLUSION

Vahaan GPT is an AI-powered chatbot platform built specifically for the automobile sector. It assists users with vehicle-related queries such as troubleshooting, maintenance tips, feature explanations, and general automotive knowledge. The platform requires users to sign up or log in to ensure secure and personalized interactions.

Leveraging OpenAI's powerful language models via an integrated Open API, Vahaan GPT provides intelligent, real-time responses to user inputs. The system maintains user sessions, logs all interactions, and ensures smooth communication through a responsive web or mobile interface. An admin panel was previously conceptualized for user management, but the current version is streamlined for direct user-to-chatbot interaction.