PARSHWANATH CHARITABLE TRUST'S
A.P. SHAH INSTITUTE OF TECHNOLOGY
Department of Computer Science and Engineering
Data Science

Rent A Ride : Vehicle Rental System

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Project Guide
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- Introduction
- Objectives
- Scope
- Features / Functionality
- Project Outcomes
- Technology Stack
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1. Introduction

- Problem Identified :
  - Manual vehicle rental systems face issues such as : Booking conflicts and errors Difficulty in managing customer and vehicle data.
  - Limited tracking of bookings and vehicle availability, along with a lack of data analysis for business improvements.
- Solution Proposed :
  - A digital platform for efficient booking, customer, and vehicle management . Secure login, registration, and password recovery.
  - Features Vehicle recommendations based on user preferences and booking history. Data visualization for analyzing vehicle usage trends . A user-friendly dashboard for quick access to key features.

2. Objectives

1. To simplify and automate the vehicle rental process by managing customer details, vehicle bookings, cancellations, and feedback efficiently.
2. To provide a user-friendly interface with an intuitive dashboard for easy navigation and smooth user experience.
3. To support data-driven decisions through graphical analysis of average vehicle usage and booking trends.
4. To enhance customer satisfaction with features like personalized recommendations, easy bookings, and feedback options.

3. Scope

1. Can be useful for vehicle rental companies to manage vehicles and bookings easily . Can help customers to book vehicles quickly and hassle-free.
2. Ride-sharing platforms to manage shared rides and bookings.
3. Travel and tourism companies to offer easy vehicle rental services for tourists.
4. Hotels and Resorts: Applied for providing rental services to guests for local transportation.

4. Feature /Functionality

1. Dashboard:
    - Central control panel for easy navigation of all features . Displays quick stats like total customers, bookings, and vehicles . Provides access to booking details, customer information, and vehicle management.
2. Vehicle Recommendation Page :
    - Suggests the most suitable vehicles based on user preferences and past bookings . Helps users make quicker decisions by highlighting the best options.
3. Average Vehicle Usage Page :
    - Shows graphical data on how frequently each vehicle is used . Helps in identifying popular vehicles and optimizing Vehicle management.

5. Outcome of Project

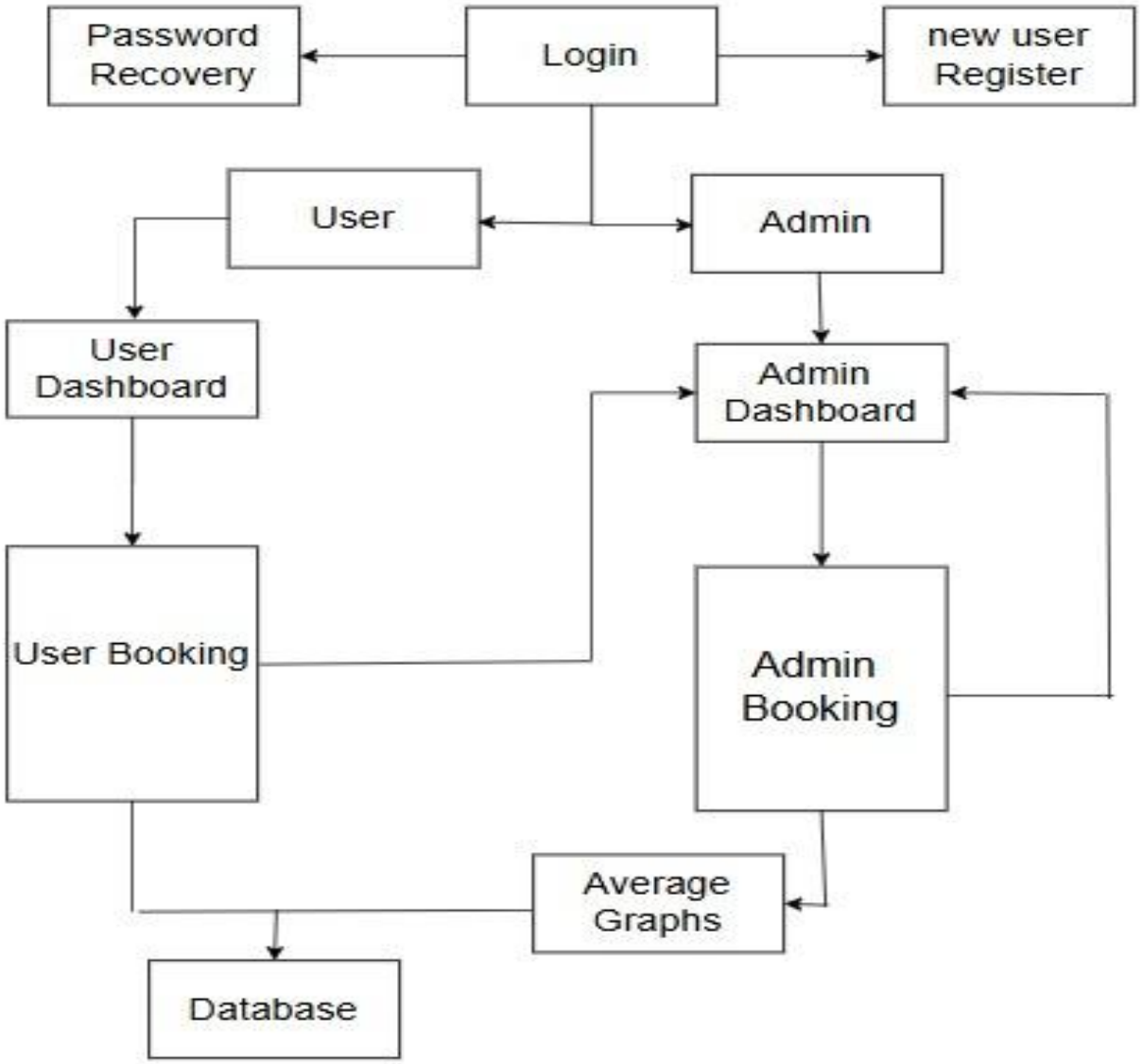
1.Dashboard: Centralized control for managing bookings, vehicles, and customers efficiently.
2.Recommendation System: Provides personalized vehicle suggestions, improving user satisfaction.
3.Easy Booking Process: Simplifies vehicle selection and booking, saving time for users.
4.Cancellation Option: Allows quick and hassle-free cancellation of bookings.
5.Feedback System: Collects user feedback to help improve service quality.
6.Usage Graphs: Visual representation of vehicle usage trends for better analysis.
7.Secure Login System: Ensures safe user authentication and data protection.
8.Add/Manage Vehicles: Admins can easily add, update, or delete vehicle details.

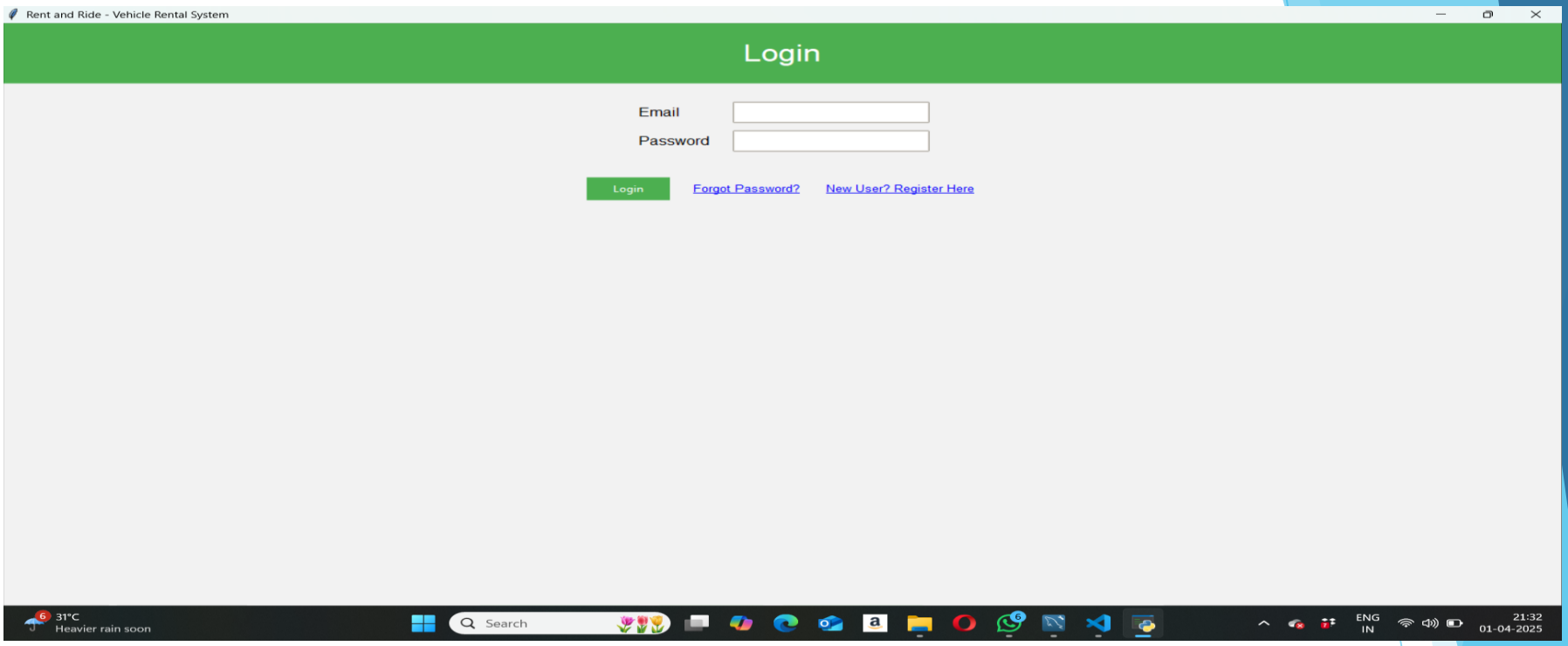
9.Add Customer Feature: Allows easy entry of new customer information into the system.
10.Logout Option: Ensures secure sign-out to protect user data.
11.Data Management: Centralized storage and management of all booking and user data.

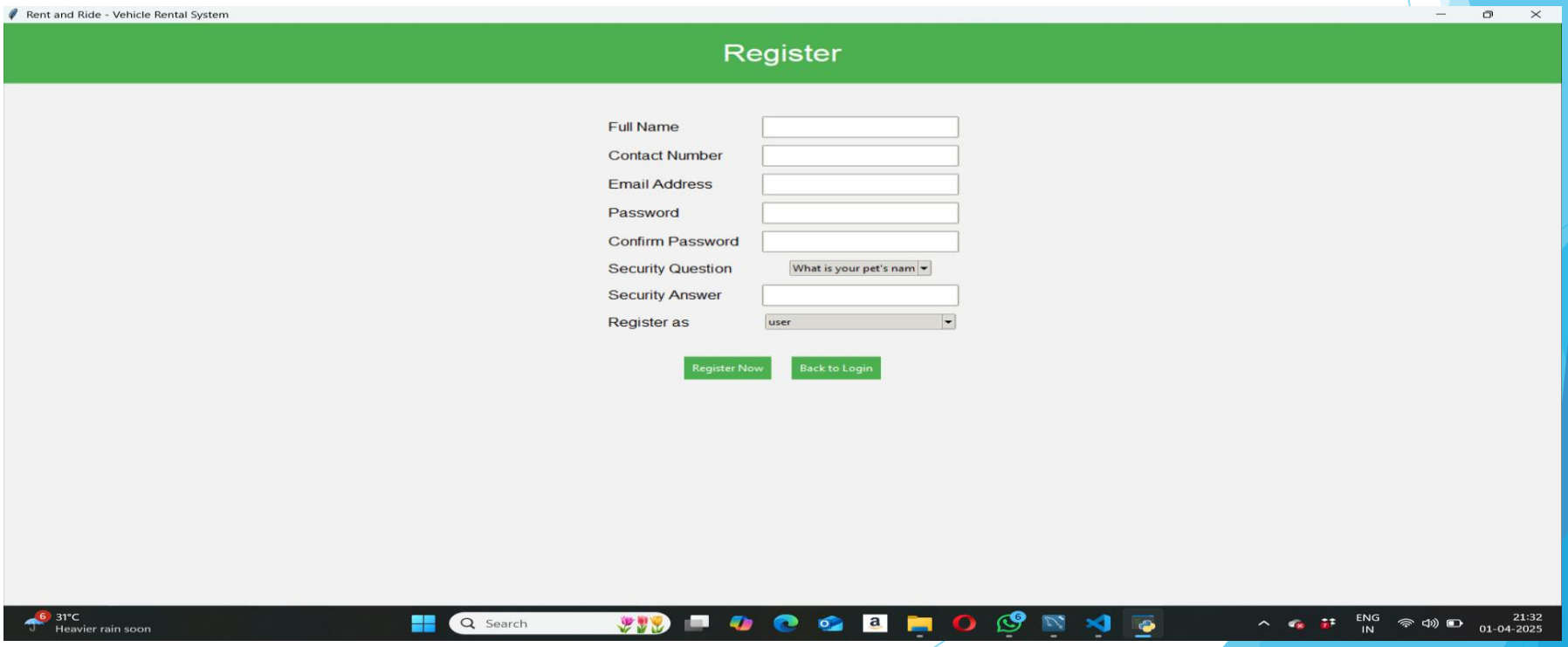
6. Technology Stack

1. Frontend:
   - Python (Tkinter): For the graphical user interface (GUI).
2. Backend:
   - MySQL: For managing customer, vehicle, and booking data.
   - Python (MySQL Connector): To connect and perform database operations.

7. Block Diagram




Rent and Ride - Vehicle Rental System
Login
Email
Password
Login
Forgot Password?
New User? Register Here
31°C
Heavier rain soon
Search
ENG
IN
21:32
01-04-2025


Rent and Ride - Vehicle Rental System
Register
Full Name
Contact Number
Email Address
Password
Confirm Password
Security Question
What is your pet's nam
Security Answer
Register as
user
Register Now
Back to Login
31°C
Heavier rain soon
Search
ENG
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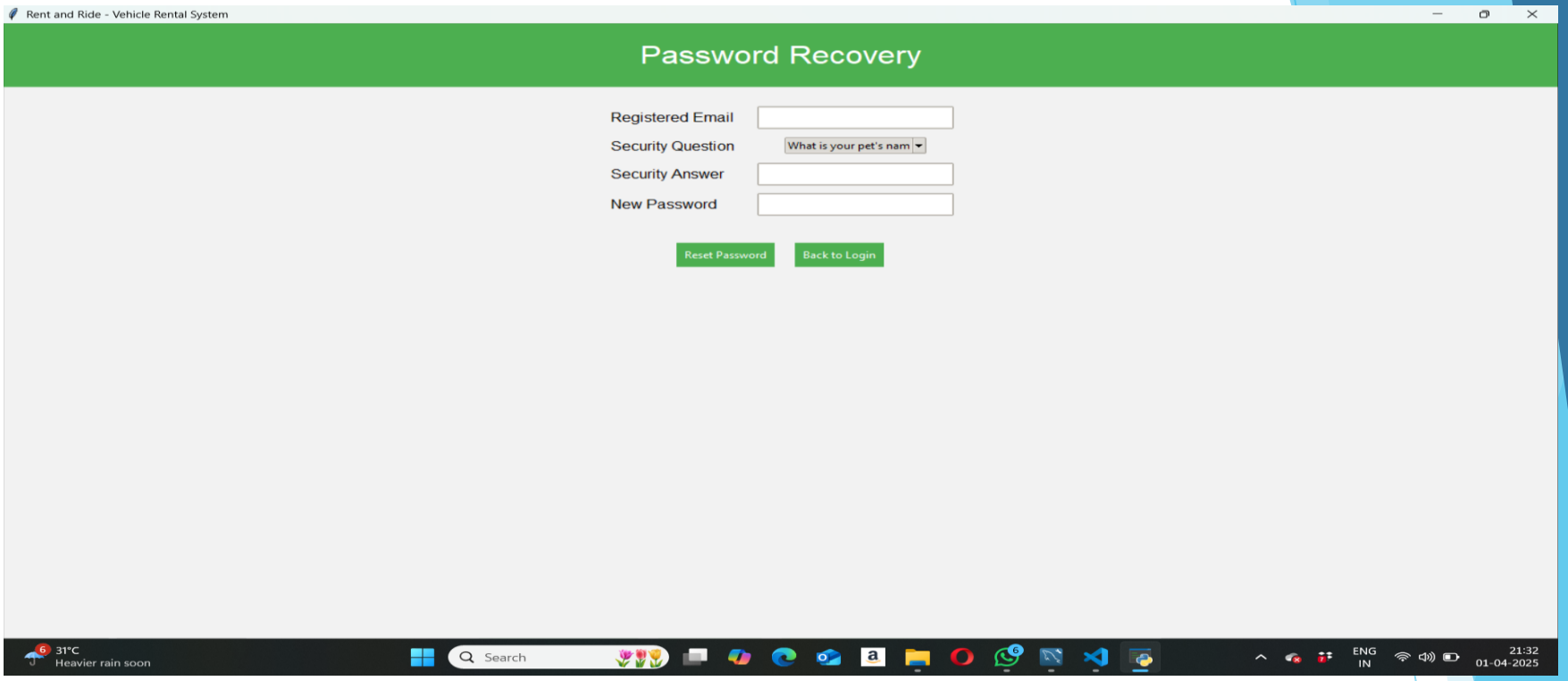
21:32
01-04-2025


Rent and Ride - Vehicle Rental System
Password Recovery
Registered Email
Security Question
What is your pet's nam
Security Answer
New Password
Reset Password
Back to Login
31°C
Heavier rain soon
Search
ENG
IN
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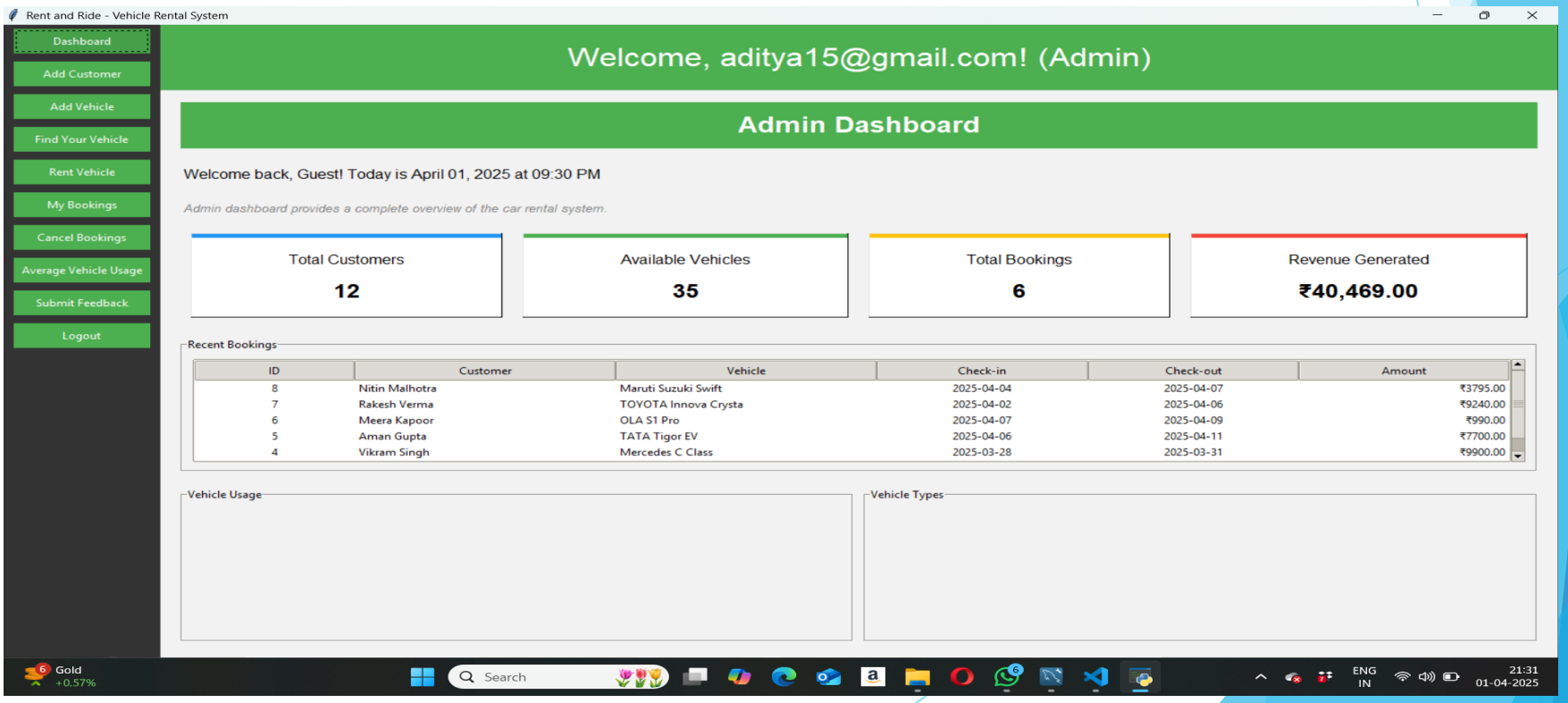
01-04-2025


Rent and Ride - Vehicle Rental System
Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Admin Dashboard
Welcome back, Guest! Today is April 01, 2025 at 09:30 PM
Admin dashboard provides a complete overview of the car rental system.
Total Customers
12
Available Vehicles
35
Total Bookings
6
Revenue Generated
₹40,469.00
Recent Bookings
ID Customer Vehicle Check-in Check-out Amount
8 Nitin Malhotra Maruti Suzuki Swift 2025-04-04 2025-04-07 ₹3795.00
7 Rakesh Verma TOYOTA Innova Crysta 2025-04-02 2025-04-06 ₹9240.00
6 Meera Kapoor OLA S1 Pro 2025-04-07 2025-04-09 ₹990.00
5 Aman Gupta TATA Tigor EV 2025-04-06 2025-04-11 ₹7700.00
4 Vikram Singh Mercedes C Class 2025-03-28 2025-03-31 ₹9900.00
Vehicle Usage
Vehicle Types
Gold
+0.57%
Search
ENG
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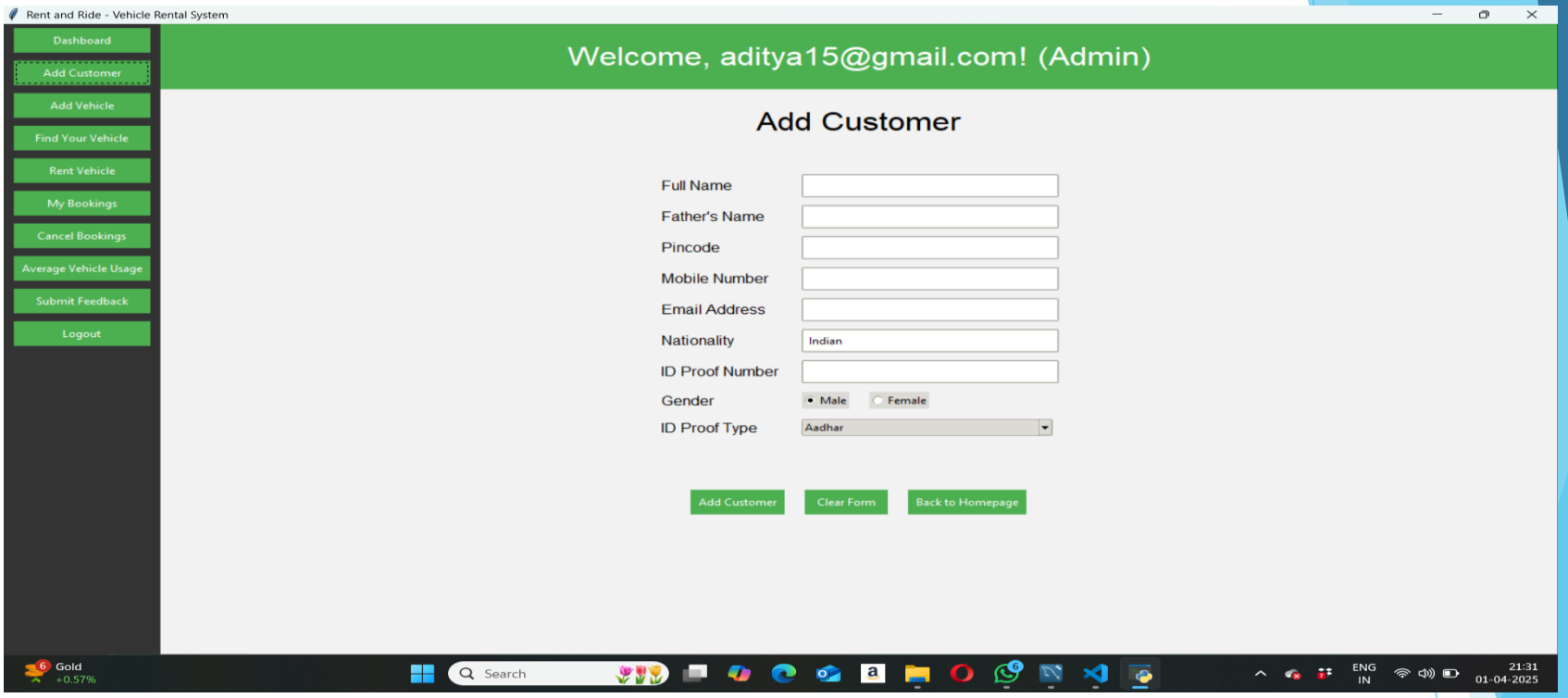
21:31
01-04-2025


Rent and Ride - Vehicle Rental System
Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Add Customer
Full Name
Father's Name
Pincode
Mobile Number
Email Address
Nationality
Indian
ID Proof Number
Gender
Male
Female
ID Proof Type
Aadhar
Add Customer
Clear Form
Back to Homepage
Gold
+0.57%
Search
ENG
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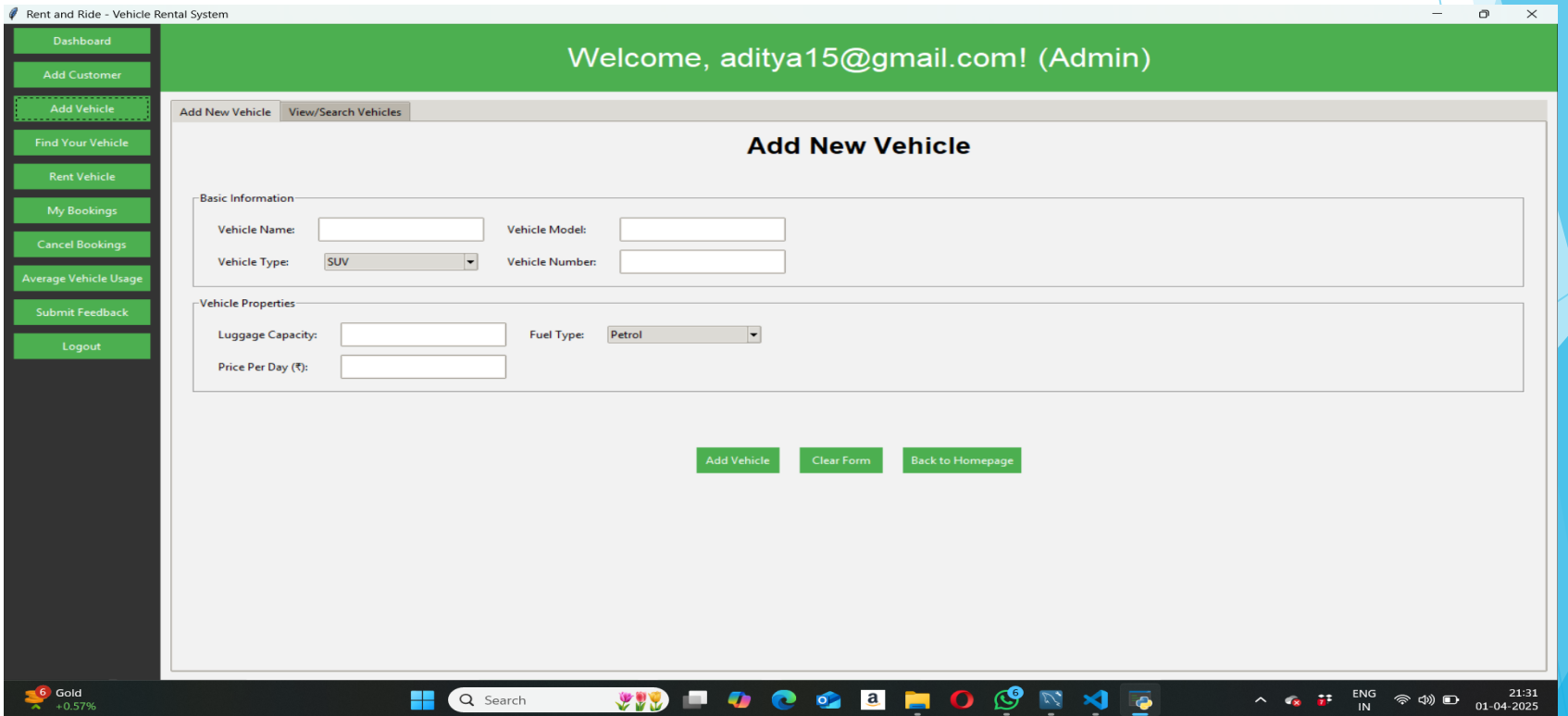
01-04-2025


Rent and Ride - Vehicle Rental System
Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Add New Vehicle
View/Search Vehicles
Add New Vehicle
Basic Information
Vehicle Name:
Vehicle Model:
Vehicle Type:
SUV
Vehicle Number:
Vehicle Properties
Luggage Capacity:
Fuel Type:
Petrol
Price Per Day (₹):
Add Vehicle
Clear Form
Back to Homepage
Gold
+0.57%
Search
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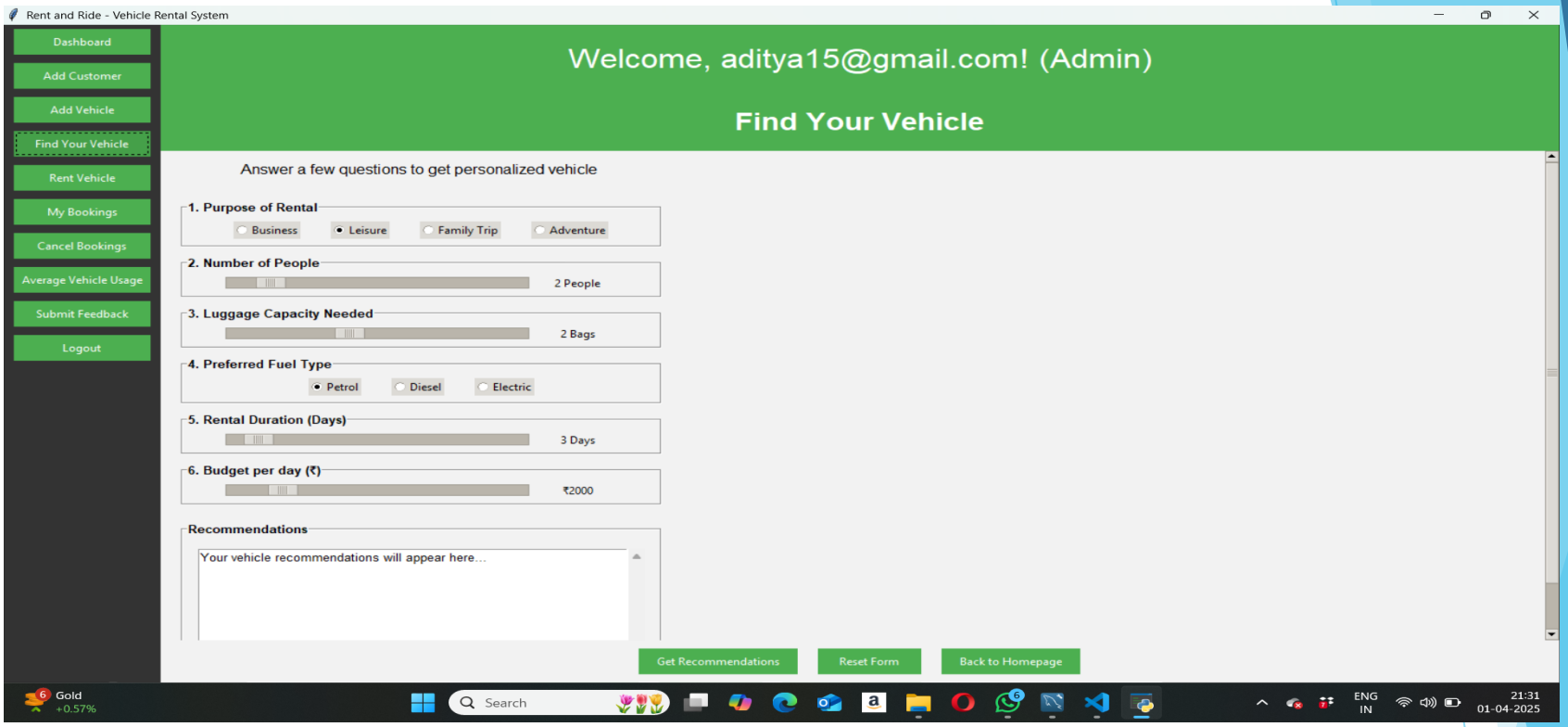
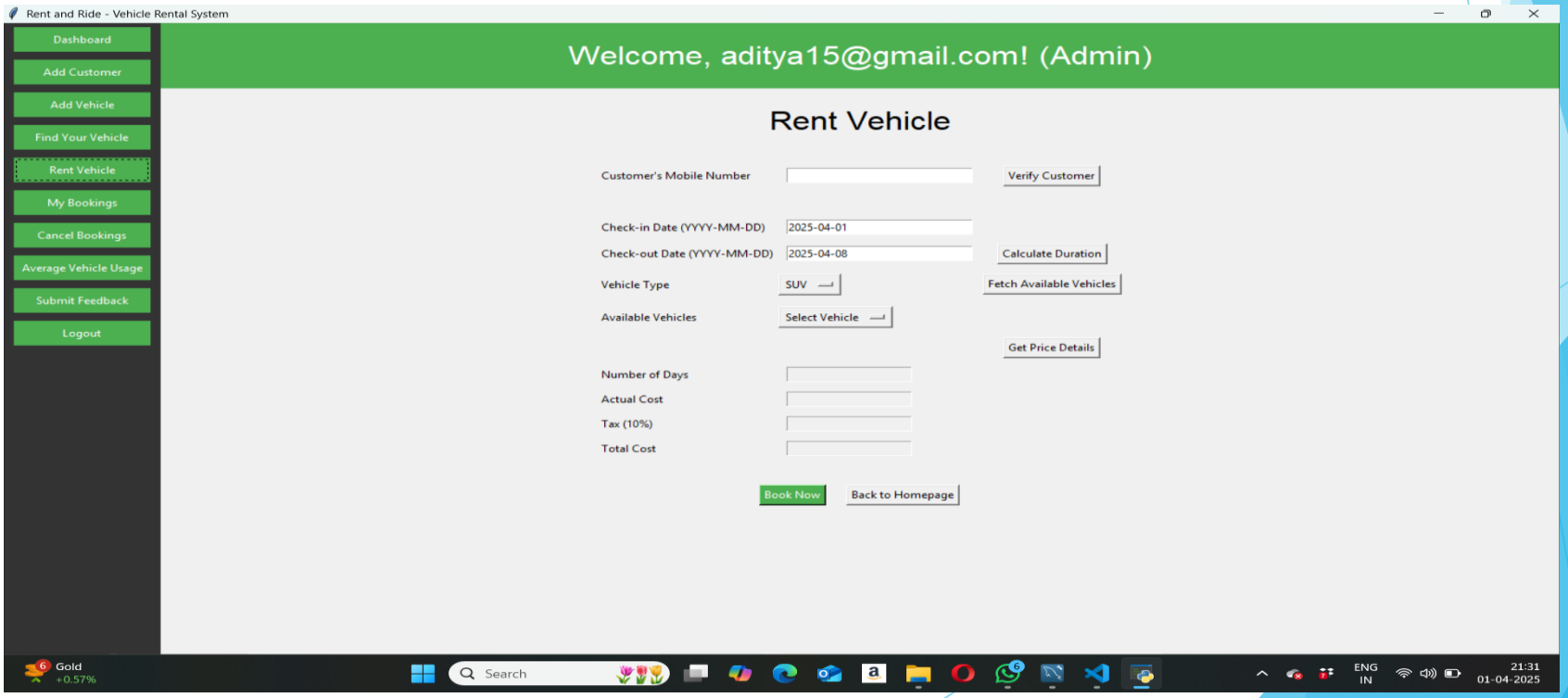
01-04-2025


Rent and Ride - Vehicle Rental System
Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Find Your Vehicle
Answer a few questions to get personalized vehicle
1. Purpose of Rental
Business
Leisure
Family Trip
Adventure
2. Number of People
2 People
3. Luggage Capacity Needed
2 Bags
4. Preferred Fuel Type
Petrol
Diesel
Electric
5. Rental Duration (Days)
3 Days
6. Budget per day (₹)
₹2000
Recommendations
Your vehicle recommendations will appear here...
Get Recommendations
Reset Form
Back to Homepage
Gold
+0.57%
Search
ENG
IN
21:31
01-04-2025


Rent and Ride - Vehicle Rental System
Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Rent Vehicle
Customer's Mobile Number
Verify Customer
Check-in Date (YYYY-MM-DD)
2025-04-01
Check-out Date (YYYY-MM-DD)
2025-04-08
Calculate Duration
Vehicle Type
SUV
Fetch Available Vehicles
Available Vehicles
Select Vehicle
Get Price Details
Number of Days
Actual Cost
Tax (10%)
Total Cost
Book Now
Back to Homepage
Gold
+0.57%
Search
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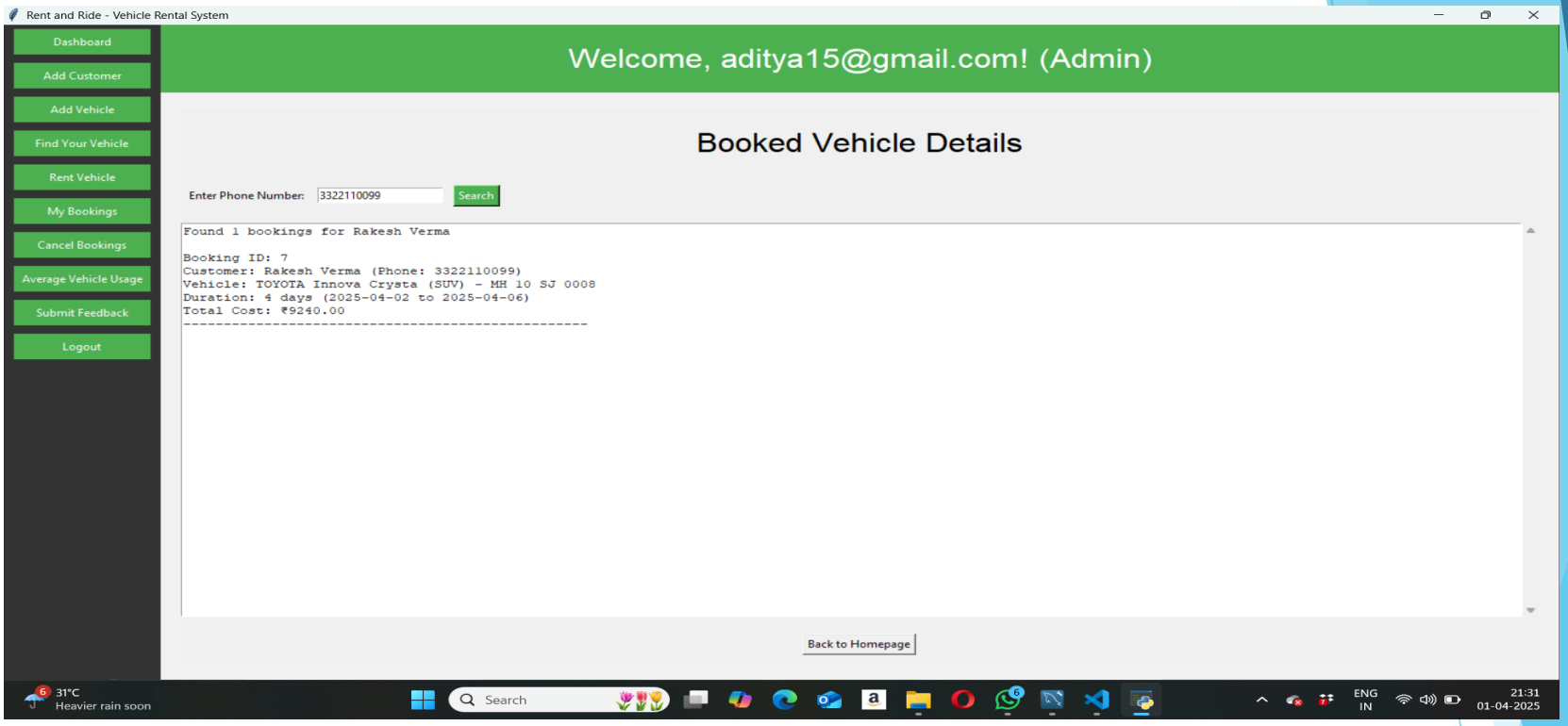
01-04-2025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Dashboard
Add Customer
Add Vehicle
Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Booked Vehicle Details
Enter Phone Number:
3322110099
Search
Found 1 bookings for Rakesh Verma
Booking ID: 7
Customer: Rakesh Verma (Phone: 3322110099)
Vehicle: TOYOTA Innova Crysta (SUV) - MH 10 SJ 0008
Duration: 4 days (2025-04-02 to 2025-04-06)
Total Cost: ₹9240.00
Back to Homepage
31°C
Heavier rain soon
Search
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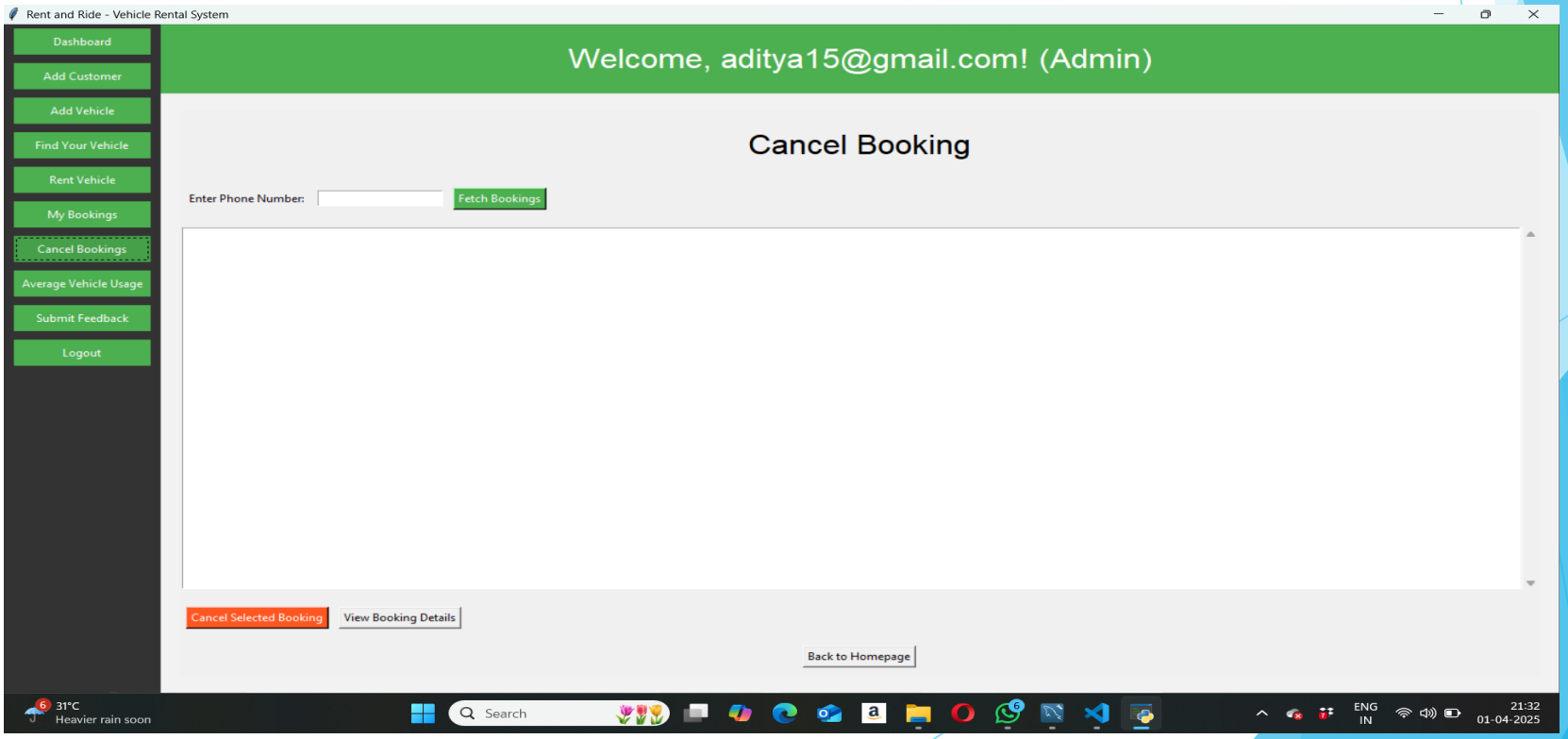
21:31
01-04-2025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Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Cancel Booking
Enter Phone Number:
Fetch Bookings
Cancel Selected Booking
View Booking Details
Back to Homepage
31°C
Heavier rain soon
Search
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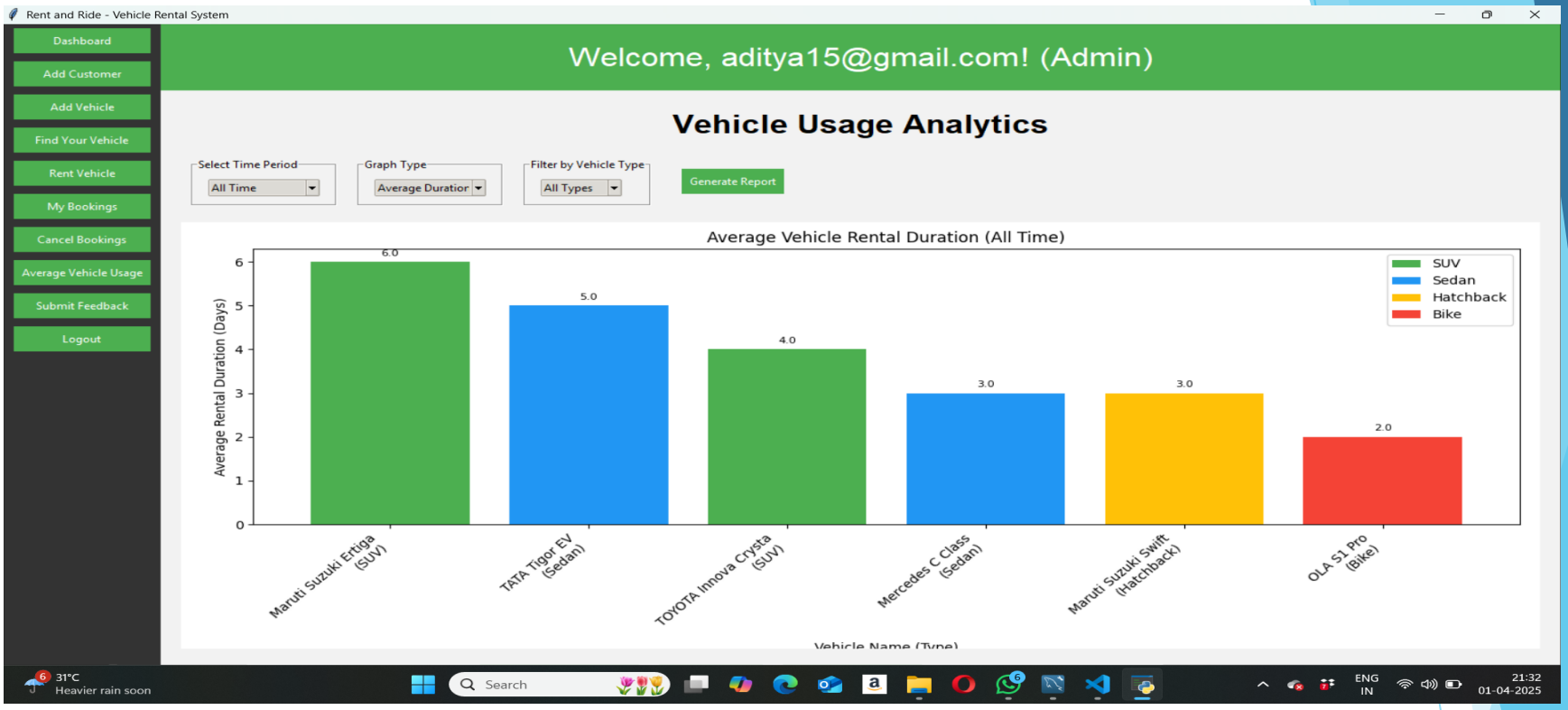
01-04-2025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Dashboard
Add Customer
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Find Your Vehicle
Rent Vehicle
My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Vehicle Usage Analytics
Select Time Period
All Time
Graph Type
Average Duration
Filter by Vehicle Type
All Types
Generate Report
Average Vehicle Rental Duration (All Time)
Average Rental Duration (Days)
SUV
Sedan
Hatchback
Bike
6.0
5.0
4.0
3.0
3.0
2.0
Maruti Suzuki Ertiga (SUV)
TATA Tigor EV (Sedan)
TOYOTA Innova Crysta (SUV)
Mercedes C Class (Sedan)
Maruti Suzuki Swift (Hatchback)
OLA S1 Pro (Bike)
Vehicle Name (Type)
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Heavier rain soon
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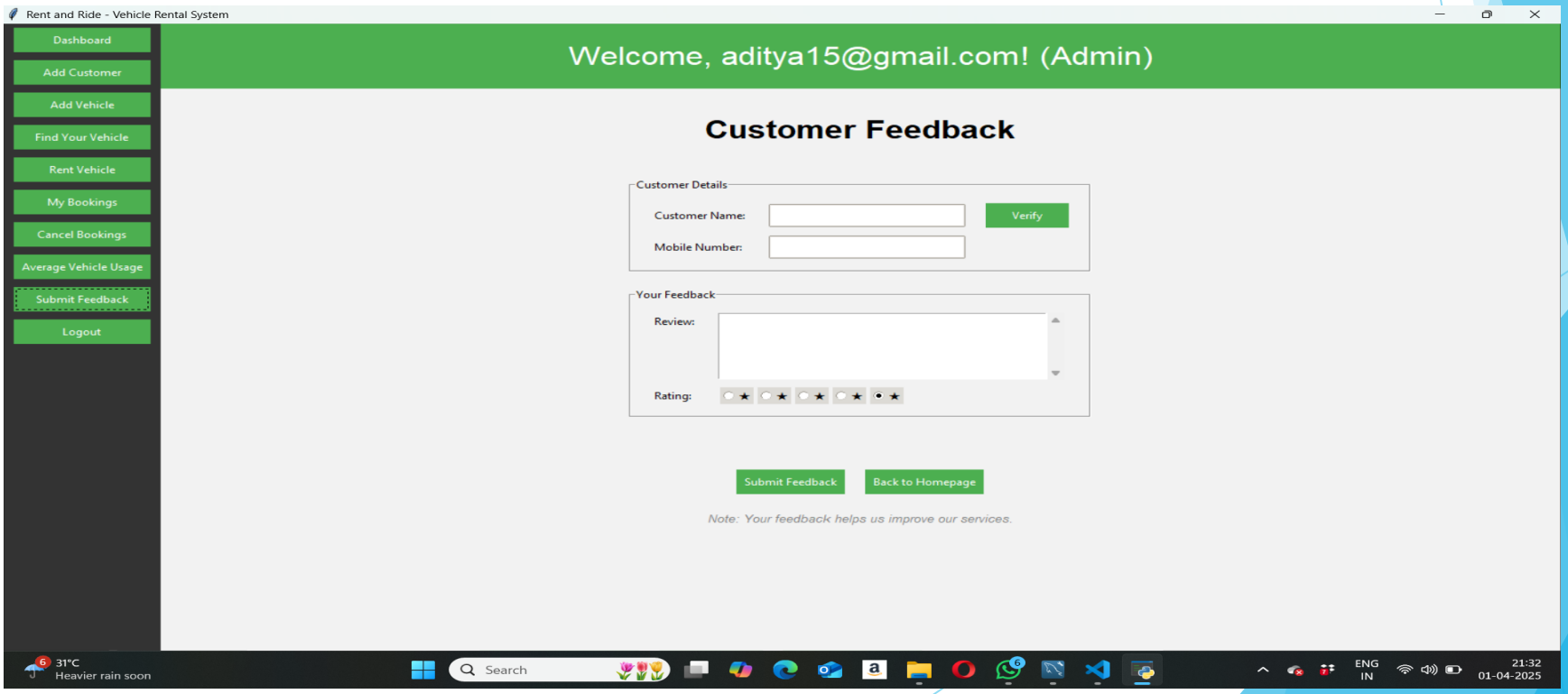
01-04-2025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Add Customer
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My Bookings
Cancel Bookings
Average Vehicle Usage
Submit Feedback
Logout
Welcome, aditya15@gmail.com! (Admin)
Customer Feedback
Customer Details
Customer Name:
Verify
Mobile Number:
Your Feedback
Review:
Rating:
Submit Feedback
Back to Homepage
Note: Your feedback helps us improve our services.
31°C
Heavier rain soon
Search
ENG
IN
21:32
01-04-2025

Thank You...!!