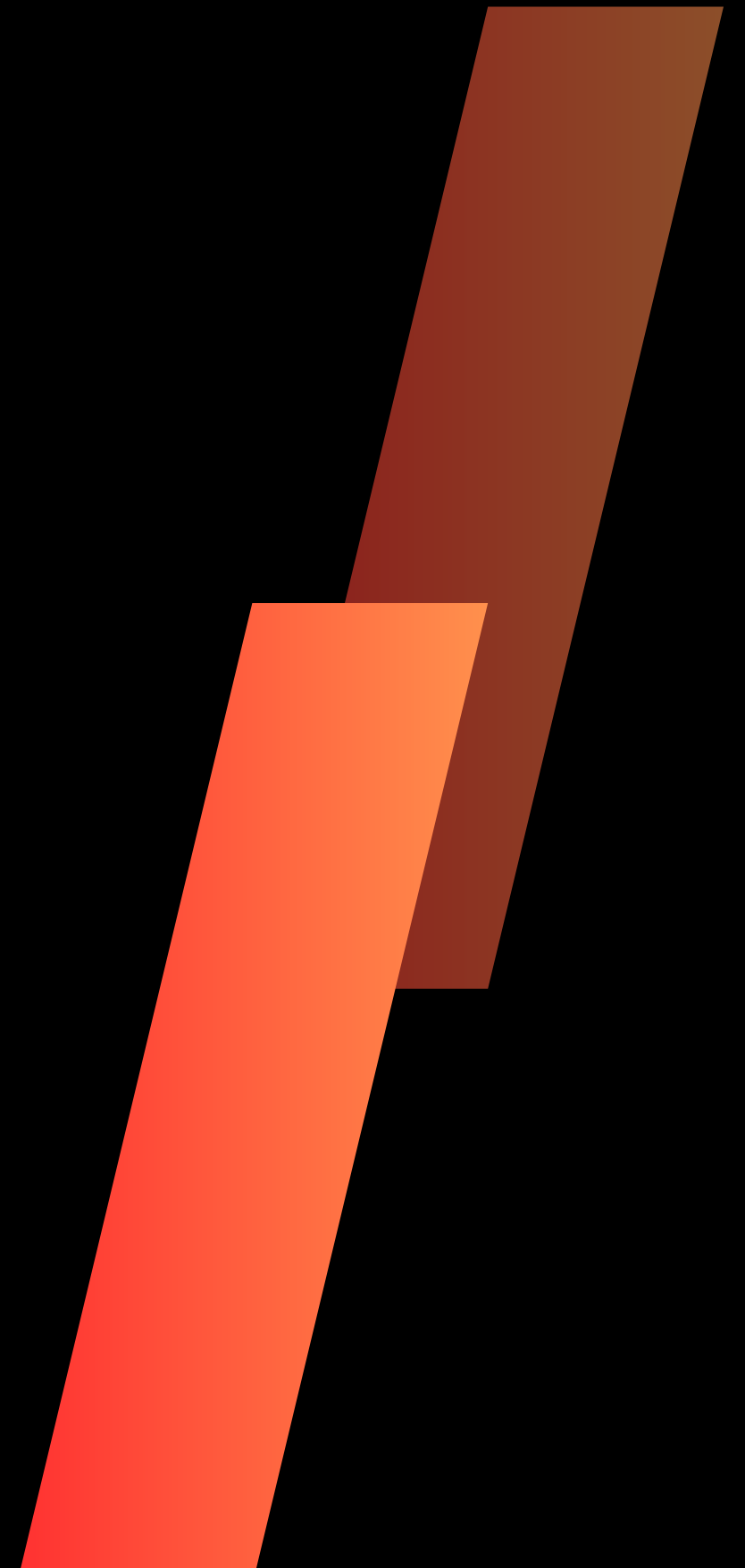
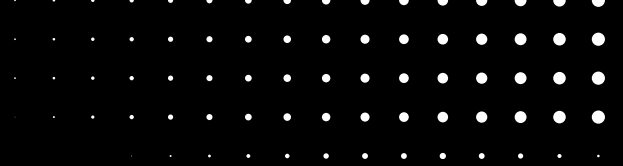
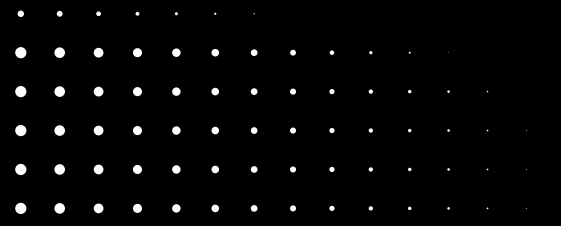


# CAR RENTAL

## SERVICE



# OBJECTIVE

The objective of this project is to develop a user-friendly car rental website that enables customers to conveniently rent cars with or without drivers, based on their preference. The platform will offer transparent cost calculations, pre-booking facilities, and doorstep delivery for enhanced convenience. In addition, the service will provide on-demand mechanics in case of breakdowns to ensure a hassle-free travel experience. With features like secure online payments, flexible booking durations, and real-time availability checks, the system aims to deliver reliable, affordable, and efficient car rental solutions that meet diverse customer needs.

# SOFTWARE SPECIFICATIONS

## FRONT-END (CLIENT SIDE)

### LANGUAGES & FRAMEWORKS:

- HTML5, CSS3, JAVASCRIPT (FOR STRUCTURE, STYLING, AND INTERACTIVITY)
- REACT.JS (FOR DYNAMIC AND RESPONSIVE USER INTERFACE)
- BOOTSTRAP / TAILWIND CSS (FOR FASTER AND CONSISTENT DESIGN)

### FEATURES SUPPORTED:

- USER REGISTRATION/LOGIN
- CAR BROWSING WITH FILTERS (WITH/WITHOUT DRIVER, TYPE, PRICE, AVAILABILITY)
- BOOKING AND PRE-BOOKING FORMS
- COST CALCULATOR FOR RENTALS
- PAYMENT GATEWAY INTEGRATION (CREDIT/DEBIT CARD, UPI, WALLETS)
- MOBILE-RESPONSIVE DESIGN

# SOFTWARE SPECIFICATIONS

## BACK-END (SERVER SIDE)

### LANGUAGES & FRAMEWORKS:

- JAVA (JDBC)
- RESTFUL APIS FOR COMMUNICATION BETWEEN CLIENT AND SERVER

### FEATURES SUPPORTED:

- USER AUTHENTICATION AND AUTHORIZATION
- CAR AVAILABILITY MANAGEMENT
- DRIVER ALLOCATION MODULE
- MECHANIC REQUEST MANAGEMENT SYSTEM
- BOOKING MANAGEMENT (CREATE, UPDATE, CANCEL)
- REAL-TIME COST CALCULATION LOGIC
- NOTIFICATIONS (EMAIL/SMS FOR CONFIRMATIONS AND ALERTS)

# SOFTWARE SPECIFICATIONS

## DATABASE

### PREFERRED OPTIONS:

- MYSQL (FOR STRUCTURED RELATIONAL DATA SUCH AS BOOKINGS, USERS, PAYMENTS)

### DATA STORED:

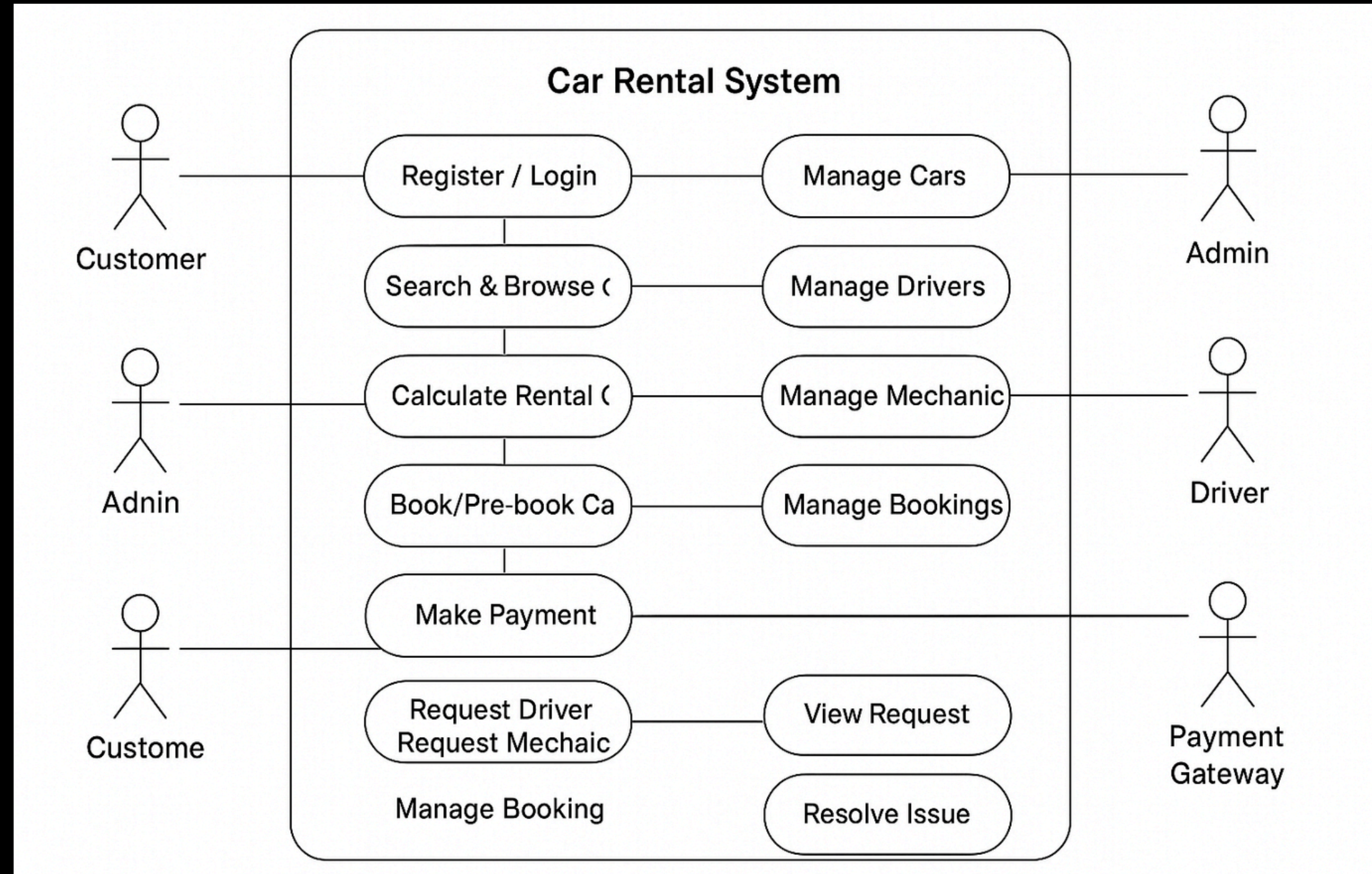
- USER PROFILES
- CAR INVENTORY (MODEL, AVAILABILITY, RATES)
- DRIVERS AND MECHANICS INFORMATION
- BOOKING AND TRANSACTION HISTORY
- PAYMENT DETAILS (SECURED, TOKENIZED)

### ADDITIONAL TOOLS & SERVICES

- PAYMENT GATEWAY: RAZORPAY / PAYPAL / STRIPE
- MAPS & LOCATION SERVICES: GOOGLE MAPS API (FOR PICK-UP, DROP-OFF, AND ROUTE DETAILS)
- NOTIFICATION SERVICES: TWILIO / FIREBASE (FOR SMS AND EMAIL ALERTS)

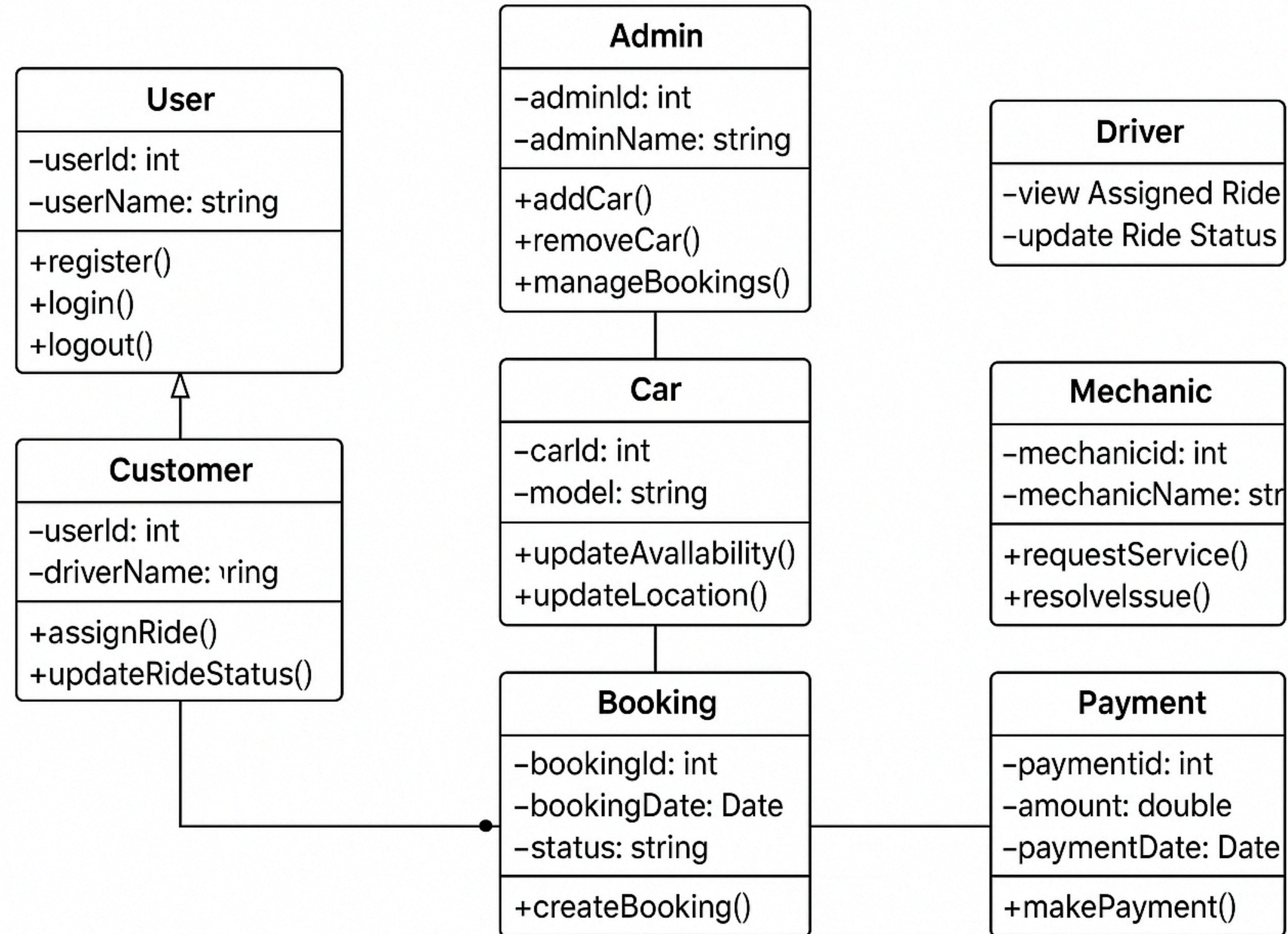


# USE CASE DIAGRAM





# CLASS DIAGRAM



# MODULES

## 1. USER MANAGEMENT MODULE

- HANDLES USER REGISTRATION, LOGIN, AND PROFILE MANAGEMENT.
- SUPPORTS DIFFERENT ROLES: CUSTOMER, ADMIN, DRIVER, MECHANIC.
- FEATURES: AUTHENTICATION (LOGIN/SIGNUP), AUTHORIZATION (ROLE-BASED ACCESS), PASSWORD RESET.

## 2. CAR MANAGEMENT MODULE

- MANAGED BY ADMIN.
- STORES CAR DETAILS: MODEL, TYPE (SUV, SEDAN, HATCHBACK), AVAILABILITY, RENTAL RATE.
- UPDATE AVAILABILITY STATUS WHEN A BOOKING IS MADE OR CANCELLED.

## 3. BOOKING & RESERVATION MODULE

- ALLOWS CUSTOMERS TO SEARCH AVAILABLE CARS (WITH/WITHOUT DRIVER).
- FEATURES: PRE-BOOKING, BOOKING CONFIRMATION, CANCELLATION, EXTENSION OF BOOKING.
- COST CALCULATION (BASED ON DURATION, TYPE OF CAR, WITH/WITHOUT DRIVER).



# MODULES

## 4. DRIVER & MECHANIC MANAGEMENT MODULE

- DRIVER ALLOCATION FOR BOOKINGS (OPTIONAL).
- MECHANIC REQUEST SYSTEM IN CASE OF BREAKDOWNS.
- FEATURES: ASSIGN DRIVER TO BOOKING, ASSIGN MECHANIC TO SERVICE REQUEST, UPDATE SERVICE/RIDE STATUS.

## 5. PAYMENT & BILLING MODULE

- INTEGRATES WITH PAYMENT GATEWAY (RAZORPAY/STRIPE/PAYPAL).
- FEATURES: ONLINE PAYMENT, REFUNDS, BILLING INVOICES, SECURE TRANSACTIONS.
- MAINTAINS TRANSACTION HISTORY.

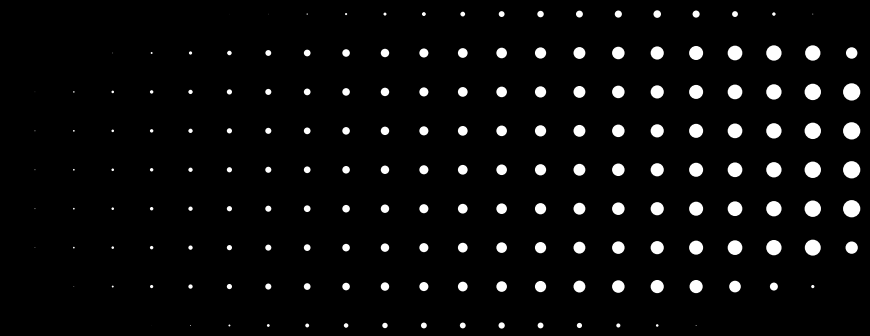
## 6. NOTIFICATION & ALERTS MODULE

- SENDS BOOKING CONFIRMATIONS, PAYMENT RECEIPTS, REMINDERS, AND MECHANIC/DRIVER UPDATES.
- CHANNELS: EMAIL, SMS, PUSH NOTIFICATIONS.

## 7. ADMIN MANAGEMENT & REPORTING MODULE

- ADMIN DASHBOARD FOR MANAGING USERS, CARS, DRIVERS, MECHANICS, AND BOOKINGS.
- GENERATES REPORTS (DAILY BOOKINGS, REVENUE, CAR USAGE, CUSTOMER FEEDBACK).
- PROVIDES SYSTEM-WIDE MONITORING.

# MEET OUR TEAM



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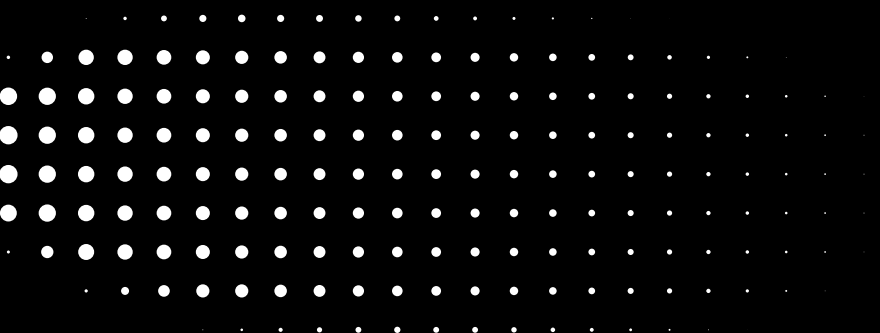
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**THANK** you