

Application Description

The Car Rental Database Application is a software solution designed to streamline the operations of car rental businesses. To manage the car inventory and customer base of car rental businesses efficiently, the Car Rental Database Application offers a comprehensive set of features and functionalities.

Customers have the ability to effortlessly browse through a diverse range of available vehicles from different branches, conveniently filter by their preferences such as make, model, and price range, and then reserve the vehicle that best suits their needs. The application provides comprehensive information about each vehicle, including specifications, pricing detail, and any additional features, allowing customers to make an informed choice. They can also access a complete record of their past rentals, including details like rental periods, vehicle choices, and associated costs.

For branch employees, the Car Rental Database Application provides many functionalities to manage the car inventory for their branch. Employees can oversee their entire fleet of vehicles under their branch, add new vehicles and update existing listings. This functionalities includes detailed information about each vehicle such as make, model, year, and maintenance history, allowing owners to make informed decisions about their fleet's maintenance and expansion. Additionally, employees have many functionalities to manage their customer base. They can register new customers, store essential information about them such as personal details, contact information, and driver's license data, and track each customer's rental history.

Entities and Attributes

Customer

CustomerID	Name	Address	Phone	Email	DateOfBirth	Drivers License Number

- CustomerID – INT - PRIMARY KEY (auto increment with NOT-NULL condition)
- Name
- Address
- Phone
- Email
- DateOfBirth
- Drivers License Number

Car

CarID	CategoryID	License Plate	Mileage	RentalStatus	ServiceStatus

- CarID (Primary key)
- CategoryID (Foreign Key)
- License Plate
- Mileage
- RentalStatus (currently rented or available)
- ServiceStatus (needs repair or ready-to-go)

Categories

CategoryID	Make	Model	Year	DailyRate	WeeklyRate	MonthlyRate

- CategoryID (primary key)
- Make
- Model
- Year
- DailyRate
- WeeklyRate
- MonthlyRate

Rental

RentalID	CarID	CustomerID	PaymentDetailsID	Lease Commencement Date	Lease Conclusion Date	Payment Period	Total Cost	Rent Status

- RentalID (PrimaryKey)
- CarID (Foreign Key)
- CustomerID (foreign Key)
- PaymentDetailsID (Foreign Key)
- LeaseCommencement Date
- LeaseConclusionDate
- PaymentPeriod (Weekly, Monthly)
- TotalCost
- RentStatus (Ongoing, Completed, Canceled)

PaymentDetails

PaymentDetailsID	RentalID	CreditCardDetails

- PaymentDetailsID
- RentalID
- CreditCardDetails

Payments

PaymentDetailsID	PaymentDate	Amount

- PaymentDetailsID
- PaymentDate
- Amount

Branch

BranchID	Address	Phone	ManagerID

- BranchID
- Address
- Phone
- ManagerID (ForeignKey referencing Employee Table)

Admin/ Employee

EmployeeID	Branch	Phone

- EmployeeID
- Branch
- Phone

Functions

1. User Registration and Authentication:
 - User registration and login for both customers and rental agency staff.
 - There will be 2 login options, one for each type of user; customer and admin(rental agency staff).
2. Car Inventory Management: [available to admin only]
 - Add, update, and delete cars available for rent.
 - Track car availability, location, and condition.
 - Categorize cars by type, model, and features.
3. Booking System:
 - Allow customers to search for available cars by location, date, and vehicle type.
 - Reserve cars for specific dates and times.
 - Send confirmation emails or SMS.
4. Booking Management:
 - View and manage reservations.
 - Modify or cancel bookings.
 - Send reminders for upcoming reservations.
5. Pricing and Payment:
 - Calculate rental fees based on factors like duration and vehicle type.
 - Support various payment methods, including credit cards.
6. Admin Dashboard:
 - Provide rental agency staff with tools to manage the car fleet, reservations, and customer data.
 - Monitor rental activity.