**RentalCar - A Comprehensive Car Rental Management System**

RentaCar aims to revolutionize the car rental industry with its comprehensive management system tailored for both rental agents and customers. The system ensures seamless vehicle registration, efficient booking management, and secure online transactions. With continuous updates and scalability in mind, RentaCar evolves to meet the growing demands of the market.

**Key Features:**

* **Vehicle Registration and Management:**
  + Rental agents can easily register new vehicles into the system, capturing essential details such as make, model, year, license plate number, rental rate, and availability status. And the review it has so far
  + Agents have access to a dashboard to view and manage vehicle inventory across different Branches.
  + Agents can browse the feedback
* **Customer Booking Management:**
  + Customers can browse available vehicles, select rental dates, and make reservations through the website.
  + Customers have the flexibility to cancel or update bookings until they are confirmed.
  + Booking details include customer information, rental period, and preferred vehicle specifications.
  + Customers with accounts can view their reservations, modify booking details, and make payments securely.
  + Customers can browse their reservation history
  + Customers can give a feedback for the service they get
  + Customers can add a review for the car
  + Customers can browse the rate and the review of the car that other customers has given
* **Dynamic Pricing and Discounts:**
  + Pricing is calculated based on the rental period, pickup/drop-off locations, and vehicle specifications.
  + Customers are awarded badges indicating their rental frequency and loyalty level (bronze, silver, gold, etc.).
  + The system adjusts prices dynamically based on the customer's badge level.
* **Location Flexibility:**
  + Agents manage multiple Branches, allowing customers to choose pickup and drop-off locations from available options.
  + Customers can select different pickup and drop-off branches within the agent's network.
* **VIP Rental Services:**
  + Agents offer VIP rental services for customers who require a driver.
  + VIP rentals provide flexibility for customers to be picked up and dropped off at desired locations.
  + Pricing for VIP rentals is calculated based on specific customer requirements and service level.

**DDD in txt**

\* Address

\* Attributes:

\* Street

\* Zipcode

\* City

\* State

\* User:

\* Attributes:

\* fName

\* lName

\* Email

\* phoneNumber

\* Card:

\* Attributes:

\* cardNum

\* Cvv

\* expDate

\* cardType

\* Customer extends User

\* Attributes:

\* accountID: string

\* Dob

\* Methods:

\* RentalAgent extends User:

\* Attributes:

\* agentID: string

\* Methods:

\* registerVehicle(make: string, model: string, year: int, licensePlate: string, rentalRate: decimal)

\* updateVehicle(vehicleID: string, newAttributes: dict)

\* deleteVehicle(vehicleID: string)

\* viewBookings()

\* view Vehicles

\* Vehicle:

\* Attributes:

\* vehicleID: string

\* make: string

\* model: string

\* vehicleType

\* seatNum

\* Car extends vehicle

\* Attributes:

\* carID: string

\* year: int

\* licensePlate: string

\* availabilityStatus: enum (Available, Reserved, Rented)

\* satrtPrice

\* registrationId

\* InsuranceExpDate

\* Reservation:

\* Attributes:

\* entryID: string

\* pickupBranch: Branch

\* dropOffBranch: Branch

\* price: int

\* reservationStatus:

\* dateTimeStart: DateTime

\* DateTimeEnd: DateTime

\* Method

\* calculatePrice

\* generateRentalAgreement()

\* updateReservationSatus()

\* Bill

\* Attributes

\* billID

\* dateTime

\* amount

\* Description

\* Service

\* Attributes:

\* serviceID: string

\* serviceName: string

\* description: string

\* Price:int

\* Badge:

\* Attributes:

\* badgeID: string

\* badgeLevel: enum (Bronze, Silver, Gold, etc.)

\* Branch:

\* Attributes:

\* branchID: string

\* name: string

\* address: Address

\* Feedback

\* Attributes:

\* feedbackID: string

\* Comment: string

\* Date

\* Review

\* Attributes:

\* reviewID: string

\* Comment: string

\* Rate

\* Date

\* Agreement:

\* Attributes:

\* agreementID: string

\* description: string

\* age

Relationships:

\* Customer is User

\* Rental Agent is User

\* Car is Vehicle

\* User (1) --- (1) Adress

\* Customer (1) --- (0..1) Badge

\* Customer (1) --- (1..\*) Card

\* Customer (1) --- (\*) Reservation

\* Reservation (1) --- (1) car

\* Reservation (1) --- (1) Service

\* Reservation (1) --- (1) Agreement

\* Reservation (1) --- (0..1) Bill

\* Reservation (1) --- (0..1) feedback

\* Agreement (1) --- (1) RentalAgent

\* Agreement (1) --- (1) Customer

\* car(1)….(\*) Review

\* Car(1) --- (1) Branch

\* Branch(1) --- (1) Address

\* Branch(1) --- (\*) Vehicle

\* Branch(1) --- (\*) RentalAgent

\* Vehicle(1) --- (\*) Car

\* Bill(1) --- (1) Customer

\* Bill(1) --- (1) Card

\* Bill(1) --- (1) RentalAgent

\* RentalAgent(1) --- (1) Branch