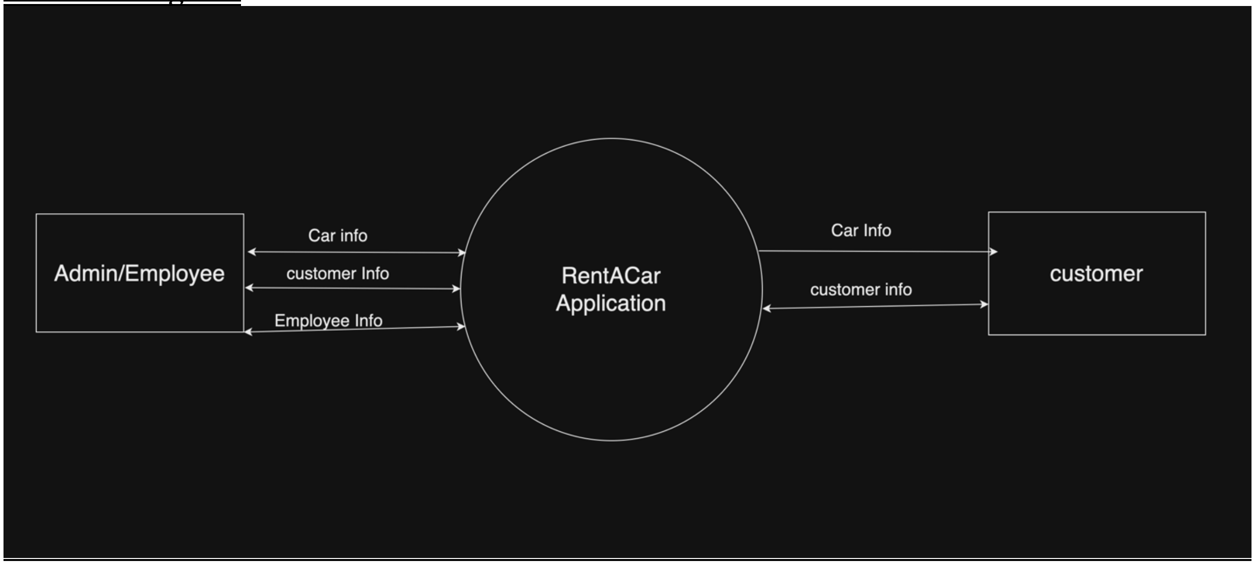
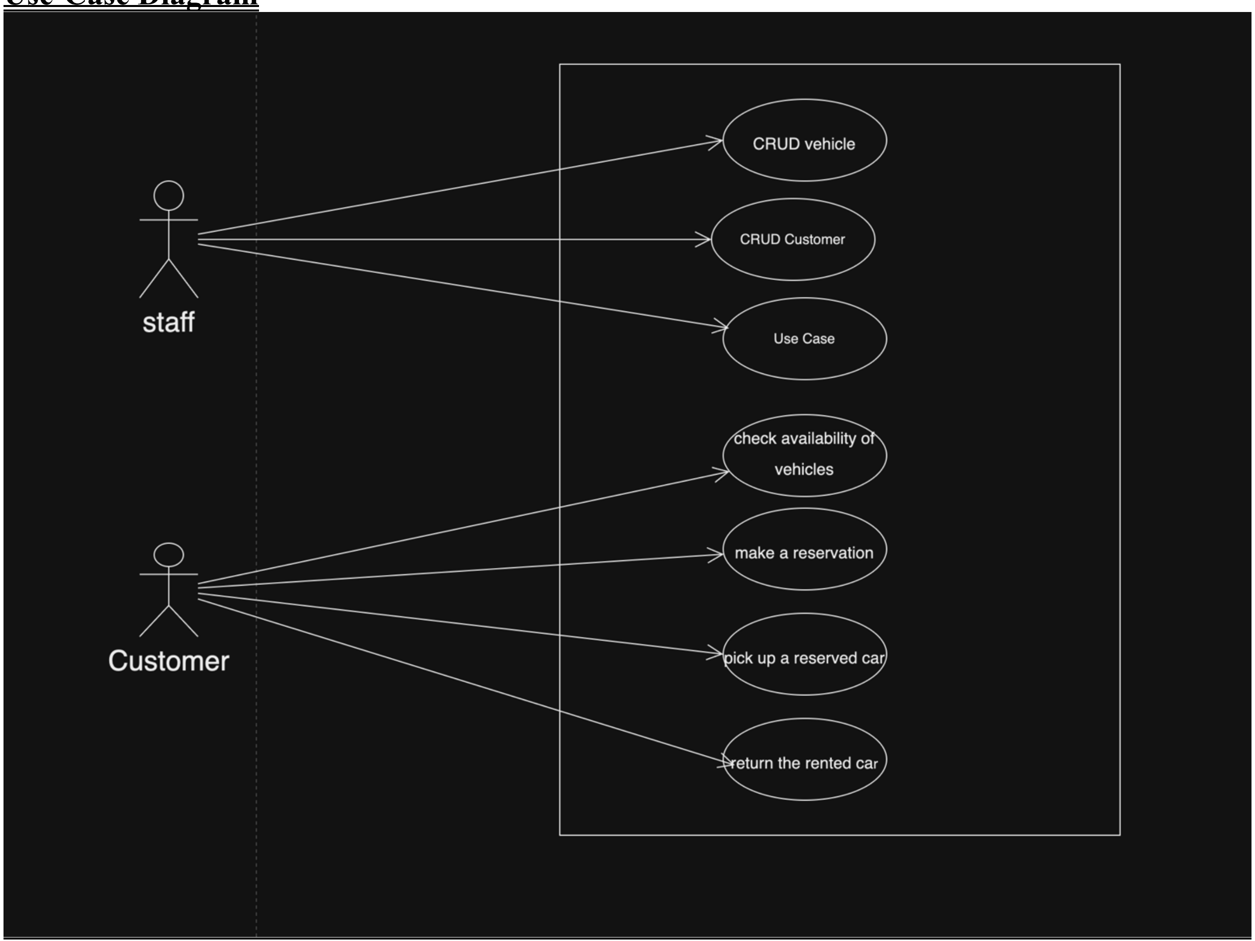
Context diagram and the Use-Case diagram

Context Diagram



Use-Case Diagram



User Stories

1. As a car rental staff, I want to add a new vehicle to the rental fleet so that it becomes available for customers.
2. As a customer, I want to check the availability of vehicles based on my specified criteria like date, location, and vehicle type so that I can make a reservation.
3. As a customer, I want to pick up a reserved car at the rental location so that I can start using it.
4. As a customer, I want to return the rented car to the rental location so that I can complete my rental.
5. As an admin, I want to add, remove, update, and find customers in the car rental application so that customer records are accurate and up to date.
6. As a car rental staff, I want to calculate rental charges accurately based on the duration of the rental period and any additional charges.

Acceptance Criteria

User Story 1: Add a New Vehicle
- Admin should be able to access the "Add Vehicle" feature.
- Required vehicle details (make, model, year, registration number) must be provided.
- Upon submission, the vehicle should be added to the rental fleet.
- The system should display a confirmation message upon successful addition.

User Story 2: Check Vehicle Availability
- Customers should be able to access the "Check Availability" feature.
- Criteria such as date, location, and vehicle type should be provided for the search.
- The system should display a list of available vehicles meeting the specified criteria.
- Availability status should be updated in real-time to prevent double bookings.

User Story 3: Pick Up Reserved Car
- Customers should be able to pick up their reserved car at the rental location.
- The system should verify the customer's reservation and allocate the corresponding vehicle.
- Staff should process any necessary paperwork (e.g., rental agreement) efficiently.
- Payment details should be confirmed before handing over the car to the customer.

Main Scenario

User Story 1: Add a New Vehicle
1. Admin navigates to the "Add Vehicle" section.
2. Admin fills in the required details for the new vehicle (make, model, year, registration number).
3. Admin submits the form.
4. System validates the input and adds the vehicle to the rental fleet.
5. Confirmation message is displayed.

User Story 2: Check Vehicle Availability

1. Customer accesses the "Check Availability" feature.
2. Customer specifies the criteria (date, location, vehicle type) for the search.
3. System retrieves and displays a list of available vehicles meeting the criteria.
4. Customer selects a preferred vehicle.
5. System updates availability status in real-time.

User Story 3: Pick Up Reserved Car

1. Customer arrives at the rental location to pick up the reserved car.
2. Staff member verifies the customer's reservation.
3. Staff allocates the corresponding vehicle to the customer.
4. Necessary paperwork (e.g., rental agreement) is processed.
5. Customer confirms payment details.
6. Staff hands over the car keys to the customer.