Upark

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Introduction: Scenario Description

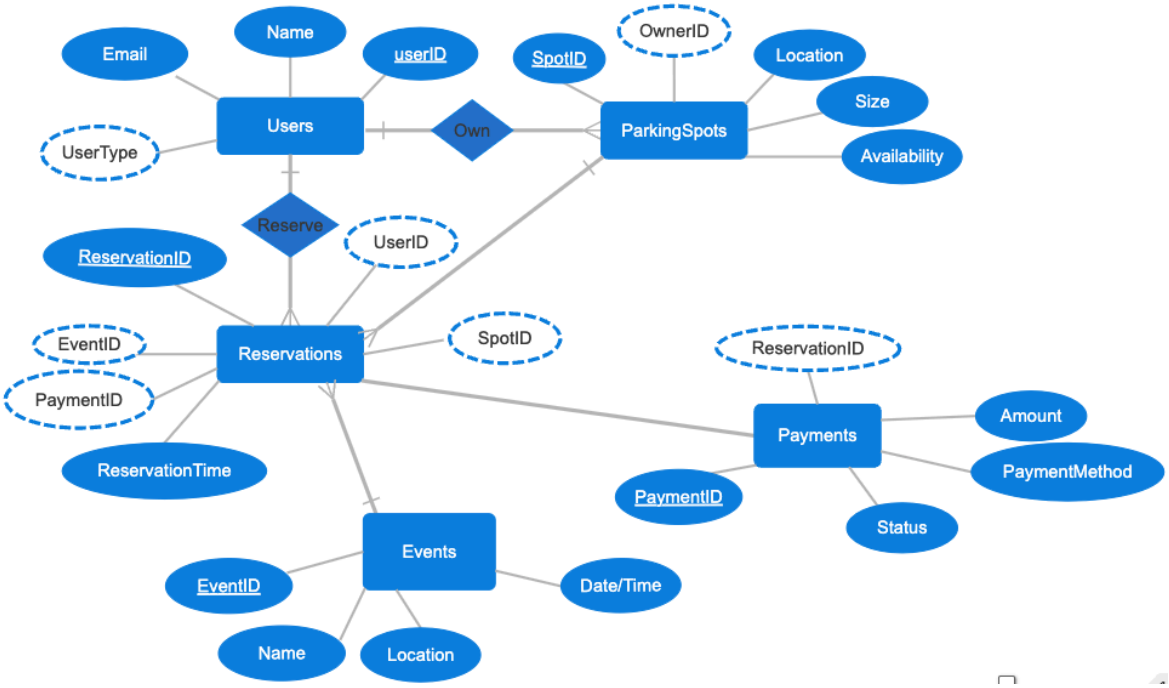
Upark is an innovative application designed to simplify parking for event-goers. By connecting parking spot owners (both private and commercial) with customers looking for parking during specific events, Upark makes it easy to find and reserve a spot in advance. The app caters to sports events, concerts, and other gatherings, offering a seamless way to handle what can often be a stressful part of attending events.

Requirements Analysis

- Data:
    - Users: Includes both customers looking for parking and owners listing their spots.
    - Parking Spots: Details about each parking spot, such as location, size, and availability.
    - Events: Information about events, including name, location, and date/time.
    - Reservations: Details of parking spot reservations, linking users to parking spots and events.
    - Payments: Payment information and history for reservations.
- Constraints:
    - Users must register to list or reserve parking spots.
    - Parking spots must be verified and approved before listing.
    - Reservations are linked to specific events and times.
    - Payments must be processed securely and efficiently.
- Operations:
    - Search for parking spots by event or location.
    - Reserve and pay for parking spots.
    - List and manage parking spots for owners.
    - Rate and review parking spots.

Conceptual Design

ER-diagram that represents the entities identified in requirements analysis (Users, Parking Spots, Events, Reservations, Payments) and their relationships.



Logical Design

Convert ER diagram to relational schemas and normalize them. Example schemas:

- Users(UserID, Name, Email, UserType)
- ParkingSpots(SpotID, OwnerID, Location, Size, Availability)
- Events(EventID, Name, Location, DateTime)
- Reservations(ReservationID, UserID, SpotID, EventID, PaymentID, ReservationTime)
- Payments(PaymentID, ReservationID, Amount, PaymentMethod, Status)