

### GROUP MEMBERS:

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SECTION : A

## Database Design Documentation

### 1. Entity Description

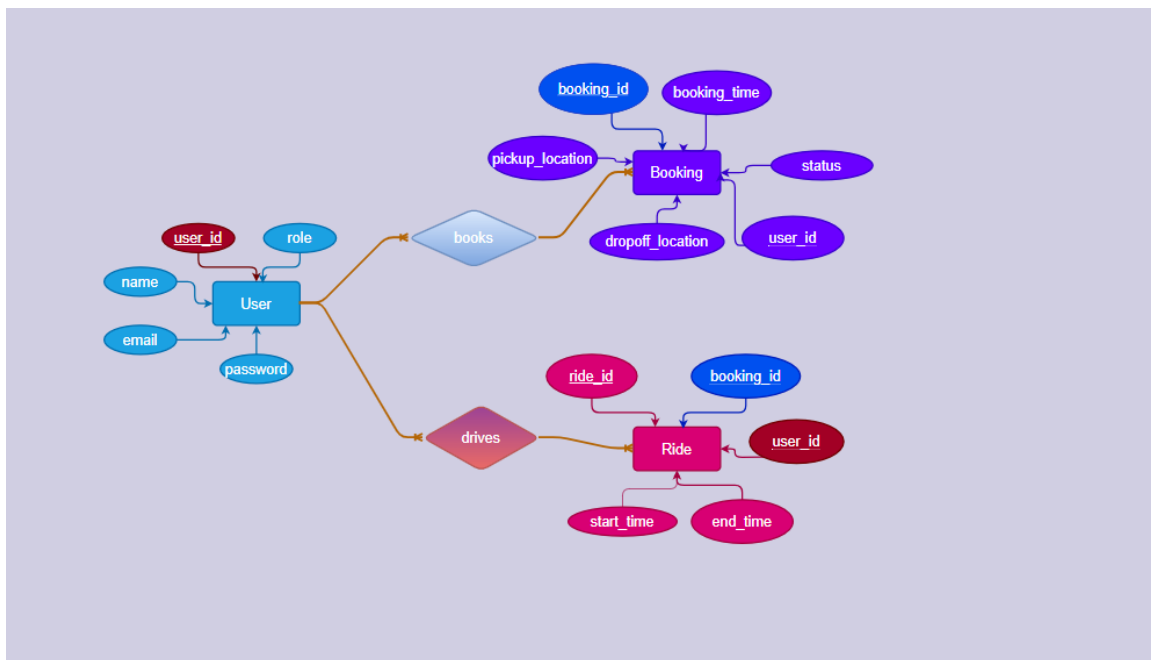
Entity	Description
Trip	A scheduled journey created by a driver that specifies details such as origin, destination, available spots, and departure time.
Place	A physical location identified by latitude and longitude, optionally with an address. Used for trip origin and destination.
Trip_Request	A request made by a user to join a specific trip. Each request includes a message and a status (e.g., PENDING, APPROVED, REJECTED).
User	A person using the system, who may act as a driver (offers trips) or passenger (requests trips). Has details like name, email, and role.
Vehicle	Information about a driver's car, such as make, model, license plate, and color. Each driver has one vehicle.
Booking	A confirmed seat reservation made by a passenger for a trip. Specifies number of seats booked and associated user/ride.
Payment	Records payment details for a ride, such as amount, status, and payment time.

### 2. Detailed Business Rules

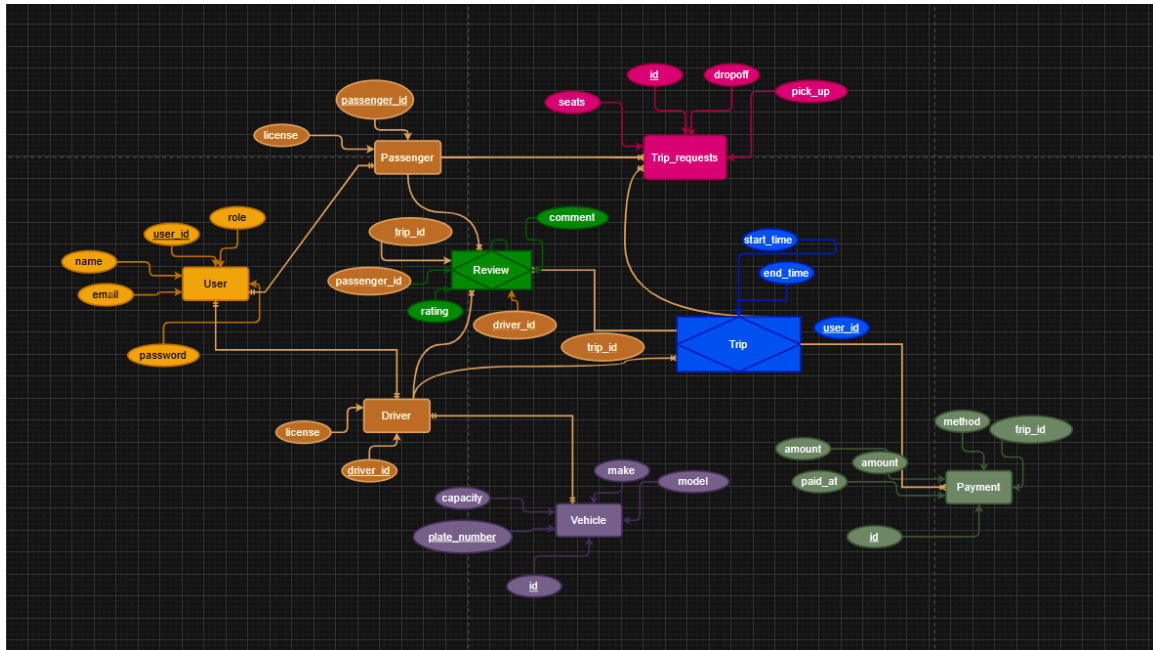
1. A trip is created by a driver (user) and must specify origin and destination places.
2. A trip must specify total available spots and track how many are taken.
3. A trip must have a departure time and a length description.
4. A place must include latitude and longitude; address is optional.
5. A trip references two places: an origin and a destination.
6. A user may request to join a trip, resulting in a trip request.
7. A trip request may have a status: DECLINED (-1), PENDING (0), or APPROVED (1).
8. A trip can have multiple requests, but each request is uniquely identified by the combination of (trip\_id, user\_id).
9. The number of approved requests for a trip must not exceed the available spots.

10. A trip can only be deleted if its associated origin and destination places are also removed.
11. Each user must have a unique email address.
12. A driver must have exactly one vehicle registered before offering trips.
13. A booking can only be created for a trip if the trip request is approved.
14. The total number of seats booked must not exceed the number of available spots on the trip.
15. Payments must be recorded with an amount, payment time, and payment status (e.g., PAID, PENDING).
16. Payment status must be PAID to confirm the booking.

**ERD:**



## Enhanced ERD:



## REFERENCE:

<https://chatgpt.com/>

<https://github.com/>