Car Renting System

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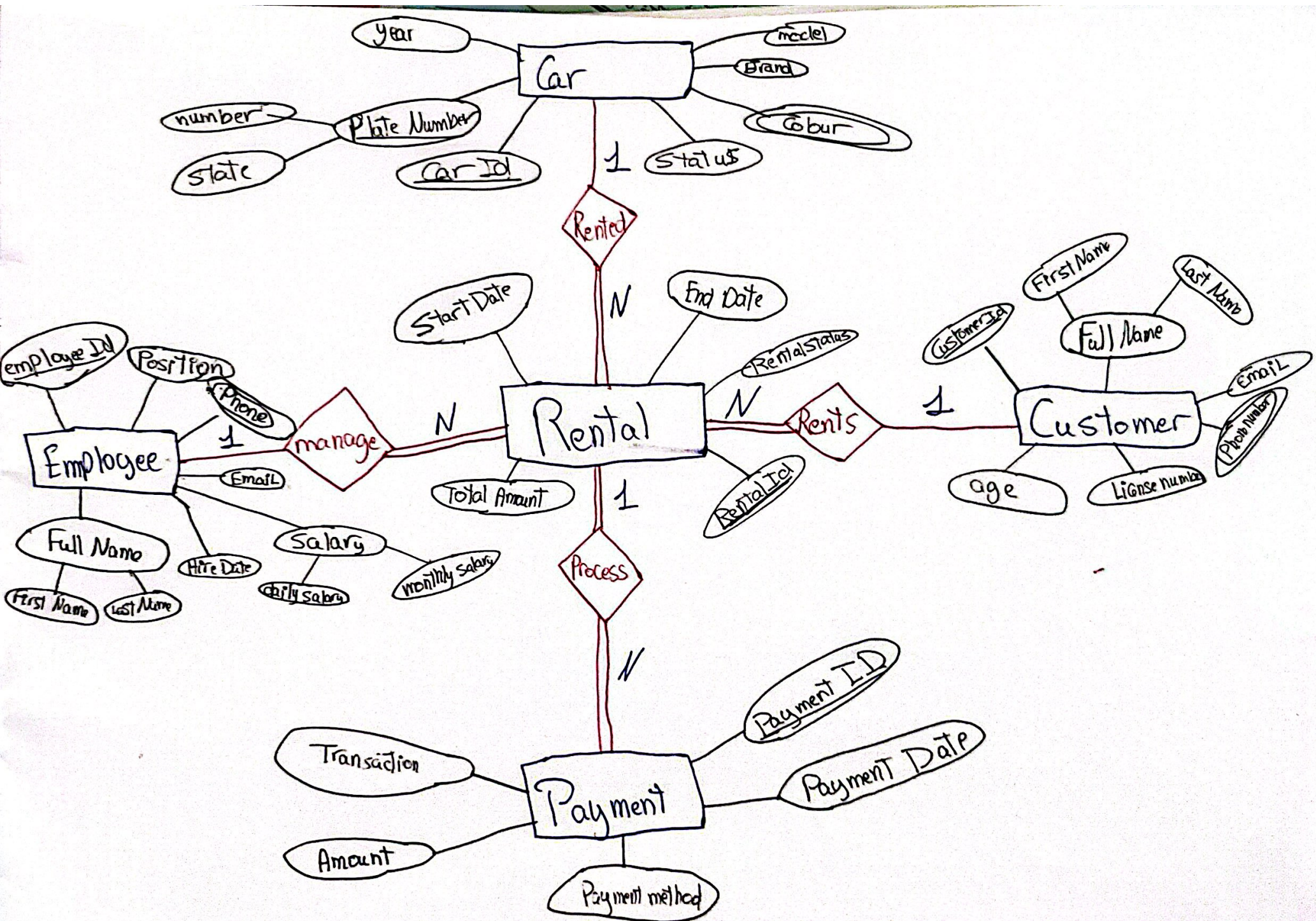
Car

CarId	Model	Brand	Year	Number	status

Employee

empId	firstname	Lastname	Email	position	HireDate	dailysalary

monthly salary

Customer

CustomerId	Firstname	Lastname	Age	Email	License Number

Rental

Rental Id	startDate	EndDate	totalamount	CarId	customerId	EmployeeId

Payment

payment Id	payment method	paymentDate	Amount	Transaction	RentalId

Car_Colour

Colour	carId

emp_phone

phone	EmpId

Customer_phone number

phone number	CustomerId

The following document presents assumptions about the car rental system.

1. Assumptions About the System

1. The system generates unique IDs for CustomerID and CarID and EmployeeID and RentalID and PaymentID.

2. A car exists in only one status at any given time between Available and Rented and Maintenance.

3. Every customer needs to provide at least one phone number for registration.

4. The system requires each rental to connect with one customer and one car and one employee.

5. Every rental needs to have at least one payment record because payments require rentals for existence and rentals need payment records for completion.

6. The system stores car prices and rental costs as separate attributes.

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2. The Rental entity maintains total participation relationships with all its connections (Rental = Total Participation Everywhere)

1. Customer — Rental

The system allows one customer to create multiple rental transactions through its 1:M relationship.

The system requires total participation from customers because they need to exist for rental activities but rentals require customer information.

2. Car — Rental

The system enables one car to create multiple rental transactions through its 1:M relationship.

The system requires total participation from rentals because every rental needs to connect with an existing car.

3. Employee — Rental

The system enables one employee to manage multiple rental transactions through its 1:M relationship.

The system requires total employee participation because rentals need employees for management but employees do not need rentals to exist.

4. Rental — Payment

The system enables one rental to generate multiple payment transactions through its 1:M relationship.

The system requires total participation from rentals because each rental needs at least one payment record but payments require rental information to exist.