

Car Rental Management System ER Diagram

The **car rental management system ER diagram** shows the relationships of the system's entities that build its **database design**. ER diagram describes the logical structure of the system's database or data storage. It is done by identifying the car rental management process entities, their properties, and the interactions between them.

The **car rental management system database design** is sketched out using **ER (entity-relationship) diagram**. This sketch becomes the actual basis of the system's data storage that will serve as data destination and source.

Online Car Rental System Features

- **Car Rental Management** - Car Rental Management is the main feature of this system wherein ER diagram contains the basic details of the system. Its information was composed of the transactions done by the customers, and the buses available for rental.
- **Customer Management** - This feature plays a big role in the system because this gathers important information about the customers. This information was used to track their transactions and other important matters regarding with the system.
- **Manage Buses Information** - Bus information management was important for the system because it serves as the basis of the customers as they avail of the rental offered by the system. This information was monitored to keep the customers updated.
- **Transaction and Rental Management** - Its feature will store the rentals made by the customers as well as the date of the transaction. This will also save and update the accommodation based on the date requested by the customers.

What is an ER Diagram?

In DBMS, the **ER Diagram of car rental management system** is also known as the system's **database design**. It is the graphical depiction of relationships between all the entities involved in the system. Its major components are Entities, Attributes, and Relationships.

To build and troubleshoot relational databases, the **car rental system ER Diagram** is used. It works best with DFD (Data Flow Diagram), which is responsible for data movement. Developing the **database design for car rental system** would be much easier with the help of ER diagram.

Importance of ER Diagram

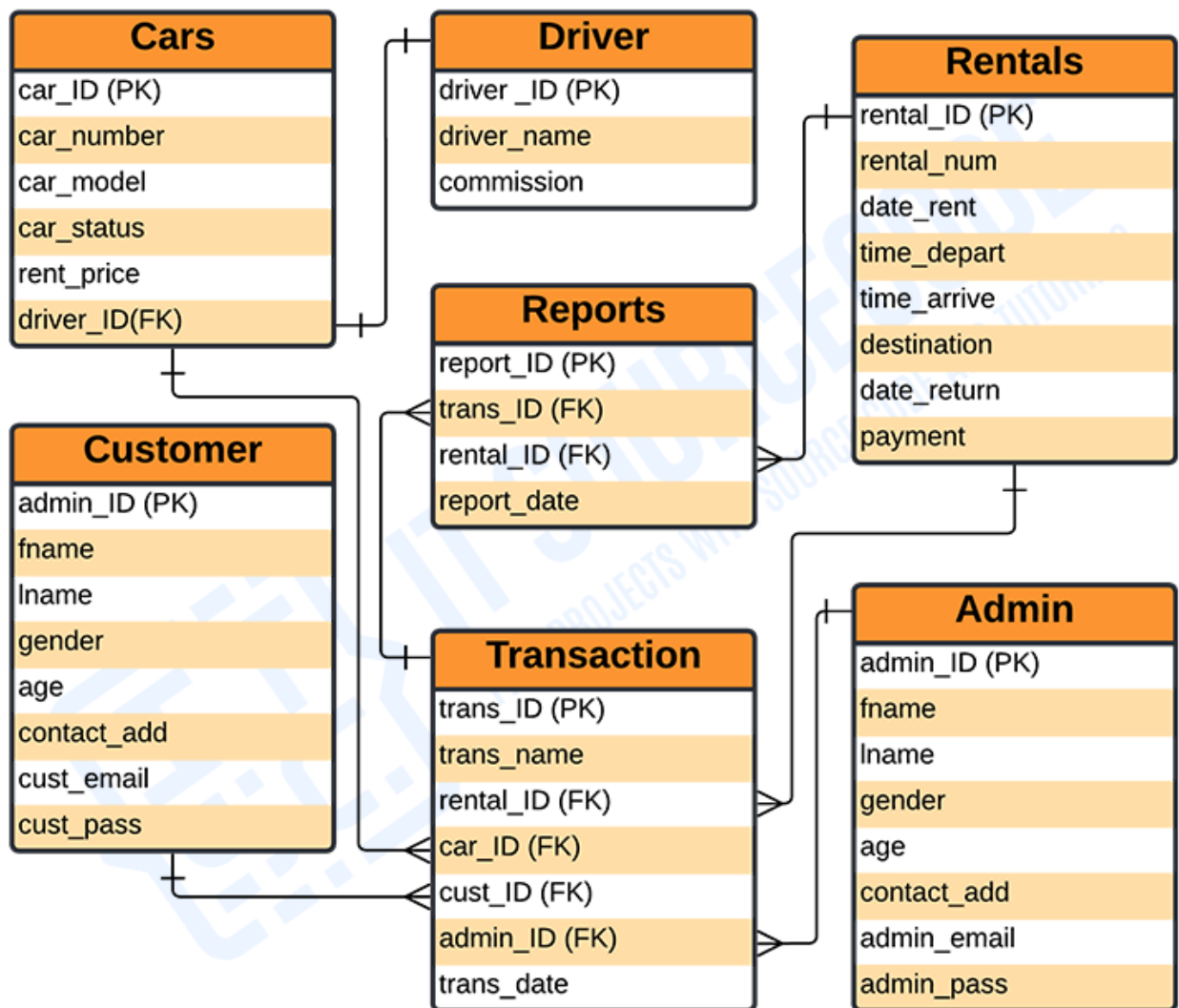
The **importance of ER diagram for car rental management system** is to help in modeling its data storage or database. It is the basis of the project's database foundation for construction. The **car rental system entity-relationship diagram (ERD)** also aids in defining the data types to be stored such as their attributes and characteristics.

All other real-world projects are presented with ER Diagrams (database designs). To display the details and attributes of a data store, the **er diagram for car rental management system** is used in conjunction with its data flow diagram. It visualizes how data is connected generically.

ERD (Entity-relationship diagram) is utilized in software engineering during the planning phase of software development. It aids in the identification of various system constituents and their interrelationships. **Car Rental Management System ERD** is also used as the foundation of the car rental system DFD (Dataflow Diagram).

ER Diagram for Online Car Rental System

ER Diagram of Car Rental System shows the system entity relationships in each entity and their supposed functions in each relationship.



ER Diagram for Car Rental Management System

Based on the image above, the **Entity-Relationship (ER) Diagram for Car Rental System tables** is composed of the following: admin, customer, ticket, bookings or reservations, transactions, and reports.

The tables are made to meet the required specification of the system and provide much more specific details of each entity within the system.

Online Car Rental Management System Database Design

This **Car Rental system database** design was made based on managing rental requirements. The system can encode customers' requests regarding the Car Rental. The system admin can access the customers' status and information, and handle and update the data in accord with rental as well as the transactions made by their customers.

The features included in the system's ER diagram were the security and monitoring of the rental and customers' records, transactions, and status. These features were also listed and recorded in reports that served as the history of transactions done in the system.

Online Car Rental Management System ER Diagram Tables

These tables below provide the complete database table details such as **Field Name, Descriptions, data types, and character lengths**. Each of these tables represents the characteristics and the attributes of data storage. The **field** column presents the names of each database's attributes, the **description** column gives the complete thought of each attribute, the **type** column is their data type and the **length** is for their character lengths.

Table Name: Customer

Field	Description	Type	Length
stud_ID (PK)	Customer ID	Int	11
fname	Customer First Name	Varchar	255
lname	Customer Last Name	Varchar	255
gender	Customer Gender	Int	11
age	Customer Age	Int	11
contact_add	Contact Address	Int	11
cust_email	Customer Email	Varchar	255
cust_pass	Customer Password	Varchar	255

Table Name: Admin

Field	Description	Type	Length
admin_ID (PK)	Admin ID	Int	11
fname	Admin First Name	Varchar	255
lname	Admin Last Name	Varchar	255
gender	Admin Gender	Int	11

age	Admin Age	Int	11
contact_add	Contact Address	Int	11
admin_email	Admin Email	Varchar	255
admin_pass	Admin Password	Varchar	255

Table Name: Cars

Field	Description	Type	Length
car_ID (PK)	Car ID	Int	11
car_number	Car Number	Int	11
car_model	Car Model	Varchar	30
car_status	Car Status	Varchar	30
rent_prize	Prize Rent	Varchar	30
driver_ID (FK)	Driver ID	Int	11

Table Name: Rentals

Field	Description	Type	Length
rental_ID (PK)	Rental ID	Int	11
rental_num	Rental Number	Int	11
date_rent	Rental Date	Date	
time_depart	Destination	Time	
time_arrive	Time of Arrival	Time	
destination	Date of Accommodation	Varchar	30
date_return	Returning Date	Date	
payment	Payment	Varchar	30

Table Name: Transaction

Field	Description	Type	Length
trans_ID (PK)	Transaction ID	Int	11
trans_name	Transaction Name	Varchar	30
rental_ID (FK)	Rental ID	Int	11
car_ID (FK)	Car ID	Int	11
cust_ID (FK)	Customer ID	Int	11
admin_ID (FK)	Admin ID	Int	11
trans_date	Date of Transaction	Date	

Table Name: Driver

Field	Description	Type	Length
driver_ID (PK)	Driver ID	Int	11
driver_name	Driver Type	Varchar	30
commission	Commission	Varchar	30

Table Name: Reports

Field	Description	Type	Length
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report_ID (PK)	Report ID	Int	11
trans_ID (FK)	Transaction ID	Int	11
rental_ID (FK)	Rental ID	Int	11
report_date	Report Date	Date	

The tables given will be the basis for developers on how would they do the **railway reservation system database design**. It has the complete description of the database and they will put this into the program or data storage the same as the names given to each of the tables. They will create a database with the attributes given as well as the value of each attribute.