ER Diagram for Online Hotel Reservation System

In this article, we will cover how to create ER diagram for Online Hotel Reservation System. This ER diagram for Online Hotel Reservation System is the project design that displays hotel reservation entities.

Furthermore, this describes the logical structure of the system's database or data storage. It is done by identifying the online hotel reservation process entities, their properties, and the interactions between them.

The database design is sketched out using online **hotel reservation system project ER diagrams**. This database sketch becomes the actual basis of the system's data storage that will serve as data destination and source.

Online Hotel Reservation System ER Diagram: Details

The table shows the overall description of ER diagram of Online Hotel Reservation system. It has complete overview of project details.

Name:	**Online Hotel Reservation System ER Diagram**
Abstract:	The online hotel reservation system ER diagram depicts the relationship between various entities. It can be thought of as a blueprint for your system (project) structure.
Diagram:	**ER Diagram is also known** as Entity Relationship Diagram
Tools Used:	Diagraming tools that provide ER diagram symbols.
Users:	**Website, Applications, and Software.**
Designer:	Sourcecodehero.com

Online Hotel Reservation System ER Diagram: Details

What is Online Hotel Reservation System?

A hotel reservation system is a piece of software that allows clients to book directly with the hotel online, bypassing the need for middlemen. It enables guests to design their own vacation at their leisure.

It's a software application that shows your live pricing and inventory across all of your channels in real-time, allowing guests to choose their travel dates and complete their reservations.

What is an ER Diagram?

The ER Diagram also refers to the database design of the online hotel reservation system. It is the graphical representation of the relationships between all system entities. It consists mostly of **Entities, Attributes,** and **Relationships.**

In DBMS, the ER Diagram of an online hotel reservation system is used to construct and diagnose relational databases. It functions well with DFD (Data Flow Diagram), which is accountable for data flow. ER diagram would make it lot simpler to design the database for the hotel reservation system.

This hotel reservation system ER diagram was derived from a database design for hotel reservations. The purpose of the system is to encode consumer data and transactions. Additionally, the hotel administrator must have access to client data for reporting and inventory purposes.

The data used in these transactions must be effectively maintained and protected, necessitating the implementation of an ER Diagram for the Hotel Reservation System.

Importance of ER Diagram

The importance of ER diagram for an online hotel reservation system is that it facilities the modeling of its data storage or database. It is the basis for building the database foundation for the project. This entity-relationship diagram (ERD) helps define the data types to be stored, including their attributes and properties.

In addition, the ER diagram describes entity relationship with other entities. ER diagrams are utilized for all other real-world tasks. In relation to its data flow diagram, the ER diagram for online hotel reservation system is used to display the details and attributes of the data store.

In addition to its data flow diagram, the er diagram for a hotel reservation system is used to represent the details and attributes of a data store. They are essential for constructing a relational database because they let us visualize how data is generically associated.

(ER) Diagram for Hotel Reservation System

The **ER Diagram of Hotel Reservation System** shows the included entities (data) and their supposed functions (attributes). Each of them was represented by a table to illustrate their characteristics and relationships with each other.
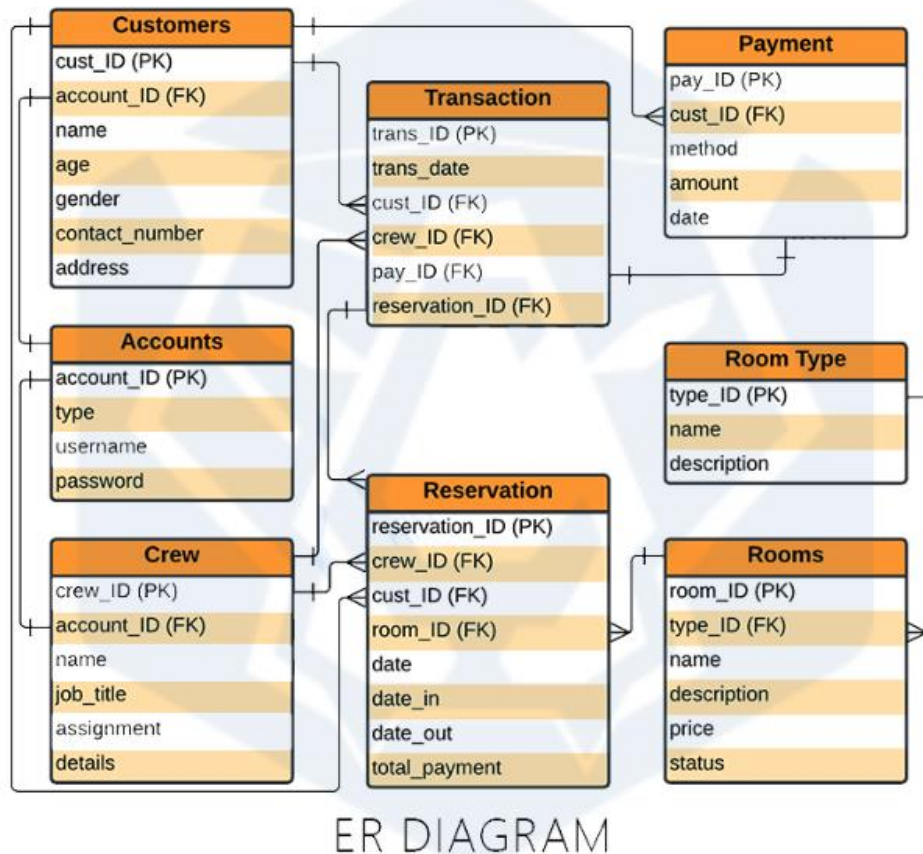
ONLINE HOTEL RESERVATION SYSTEM ER DIAGRAM

The figure above shows the whole purpose of the database design of ER Diagram for the Online Hotel Reservation system. Furthermore, it demonstrates the presence of a database to store all system data and provide user output. Hence, explains the Hotel Reservation System's (ER Diagram) database design.

Hotel Reservation System ER Diagram Tables

These tables below provide the complete database table details such as **Field Name**, **Descriptions**, **data types**, and **character lengths**. Afterward, each of these tables represents the characteristics and the attributes of data storage.

So here the **field** column presents the names of each database's attributes, and the **description** column gives the complete thought of each attribute. Moreover, the type column is their data type, and the **length** is for their character lengths.

Table Name: Accounts

Field	Description	Type	Length
account_ID (PK)	Account ID	Int	11
type	Account Type	Varchar	255
username	Username	Varchar	255
password	Password	Varchar	255

Table Name: Accounts

Table Name: Customer

Field	Description	Type	Length
cust_ID (PK)	Customer ID	Int	11
account_ID (FK)	Account ID	Int	11
name	Customer Name	Varchar	255
age	Customer Age	Varchar	255
gender	Customer Gender	Varchar	255
contact_number	Contact Numer	Varchar	255
address	Customer Address	Text	11

Table Name: Customer

Table Name: Crew

Field	Description	Type	Length
crew_ID (PK)	Crew ID	Int	11
account_ID (FK)	Account ID	Int	11
name	Crew Name	Varchar	255
job_title	Job Title	Varchar	255
assignment	Work Assignment	Varchar	255
details	Assignment Details	Text	

Table Name: Crew

Table Name: Reservation

Field	Description	Type	Length
reservation_ID (PK)	Reservation ID	Int	11
crew_ID (FK)	Crew ID (FK)	Int	11
cust_ID (FK)	Customer ID	Int	11
room_ID (FK)	Room ID	Int	11
date	Date of Reservation	Date	
date_in	Date of Coming In	Date	
date_out	Date of Coming Out	Date	
total_payment	Total Payment	Varchar	255

Table Name: Reservation

Table Name: Room Type

Field	Description	Type	Length
type_ID (PK)	Room Type ID	Int	11
name	Room Name	Varchar	255
description	Description	Text	

Table Name: Room Type

Table Name: Rooms

Field	Description	Type	Length
room_ID (PK)	Room Class ID	Int	11
type_ID	Room Name	Varchar	30
price	Room Price	Int	11

Table Name: tblRoomClass

Table Name: Payment

Field	Description	Type	Length
payment_ID (PK)	Payment ID	Int	11
cust_ID (FK)	Customer ID	Int	11
method	Payment Method	Varchar	255
date	Date of Payment	Date	

Table Name: Payment

Table Name: Transaction

Field	Description	Type	Length
trans_ID (PK)	Transaction ID	Int	11
tran_date	Transaction Name	Date	
cust_ID (FK)	Customer ID	Int	11
crew_ID (FK)	Employee ID	Int	11
pay_ID (FK)	Payment ID	Int	11
reservation_ID (FK)	Reservation ID	Int	11

Table Name: Transaction

The tables given will be the basis for developers on how would they would work on the **order management system database design**. It has the complete description of the database and will be applied to the program as data storage the same as the names given to each of the tables.

How to create ER Diagram

Time needed: 5 minutes.

Steps in building the **ER Diagram for Hotel Reservation System with Cardinality Ratio**.

- **Step 1: Familiarize the ER Diagram (Entity Relationship Diagram) Symbols and Cardinality**

  The Entity Relationship Diagram is the structure of the data types in a project. It uses symbols to clarify the relationships of each entity.
  Their symbols and applications must be familiarized before you build the ER Diagram.
  ER Diagram Symbols:
  • **Fields**: Fields are the parts of a table that define the entity's characteristics. In the database that the ERD models, attributes are commonly thought of as rows.
  • Keys is a technique to categorize data qualities. It is used to organize ER diagrams and assist users in modeling their databases to ensure that they are efficient. This is also used to connect different tables in a database.
  - Primary Key: identifies a single entity instance which means a unique attribute or set of attributes.
  - Foreign Key: is produced when data attributes have one too many relationships with other entities.

  ER Diagram Cardinalities:
  The style of a line and its ending displays cardinality and ordinality.
  Cardinality refers to the maximum number of ways an instance of one thing can be connected to instances of another entity.
  While Ordinality refers to the fewest ways a single instance of an entity can be linked to another instance.

- **Step 2: Finalize the entities included**

  Initiate the creation of your ER Diagram by determining which entities must be included in your bank reservation system. This entity is represented by a rectangle, and you should leave ample space in your design for their addition in subsequent phases.

  A group of similar entities with shared properties is an entity set. In a database reservation system, an entity is a table or its property. Consequently, an ER diagram depicts the entire logical structure of a database by illustrating the links between tables and their properties.

- **Step 3: Add the attributes of each entity**

  After finalizing the entities, consider the characteristics that will define each one. As characteristics, a conceptual ER diagram specifies the particulars of the many things depicted. Attributes include characteristics of an entity, a many-to-many relationship, and

a one-to-one relationship. Multiple values can be assigned to multivalued properties.

The attributes of the entity were represented by ovals in the tables of the bank reservation system er diagram. In the database design for this project, these properties can be either primary or foreign keys. By declaring the appropriate entities and their properties, your ER diagram design could also be translated to the system's database.

- **Step 4: Describe the relationships (cardinality) between entities and attributes**

  Entities, their properties, and relationships are required to depict the relationships between the ERD. To create an exact Entity Relationship Diagram, you will base the data structure on the evaluated information.

  A relationship is an association that describes the interaction between two entities. At the connector's endpoints, a crow's foot indicates cardinality. There are three most frequent cardinal relationships: one-to-one, one-to-many, and many-to-many. It represents the maximum number of times an instance of one entity can link to instances of another entity.

Conclusion

In summary, ER diagram for Hotel Reservation System helps to create a fully-functional system. Other than that, it will help you in conceptualizing the backend of the software. Finally, ER diagram holds all the data that enter and exit the system.