

## **Specification:** Database modeling for Airbnb platform.

### **Abstract:**

This project aims to develop a comprehensive database for an online booking platform like Airbnb, following three essential phases: Conception, Development, and Finalization. Airbnb is a global platform that connects hosts offering accommodations with guests looking for temporary lodging. Guests can search for available properties based on various criteria such as location, price, and dates, and make reservations. Payment is processed through credit or debit cards. Each user, whether a host or a guest, has a profile page. Hosts are required to upload a picture and phone number, while guests provide additional information. Users can link their profiles to social networks like Facebook and Instagram. Both hosts and guests can receive discounts via coupons and leave reviews, ratings, and complaints about their experiences.

### **Roles and actions:**

This system supports several roles with distinct permissions: Guests: Users who can browse and book listings for temporary accommodations, applying filters to refine their search. Hosts: Users who offer accommodations, can publish and manage listings, and communicate with guests. Employees: Users who can add, edit, or remove data records and manage access and permissions.

### **Required Data and Functions:**

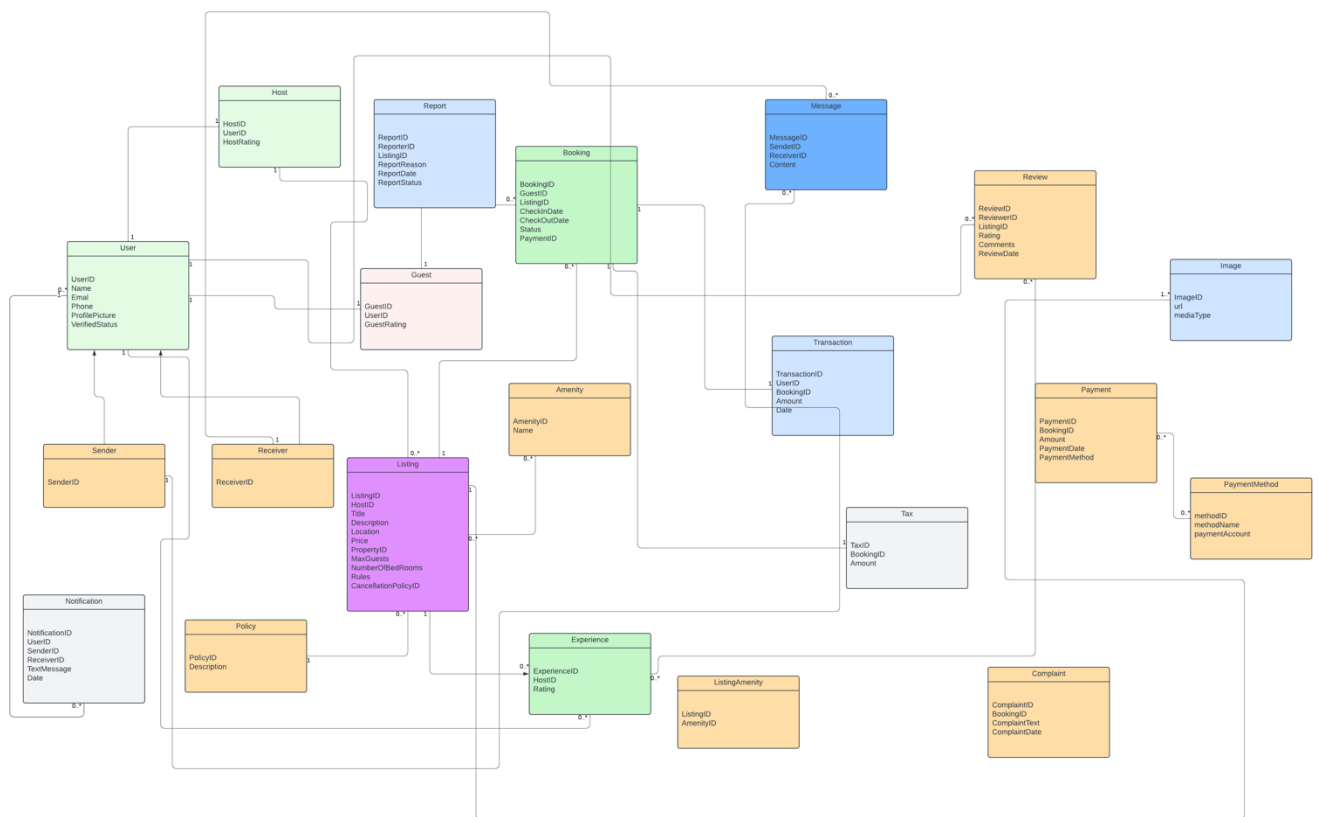
**User data:** UserID, Name, Email, Phone, ProfilePicture.

**Listing data:** ListingID, HostID, Title, Description.

**Booking data:** BookingID, GuestID, ListingID, BookingDates, Status, Payment.

**Review data:** ReviewID, ReviewerID, ListingID, Rating, Comments.

### Entity Relationship Model (ERM):



## Data Dictionary:

User:

UserID	INTEGER	Unique identifier for the user
Name	STRING	Name of the user
Email	STRING	Email address of the user
Phone	STRING	Phone number of the user
ProfilePicture	STRING	URL of the profile picture
VerifiedStatus	BOOLEAN	Verification status of the user

GuestID	INTEGER	Unique identifier for the host
UserID	INTEGER	Foreign key to user
GuestRating	FLOAT	Rating of the guest

HostID	INTEGER	Unique identifier for the host
UserID	INTEGER	Foreign key to user
HostRating	FLOAT	Rating of the guest

ListingID	INTEGER	Unique identifier for the listing
HostID	INTEGER	Foreign key to host
Title	STRING	Title of the listing
Description	STRING	Description of the listing
Location	STRING	Location of the listing
Price	FLOAT	Price per night
PropertyID	INTEGER	Type of the property (Foreign key)
MaxGuests	INTEGER	Maximum number of guests allowed
NumberOfBedRooms	INTEGER	Number of bedrooms
Rules	STRING	Rules for the listing
CancellationPolicyID	INTEGER	Foreign key to policy.

BookingID	INTEGER	Unique identifier for the booking
GuestID	INTEGER	Foreign key to guest
ListingID	INTEGER	Foreign key to listing
CheckInDate	DATE	Check-in date
CheckOutDate	DATE	Check-out date
Status	STRING	Status of the booking
PaymentID	INTEGER	Foreign key to payment

PaymentID	INTEGER	Unique identifier for the payment
BookingID	INTEGER	Foreign key to booking
Amount	Float	Amount paid
PaymentDate	DATE	Date of payment
PaymentMethodID	INTEGER	Foreign key to payment method

MethodID	INTEGER	Unique identifier for the method
MethodName	STRING	Name of the payment
PaymentAccount	STRING	Account used for payment

TransactionID	INTEGER	Unique identifier for the transaction
UserID	INTEGER	Foreign key to user
BookingID	INTEGER	Foreign key to booking
Amount	FLOAT	Transaction amount
Date	DATE	Transaction date

TaxID	INTEGER	Unique identifier
BookingID	INTEGER	Foreign key to booking
Amount	FLOAT	Tax amount

ReviewID	INTEGER	Unique identifier for the review
ReviewerID	INTEGER	Foreign key to the user
ListingID	INTEGER	Foreign key to listing
Rating	FLOAT	Rating given

Comments	STRING	Review comment
ReviewDate	DATE	Date of the review

ReportID	INTEGER	Unique identifier for the report
ReporterID	INTEGER	Foreign key to the reporter
ListingID	INTEGER	Foreign key to listing
ReportReason	STRING	Reason for reporting
ReportDate	DATE	Date for reporting
ReportStatus	STRING	Status of the report

MessageID	INTEGER	Unique identifier for the message
SenderID	INTEGER	Foreign key to the user
ReceiverID	INTEGER	Foreign key to user
Content	STRING	Content of the message

NotificationID	INTEGER	Unique identifier for the notification
UserID	INTEGER	Foreign key to user
SenderID	INTEGER	Foreign key to the sender
ReceiverID	INTEGER	Foreign key to the receiver
TextMessage	STRING	Notification text
Date	DATE	Date of the notification

PolicyID	INTEGER	Unique identifier for the policy
Description	STRING	Description of the policy

AmenityID	INTEGER	Description
Name	STRING	Name of the amenity

ListingID	INTEGER	Foreign key to the listing
AmenityID	INTEGER	Foreign key to the amenity

ExperienceID	INTEGER	Unique identifier for the experience
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HostID	INTEGER	Foreign key to the host
Rating	FLOAT	Rating of the experience

ImageID	INTEGER	Unique identifier for the image
URL	STRING	URL to the image
MediaType	STRING	Type of the media

ComplaintID	INTEGER	Unique identifier for the complaint
BookingID	INTEGER	Foreign key to booking
ComplaintText	STRING	Text of the complaint
ComplaintDate	DATE	Date of complaint