Requirements Specification

Introduction

This project aims to create a SQL-based database for booking and managing accommodations, inspired by Airbnb. The database will organize key information such as listings, bookings, payments, user profiles, and reviews, supporting core functionalities like booking, payment processing, user reviews, and host income calculation.

Roles

1. **Host**: Lists and manages accommodations, updates listing details, manages bookings, and responds to guest reviews. *Note: A user may be both a host and a guest on the platform.*

2. **Guest**: Searches for, books, and reviews accommodations, makes payments, and leaves feedback.

3. **Admin**: Oversees platform operations, manages accounts, handles disputes, and monitors transactions.

Actions for Each Role

Host Actions:

- List, update, and manage accommodation details.

- Accept or decline booking requests from guests.

- Respond to reviews left by guests.

Guest Actions:

- Search for and book accommodations.

- Leave reviews and ratings for hosts and accommodations.

- Make payments through the platform's secure system.

Admin Actions:

- Monitor user activity and manage data on the platform.

- Resolve disputes between guests and hosts and manage accounts.

- Manage user accounts, enforcing platform rules as needed.

- Oversee financial transactions, including payments and refunds.

Required Data and Functions

Data Requirements:

- **User Profile Data**: Host and guest information (e.g., name, profile picture, contact info).

- **Accommodation Data**: Listing details (e.g., property ID, location, price per night, amenities, photos).

- **Insurance Policy Data**: Insurance details for accommodations, including coverage amount, premium, and provider.

- **Discount Data**: Information about discounts on accommodations, such as discount percentage and validity dates.

- **Property Preference Data**: Stores guests' preferred features like pet-friendly, non-smoking, or specific location requirements.

- **Booking Data**: Information on each booking (e.g., booking ID, guest ID, host ID, accommodation ID, BookedByUser ID, booking date, duration, total cost).

- **Payment Data**:

    o Transaction details (e.g., payment ID, amount, status, payment date).

    o Payments are held by the platform for 24 hours after check-in to ensure guest satisfaction.

- **Review Data**: Ratings and comments from guests about accommodations and hosts.

Key Functions:

- **Search and Filter**: Allows guests to search and filter listings based on location, price range, dates, and amenities.

- **Booking and Payment Processing**: Handles booking requests and securely processes guest payments. Manages commission distribution to the platform and payouts to hosts.

- **Review System**: Facilitates the creation and display of user reviews for hosts and accommodations.

- **Income Calculator for Hosts**: Provides hosts with a calculator to estimate their income based on booking data and listing rates.

- **Discount Management**: Enables hosts to set up discounts or promotions for specific accommodations.

- **Insurance Management**: Tracks insurance policies for accommodations to add security for hosts.

- **Property Preference Matching**: Allows the system to match accommodations with guest preferences.