

## **Database for renting houses, apartments, and rooms**

Requirements specification and analysis

### **Main Roles (User groups):**

1. The host offers their properties for rent.
2. The guest makes reservation and payment.
3. The market as a connection between the host and the guest, where all transactions happen like property offering for rent, reservation, payments, cancellation, commission charges etc.

### **The entities in the database are:**

**property:** each property has at least one room but can be multiple rooms. Property availability depends on the room availability column.

**host:** each host can own at least one property, but each host can have multiple properties. The host can be related to one or many reservations.

**property\_type:** each type has properties. Each property has a type.

**room:** each room is part of the property. Each property has at least one room. The guest can reserve the room that belongs to the property, through the reservation in the market. By default, room\_availability is TRUE. But if it is reserved, room\_availability will be FALSE.

**room\_type:** each type has rooms. Each room has a type

**property\_commission:** each property has its own commission percentage charged by the market, based on the contract between the host and the market.

**facility:** each property has its own facilities, such as parking, pool, etc.

**amenities:** each room has its own list of amenities, such as Wi-Fi, heating, TV, hair dryer, towel, soap, shampoo, etc.

**country:** each country has number of cities. Each city located in one country.

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**neighborhood:** each neighborhood has many properties. Each property is in one neighborhood.

**property\_review:** the guest can only review the property if in payment table, payment\_date is NOT NULL. If the average review of a property is less than a specific threshold or below the minimum standard rate, the property can be removed, because it will affect the image of the market.

**guest\_review:** the host can also rate the guest from 1 to 5. (1 = Very Bad, 2 = Bad, 3 = Okay, 4 = Good, 5 = Excellent). If average review of guest less than 3, guest can be banned by the market.

**guest\_commission:** in addition to taking commission from the host, the market takes the commission from the guest.

**guest:** guest belongs to guest\_level. This level can be increased with rating.

**reservation:** the reservation table is the heart of this service. It has relationship with guest, room, payment, cancellation, property\_review. Not all reservations will go to the payment. Some of them will go to the cancellation.

**voucher:** vouchers may be offered as promotions for certain guests or locations, related to advertisement campaign.

**payment:** guests pay via online banking or credit card. Market retain payment for 24 hours after the check-in date.

**payment\_status:** payment status has three categories 1: paid, 2: on-hold, 3: transactional problem.

**cancellation:** any cancellation linked to the reservationID. Cancellation before the free\_cancel\_date column in the reservation table is free, otherwise it will be charged. Every reservation has zero or one cancellation.

#### **Required Software:**

- Entity Relation Diagram: draw.io
- Relation Database Management System: MySQL
- Report Writing: Microsoft Word

