

## Database System First Assignment

### Problem:

We currently manage three guest houses, namely Flamboyant, Bougenville and Jasmine. However, the management of the three guest houses is still carried out separately in each of the guesthouses. We hope that in the future this management process will be incorporated into an integrated system.

The current process is that guests must come to the guesthouse they want to go to to be able to place an order. Next, the guest will check-in on the D Day and choose the appropriate room type and leave an ID card so that the receptionist can record the identity, room and check-in date. For our Flamboyant and Bougenville guesthouse, we have several types of rooms. Especially for Jasmine guesthouse, this guesthouse is rented out for one house. At check-out, the receptionist will calculate how long the stay is, and whether there are additional facilities used, such as extra beds. After the payment is completed, the identity card will be returned. To improve the service of the guesthouse, every guest who checks out is asked to fill out a customer satisfaction questionnaire such as satisfaction with receptionist service, room cleanliness, hospitality of the guest house staff, room comfort, etc.

To create an Entity-Relationship Diagram (ERD) based on the provided information, we'll follow the step-by-step process you've outlined:

Step 1: Make an illustration of the story about the system that the entity will look for

First, let's identify the main entities and their relationships from the provided information:

#### Entities:

1. Guest Houses (Flamboyant, Bougenville, Jasmine)
2. Guests (Customers)
3. Rooms
4. Additional Services
5. Payments
6. Customer Feedback

#### Relationships:

- Guests stay in Rooms at Guest Houses.
- Guests can use Additional Services.

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- Guests make Payments through Invoices.
- Guests provide Feedback.

Step 2: Mark each object represented by the noun in the illustration

Now, let's mark each object represented by the nouns in the illustration:

- Guest Houses (Flamboyant, Bougainville, Jasmine)
- Guests (Customers)
- Rooms
- Additional Services
- Payments
- Customer Feedback

Step 3: Look for characteristics called attributes of each entity

Next, let's identify the attributes (characteristics) of each entity:

Guest Houses:

- guesthouse\_name
- created\_at
- updated\_at

Guests (Customers):

- id (Primary Key)
- customers\_id\_card
- customers\_name
- customers\_checkin\_date
- customers\_checkout\_date
- customers\_services\_id (Foreign Key)
- customers\_invoice\_id (Foreign Key)

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- customer\_billing\_total
- customer\_given
- customer\_return
- created\_at
- updated\_at

Rooms:

- id (Primary Key)
- rooms\_name
- rooms\_owner\_id
- rooms\_status
- additional\_services\_id (Foreign Key)
- created\_at
- updated\_at

Additional Services:

- id (Primary Key)
- service\_name
- service\_price
- created\_at
- updated\_at

Payments:

- id (Primary Key)
- invoice\_customer\_id (Foreign Key)
- billing\_method
- billing\_totals
- created\_at
- updated\_at

Customer Feedback:

- id (Primary Key)
- customers\_id (Foreign Key)
- customers\_rooms\_id (Foreign Key)
- review\_cleanliness
- review\_comfort
- review\_hospitality
- total\_rate
- created\_at
- updated\_at

And this is how the ERD looks like:

