Databases Project – Spring 2019

Team No: 26

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# Deliverable 1

## Assumptions

We made no assumption concerning the correctness of the data, we checked every field of every CSV file. The type of each field has been checked and each line containing a wrong input (i.e. missing mandatory field, negative price,…) has been kicked out of the dataset.

We defined some mandatory fields, listed below.

Listings: listing\_id, listing\_url, listing\_name, host\_id, host\_url, host\_name

Reviews: all fields are mandatory

Calendar: all fields except price are mandatory

## Entity Relationship Schema

### Schema

The schema can be found here : <https://github.com/hedi-sassi/rbnb_db_project/tree/master/ER>

### Description

First, we chose to separate the main listing attributes and the listing’s details. This way, when we want display a lot of listings, we only query the table with the main information (small description, name, thumbnail etc..) and if someone select the listing, we also query the tables containing the details.

We did the same for the host and host details tables.

The listing table is connected (one to one mapping) with the calendar, review scores, material description and cost details tables. This implies they are all weak entities with respect to the listing table.

We decided to create special tables to hold the amenities and the host verifications as those are list attributes. We link them to the listing using intermediate tables containing the listing id and the amenities/host verifications id.

## Relational Schema

### ER schema to Relational schema

The schema can be found here : <https://github.com/hedi-sassi/rbnb_db_project/tree/master/relational_model>

Weak entities are accounted for with the help of foreign keys. If the foreign key is not present, it will trigger a “Cascade” deletion policy.

### DDL

The DDL can be found here: <https://github.com/hedi-sassi/rbnb_db_project/tree/master/relational_model>

## General Comments

We split the work as followed:

- ER model: Camilla

- Relational Model : Simon

- Data verification (scala program on the repo) : Hédi

# Deliverable 2

## Assumptions

<In this section write down the assumptions you made about the data. Write a sentence for each assumption you made>

## Data Loading

## Query Implementation

<For each query>

### Query a:

#### Description of logic:

<What does the query do and how do I decide to solve it>

#### SQL statement

<The SQL statement>

## Interface

### Design logic Description

<Describe the general logic of your design as well as the technology you decided to use>

### Screenshots

<Provide some initial screen shots of your interface>

## General Comments

<In this section write general comments about your deliverable (comments and work allocation between team members>

# Deliverable 3

# Assumptions

<In this section write down the assumptions you made about the data. Write a sentence for each assumption you made>

## Query Implementation

<For each query>

### Query a:

#### Description of logic:

<What does the query do and how do I decide to solve it>

#### SQL statement

<The SQL statement>

## Query Analysis

### Selected Queries (and why)

#### Query 1

<Initial Running time:

Optimized Running time:

Explain the improvement:

Initial plan

Improved plan>

#### Query 2

<Initial Running time:

Optimized Running time:

Explain the improvement:

Initial plan

Improved plan>

#### Query 3

<Initial Running time:

Optimized Running time:

Explain the improvement:

Initial plan

Improved plan>

# Interface

### Design logic Description

<Describe the general logic of your design as well as the technology you decided to use>

### Screenshots

<Provide some initial screen shots of your interface>

# General Comments

<In this section write general comments about your deliverable (comments and work allocation between team members>