Summary/Abstract

The problem is to meet the guest and host on the same page so that guest can track their transactions, and the host will be able to track their transactions. This project emphasizes solving this problem with a database solution so that data can be persistent and the transaction can be reported or analyzed. In this project, twenty-one tables are designed for demonstration purposes and tables are connected so that technically data can be fetched from each other. The first requirement is specified then related tables are designed with their attributes, and after that Entity relationship diagram is created in the conceptual phase. The development phase contains database generation by SQL (structured data query language) statements and test purposes data will be included in each table. In the development phase, there have been developed slides to show SQL statements for “CREATE”, “INSERT” and “SELECT” commands. In the submitted “.zip” file it may be seen SQL files for installation, each SQL file is separated by a related folder name, and the “SQL_Backup_AirBnB” folder contains the “sql-data.sql” file which contains create and insert statements in one file so that this file can be used for installation to a database. In the finalization phase, all tables with their metadata are added and it can be seen in the table below

No	TABLE_NAME	TABLE_ROWS	DATA_LENGTH	INDEX_LENGTH
1	accountpayable	20	16384	0
2	accountreceivable	20	16384	0
3	accountreceivable_has_facilityinvoice	20	16384	32768
4	bank	20	16384	32768
5	carrier	20	16384	32768
6	employee	20	16384	16384
7	expectedincome	20	16384	49152
8	facility	20	16384	0
9	facilityadvantages	20	16384	16384
10	facilityarchitecture	20	16384	16384
11	facilityavailability	20	16384	16384
12	facilityinvoice	20	16384	49152
13	facilityinvoice_has_accountpayable	20	16384	32768
14	facilitylocation	20	16384	16384
15	facilityorder	20	16384	32768
16	facilityoverdaystayed	20	16384	16384
17	facilityprice	20	16384	16384
18	facilityrate	20	16384	32768
19	facilityreview	20	16384	16384
20	facilitysocial	20	16384	16384
21	facilitytaxrate	20	16384	16384
22	userrole	20	16384	0
23	usertaxid	20	16384	16384

To get meta-data SQL query is used shown below,

```
SELECT
    information_schema.TABLES.TABLE_SCHEMA,
    information_schema.TABLES.TABLE_NAME,
    information_schema.TABLES.TABLE_ROWS,
    information_schema.TABLES.DATA_LENGTH,
    information_schema.TABLES.INDEX_LENGTH,
    information_schema.TABLES.TABLE_COMMENT
FROM
    information_schema.TABLES
WHERE
    information_schema.TABLES.TABLE_SCHEMA = 'airbnb' ;
```

There are twenty-three tables shown in the above table but two tables are coming from many-to-many relationships so they are not included in the counting tables in the project. This project is the backbone of the backend in an application which makes the possibility of data persistency and it has the potential to develop a user interface but developing the front-end will not be emphasized. This project helped to gain practical knowledge and gain experience to design databases, specify requirements, and knowledge for CRUD (Create, Read, Update, Delete) applications in the software industry. By doing this project, search engines on the internet are used a lot to dive deep into related topics that are required to build a database.