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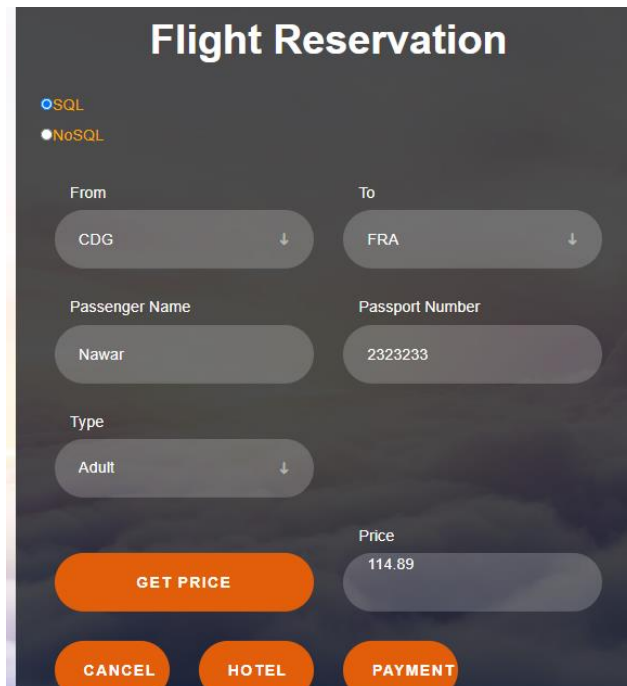**www.hkr.se**

# Re-Lab 3: Architecture Design

**Nawar Aghi**

# 1. Program Overview

This re-lab provides these services for the user:
FRS -> HRS -> PS

## 1.1. FRS

Flight Reservation Service is a service where the user can book a flight and either go to payment service or hotel service



The user has the ability to choose the departure and arrival airports. However, this service does not provide all routes to all airports. Therefore, the arrival airport depends on the departure airport. In addition, the user can check the price before moving to another service.

This service provides SQL and NoSQL connections to the database.

## 1.2. HRS

Hotel Reservation Service is a service where the user can book a hotel alongside the flight. After booking a hotel, the user can do check out to see the total price of hotel and flight services.
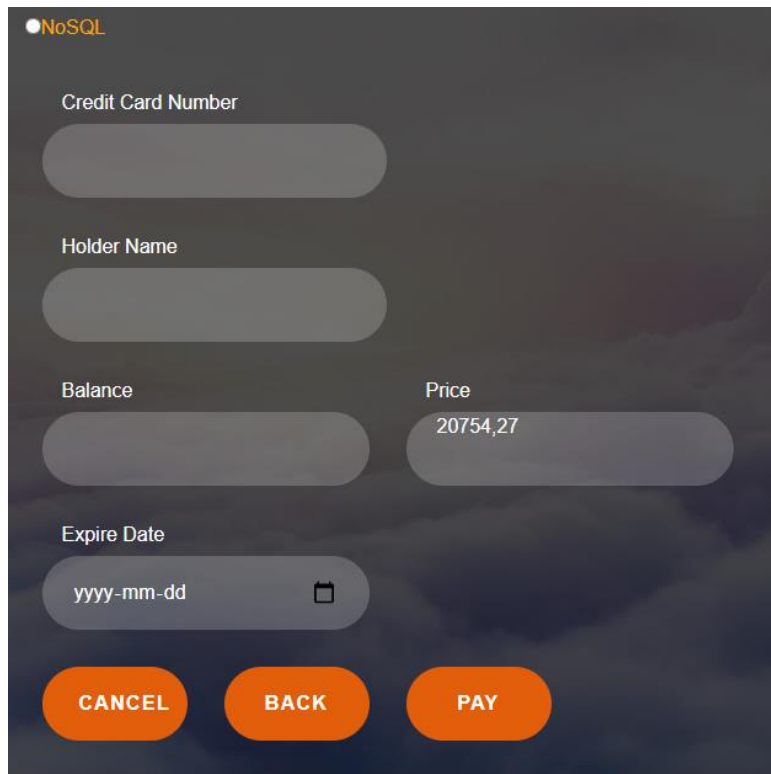
The user can choose a hotel, number of nights, and arrival date. In addition, the user can check the price of this reservation. However, the database does not have a lot of hotels. Therefore, the user has to choose from the available hotels.

### 1.3. PS

Payment service is a service where the user can pay the total price of the reservations.

The user has to enter credit card number, holder name, balance, and expire date of the credit card. However, the balance must be greater than the price.

## 1.4. Admin Page

This is a reporting page which contains several reports.
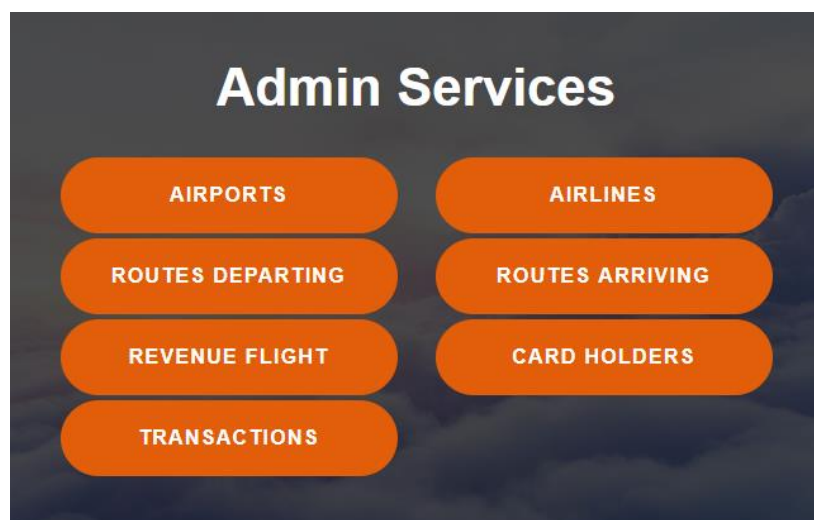
# Route Departing Services

○ SQL
● NoSQL

[ CDG ▾ ]     [ **FETCH DATA** ]

| Id | Carrier | Dep | Arr | City | FlightNmb |
|----|---------|-----|-----|------|-----------|
| 3 | JB | CDG | FRA | Paris | 444 |
| 7 | JB | CDG | CPH | Paris | 777 |

[ **BACK** ]

# Transactions Services

○ SQL
● NoSQL

[ 2211122 ▾ ]     [ **FETCH DATA** ]

| Date | Card | Amount |
|------|------|--------|
| 2020-06-19 00:00:00 | 2211122 | 6903,05 |

[ **BACK** ]

## 2. Database Design



### airlines
- id INT(10)
- code VARCHAR(2)
- name VARCHAR(45)
- Indexes

### routes
- id INT(10)
- carrier VARCHAR(2)
- dep VARCHAR(3)
- arr VARCHAR(3)
- flight_nmb INT(11)
- Indexes

### airports
- id INT(10)
- code VARCHAR(3)
- city VARCHAR(45)
- Latitude DOUBLE
- Longitude DOUBLE
- Indexes

### flights
- id INT(10)
- Passenger_name VARCHAR(45)
- Passport_nmb INT(11)
- flight_nmb INT(11)
- dep_date DATE
- air_fare DOUBLE
- Indexes

### transactions
- id INT(11)
- date DATE
- card INT(11)
- amount DOUBLE
- Indexes

### customer
- id INT(11)
- card INT(11)
- name VARCHAR(45)
- ex_date DATE
- balance DOUBLE
- Indexes

**booking**
- 🔑 id INT(11)
- ◇ pass VARCHAR(45)
- ◇ name VARCHAR(45)
- ◇ arr_date DATE
- ◇ nmb_nights INT(11)
- ◇ fee DOUBLE
- 🔴 code INT(11)

Indexes ▶

**hotel**
- 🔑 id INT(11)
- ◇ code INT(11)
- ◇ name VARCHAR(45)
- ◇ city VARCHAR(45)
- ◇ country VARCHAR(45)
- ◇ rate INT(11)

Indexes ▶