Airline Database Management

Airline industry is one of the largest and ever-growing businesses in the world. It caters to a vast majority of the population. These airlines are committed to provide a wonderful user experience. The aircrafts are equipped with modern day technologies which not only guarantee a safe flight, but also a comfortable journey to the passengers.

The Airlines offers certain kinds of discounts, based on the person- such as discounts for children and senior citizens and early booking of flights. Using a database, it becomes easier to keep track of the discounts.

Also, online reservations can be done for reservation of seats which are secure and allows customers the flexibility of booking seats from the convenience of their homes. Having a computerized database system to manage all the transactions of customers, along with keeping track of all the employees of the organization would be much easier.

In this project I will be using stored procedures and transactions for adding customers or booking the seats on a flight. In case of cancellations, based on certain factors, the refund would be given to the customer.

Main Entities:

- **Aircrafts**: Contains the details of the aircrafts owned by the airline.
- **Customers**: Contains the details of the customers.
- **Employees**: Contains the details of the employees working for the airline.
- **Routes**: Each flight will have a route, based on the departure and arrival locations.
- **Flight Schedule**: This contains the date time, departure, arrival of each flight.
- **Transactions**: Contains the transaction details such as booking a seat by customers.
- **Discounts**: Contains the discount details based on certain factors.

Relationships:

- There will be a one-to-one relationship between the flight schedule and aircrafts.
- There will be a many-to-many relationship between customers and transactions.
- There exists a many-to-many relationship between the flight schedule and routes.

Transactions_has_Employees
- 🔑 Transactions_Transaction_ID INT
- 🔑 Employees_Employee_ID INT
- Indexes

Employees
- 🔑 Employee_ID INT
- 🔹 First_Name VARCHAR(45)
- 🔹 Last_Name VARCHAR(45)
- 🔹 Date_Of_Birth DATE
- 🔹 Address VARCHAR(45)
- 🔹 Email VARCHAR(45)
- 🔹 Tel_No VARCHAR(45)
- Indexes

Customers
- 🔑 Customer_ID INT
- 🔹 First_Name VARCHAR(45)
- 🔹 Last_Name VARCHAR(45)
- 4 more...
- Indexes

Transactions_has_Customers
- 🔑 Transactions_Transaction_ID INT
- 🔑 Customers_Customer_ID INT
- Indexes

Discounts
- 🔑 Discount_ID INT
- 🔹 Title VARCHAR(45)
- 🔹 Discount_Amount INT
- 🔹 Description VARCHAR(45)
- Indexes

Flight_Schedule
- 🔑 Flight_ID INT
- 🔹 Departure_Date DATE
- 🔹 Departure VARCHAR(45)
- 🔹 Arrival VARCHAR(45)
- 🔑 Aircraft_Id INT
- 🔶 Transaction_ID INT
- Indexes

Transactions
- 🔑 Transaction_ID INT
- 🔹 Booking_Date DATE
- 5 more...
- Indexes

Transactions...
- 🔑 Transactions_Transacti...
- 🔑 Discounts_Discount_ID...
- Indexes

Aircrafts
- 🔑 Aircraft_Id INT
- 🔹 Aircraft_Number INT
- 🔹 Capacity INT
- 🔹 ManufacturedBy VARCHAR(50)
- 🔹 Year_of_Manufacture YEAR
- Indexes

Routes
- 🔑 Route_ID INT
- 🔹 Departure VARCHAR...
- 🔹 Arrival VARCHAR(45)
- 🔹 Layover VARCHAR(45)
- Indexes

Flight_Schedule_has_Routes
- 🔑 Flight_Schedule_Flight_ID INT
- 🔑 Flight_Schedule_Aircraft_Id INT
- 🔑 Routes_Route_ID INT
- Indexes