

Fly Emirates

Analysis Report of 2019

Introduction:

Fly Emirates: the world's fourth-largest airline by scheduled revenue, passenger-kilometers flown and a number of international passengers carried were founded in 1985 by the royal family of Dubai. The airline's first flight was from Dubai to Karachi, Pakistan in October of that year.

being a very busy airline and flying to prime destinations on a daily basis like Tokyo and New York; there is a need for an effective database to be able to keep all the data primarily for future decision making and reference. We are then developing this system to allow an effective way of storing data, quick maneuvering, and accuracy of data retrieved

So, Fly Emirates want to conduct some analysis on the data of 2019 up to the previous November to find some interesting trends and see how their performance till Nov 2019 compared to the same time in 2018.

Our main goal of this analysis to give a report to Fly Emirates that summaries the data of 2019 up to November and compare their performance in 2019 to 2018.

Introduction To The Data:

Entities & their relevant attributes

Entity list

1. AirCrafts
2. Route
3. AirFare
4. Flight_Schedule
5. Countries
6. State
7. Contact_Details
8. Passengers
9. Branches
10. Employee
11. Transactions

Tables:

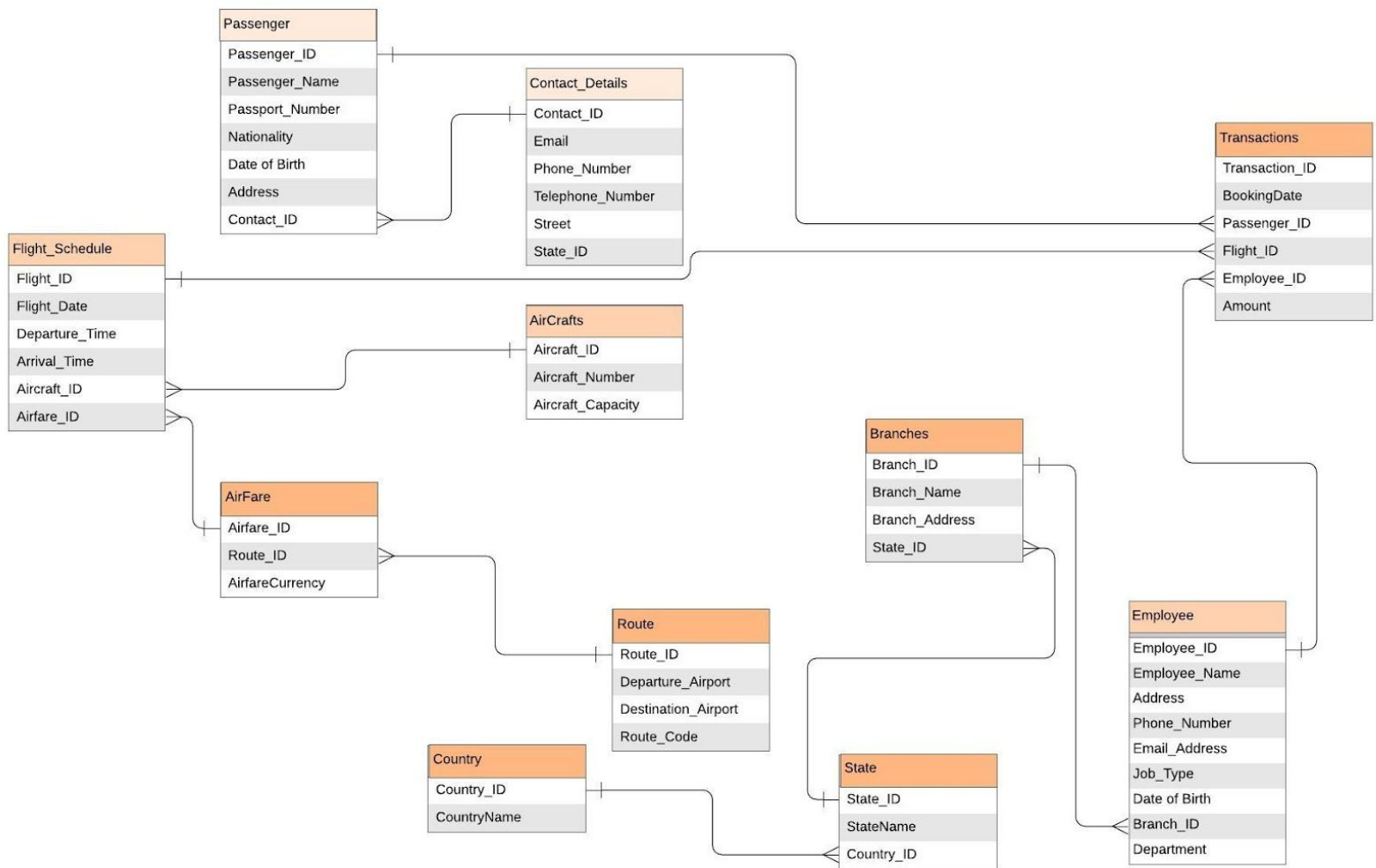
Entity Name	Attributes	Constraints
AirCrafts	<u>Aircraft_ID</u> Aircraft_Number Aircraft_Capacity	Primary key
Route	Route_ID Departure_Airport Destination_Airport Route_Code	Primary key
AirFare	<u>Airfare_ID</u> <u>Route_ID</u> AirfareCurrency	Primary key Foreign key
Flight_Schedule	<u>Flight_ID</u> Flight_Date Departure_Time Arrival_Time <u>Aircraft_ID</u> <u>Airfare_ID</u>	Primary key Foreign key Foreign key
Countries	<u>Country_ID</u> CountryName	Primary key

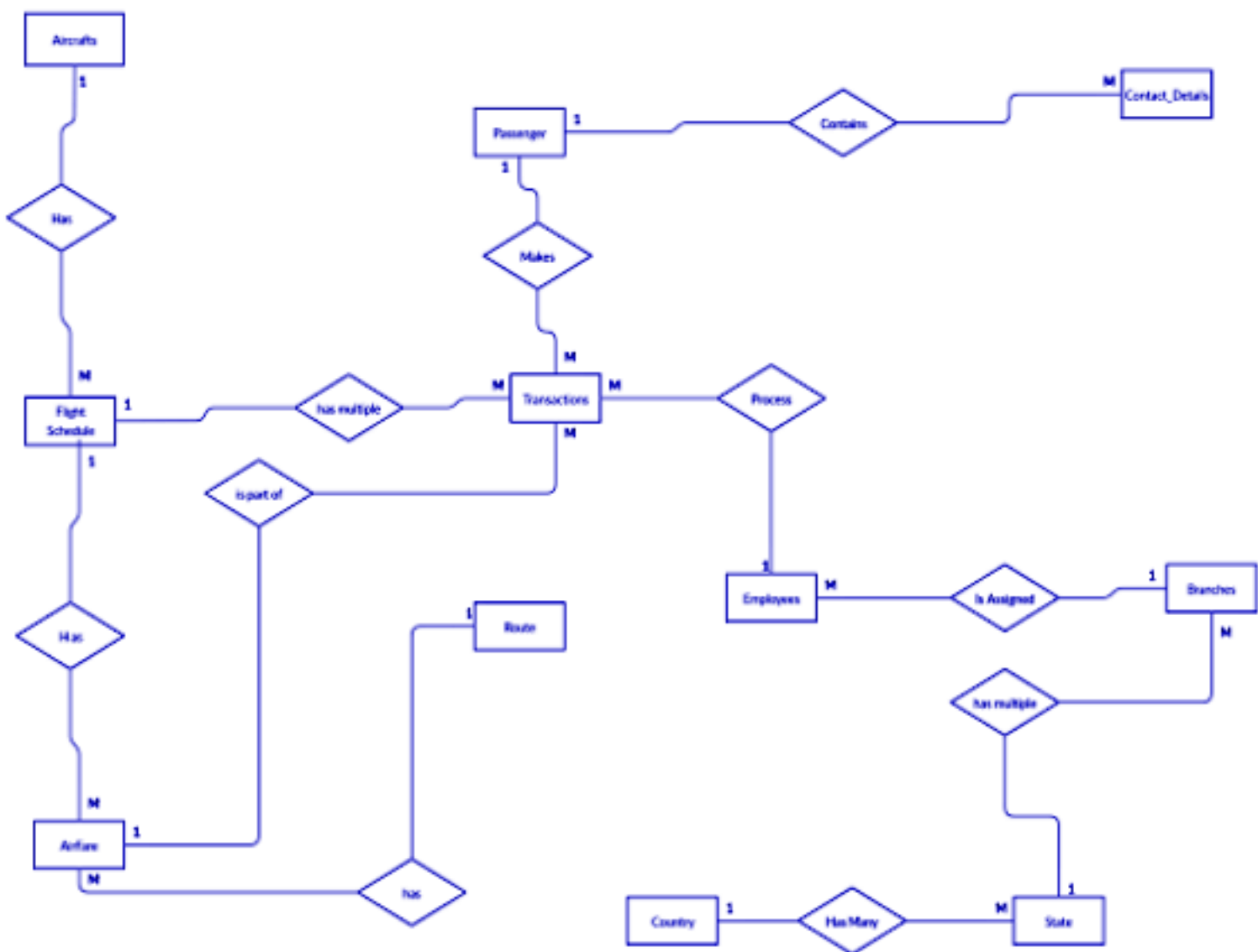
State	<u>State_ID</u> StateName Country_ID	Primary key Foreign key
Contact_Details	<u>Contact_ID</u> Email Phone_Number Telephone_Number Street State_ID	Primary key Foreign key
Passengers	<u>Passenger_ID</u> Passenger_Name Passport_Number Nationality Date of Birth Address Contact_ID	Primary key Foreign key
Employee	<u>Employee_ID</u> Employee_Name Address Phone_Number Email_Address Job_Type Date of Birth Branch_ID Department	Primary key Foreign key
Transactions	<u>Transaction_ID</u> Booking date Passenger_ID Flight_ID Employee_ID Amount	Primary key Foreign key Foreign key Foreign key

ER Diagrams:

Group Work - Database Airport Project

Joachim Wambua | December 5, 2019






```
SELECT Aircraft_Number, MAX(Aircraft_Capacity) AS max_capacity
FROM `aircraft`;
```

Ans:

Aircraft_Number	max_capacity
wG0efTn	542

Q2) How many international flights did we have in 2019 up to the end of November compared to the same time in 2018.

Query:

```
SELECT SUBSTR(F.Flight_Date,1,4) AS Year, COUNT(R.Departure_Airport) AS
Number_of_flights, COUNT(R.Departure_Airport)*100 / (SELECT COUNT(*) FROM
flight_schedule F
WHERE F.Flight_Date BETWEEN '2018-01-01' AND '2018-11-30' OR F.Flight_Date
BETWEEN '2019-01-01' AND '2019-11-30') AS Percentage_From_Total
FROM airfare A
JOIN route R ON A.Route_Id = R.Route_ID
JOIN flight_schedule F ON F.Airfare_ID = A.Airfare_Id
WHERE F.Flight_Date BETWEEN '2018-01-01' AND '2018-11-30' OR F.Flight_Date
BETWEEN '2019-01-01' AND '2019-11-30'
GROUP BY SUBSTR(F.Flight_Date,1,4);
```

Ans:

Year	Number_of_flights	Percentage_From_Total
2018	64	48.1203
2019	69	51.8797

Q3) What were the top 2 most popular destination airports that we traveled to in 2019? And how many flights traveled there?

Query:

```
SELECT R.Destination_Airport AS Airport_Name, COUNT(R.Destination_Airport) AS  
Number_of_flights  
FROM airfare A  
JOIN route R ON A.Route_Id = R.Route_ID  
JOIN flight_schedule F ON F.Airfare_ID = A.Airfare_Id  
WHERE F.Flight_Date BETWEEN '2019-01-01' AND '2019-12-31'  
GROUP BY R.Destination_Airport  
ORDER BY Number_of_flights DESC  
LIMIT 2;
```

Ans:

Airport_Name	Number_of_flights
Dubai International Airport	13
Los Angeles International Airport	12

Q5) Which month of 2019 did we fly the most?

Query:


```

SELECT SUBSTR(F.Flight_Date,1,7) AS Month, COUNT(SUBSTR(F.Flight_Date,1,7)) AS
Number_of_flights
FROM airfare A
JOIN route R ON A.Route_Id = R.Route_ID
JOIN flight_schedule F ON F.Airfare_ID = A.Airfare_Id
WHERE F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30'
GROUP BY SUBSTR(F.Flight_Date,1,7)
ORDER BY Number_of_flights DESC
LIMIT 1;

```

Ans:

Month	Number_of _flights
2019-05	13

Q6) What is the average age, max-age, and min-age of all our passengers in 2019?

```

SELECT AVG(TIMESTAMPDIFF(YEAR, Date_Of_Birth, CURDATE())) as
`passengers_average_age`, MAX(TIMESTAMPDIFF(YEAR, Date_Of_Birth,
CURDATE())) AS `Oldest_passenger_age`,
MIN(TIMESTAMPDIFF(YEAR, Date_Of_Birth, CURDATE())) AS
`Youngest_passenger_age`
FROM `transactions` T
JOIN `passengers` P ON P.Passenger_ID = T.Passenger_ID
JOIN `flight_schedule` F ON F.Flight_ID = T.Flight_ID
WHERE F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30';

```

Ans:

passengers_average _age	Oldest_passenger _age	Youngest_passenger _age
30.4868	49	6

Q7) How many different nationalities used our airline from January till November 2019 compared to the same time in 2018?

Query:

```
SELECT SUBSTR(F.Flight_Date, 1, 4) AS Year, COUNT(DISTINCT P.Nationality) AS  
Number_of_nationalities  
FROM `transactions` T  
JOIN `passengers` P ON P.Passenger_ID = T.Passenger_ID  
JOIN `flight_schedule` F ON F.Flight_ID = T.Flight_ID  
WHERE (F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30') OR (F.Flight_Date  
BETWEEN '2018-01-01' AND '2018-11-30')  
GROUP BY SUBSTR(F.Flight_Date, 1, 4)  
;
```

Ans:

Year	Number_of_ nationalities
2018	27
2019	28

Q8) What are the top 3 nationalities and the number of passengers from there that used Fly Emirates in 2019?

```
SELECT P.Nationality, COUNT(*) AS number_of_passengers  
FROM `transactions` T  
JOIN `passengers` P ON P.Passenger_ID = T.Passenger_ID  
JOIN `flight_schedule` F ON F.Flight_ID = T.Flight_ID  
WHERE F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30'  
GROUP BY P.Nationality  
ORDER BY number_of_passengers DESC  
LIMIT 3;
```

Ans:

Nationality	number_of_passengers
China	9
Indonesia	9
France	6

Q9) What is the most popular destination for youth passengers less than 19 years old in 2019? And how many passengers traveled there?

```
SELECT R.Destination_Airport AS Destination, COUNT(*) AS Number_of_passengers
FROM transactions T
JOIN passengers P ON P.Passenger_ID = T.Passenger_Id
JOIN flight_schedule F ON F.Flight_ID = T.Flight_Id
JOIN airfare A ON A.Airfare_Id = F.Airfare_ID
JOIN route R ON R.Route_ID = A.Route_Id
WHERE (F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30') AND
(P.Date_Of_Birth >= '2000-12-01')
GROUP BY R.Destination_Airport
ORDER BY Number_of_passengers DESC
LIMIT 1;
```

Ans:

Destination	Number_of_passengers
Dubai International Airport	3

Q10) For the most expensive flight of 2019? What was the total cost, departure airport and destination airport? How many passengers were on board?

```

SELECT F.Flight_Date, SUM(T.Amount) AS total_flight_cost,
COUNT(P.Passenger_ID) AS Number_of_passengers, R.Departure_Airport,
R.Destination_Airport
FROM transactions T
JOIN flight_schedule F ON F.Flight_ID = T.Flight_Id
JOIN passengers P ON P.Passenger_ID = T.Passenger_ID
JOIN airfare A ON A.Airfare_Id = F.Airfare_ID
JOIN route R ON R.Route_ID = A.Route_Id
WHERE (F.Flight_Date BETWEEN '2019-01-01' AND '2019-11-30')
GROUP BY T.Flight_Id
ORDER BY total_flight_cost DESC
LIMIT 1;

```

Ans:

Flight_Date	total_flight_cost	Number_of_passengers	Departure_Airport	Destination_Airport
2019-06-07	160280	4	Dubai International Airport	Jomo Kenyatta International

Q11) What is the highest and lowest transaction made is 2019?

Query:

```

SELECT MAX(Amount) AS Max_Transaction, MIN(Amount) AS Min_Transaction
FROM transactions
WHERE Booking_Date >= '2019-01-01';

```

Ans:

Max_Transaction	Min_Transaction
74230	1508

Q12) Which employ made the highest transactions in 2019?

Query:

```
SELECT MAX(transactions.Amount), AS 'Maximum Amount',
employee.Employee_Name
FROM transactions
INNER JOIN employee
ON transactions.Employee_Id = employee.Employee_ID;
```

Ans:

Maximum Amount	Employee_Name
74501	Ailene Jarrel