FINAL PROJECT REPORT
CSC 4710/6710 DATABASE SYSTEMS
Project: Ticket Reservation System
Semester: SPRING 2023
TEAM NUMBER: 18

Members: Aninda Ahsan, Omar Madjitov, Joshua Pauldin

PHASE 1:

Database for Airlines Ticket Reservation System

Project Description:

Database for Airlines Ticket Reservation System

We will be designing a central Database that will be used by Multiple Airline Companies from different countries, to manage their air ticket bookings by their respective Travel Agencies located in different locations, Airlines will be utilizing the airports.

Every Airport is going to have a unique airport ID, Airport Name, and Airport Address(Street Name, City, ZipCode, Country). Airports are going to be used by Airplanes owned by Airlines. Airports Can be used by Multiple Airplanes at the same time. Every Airport may be used by many Airplanes.

Every Airline Company will have a unique Airline Code, Airline Company Name, Country of Origination. Airlines Own Airplanes which utilize airports to operate.
Every Airline Company may own Multiple Airplanes. Every Airline Has To own at least one airplane.

Every Airplane is going to have a Unique PlaneId, Model, Total number of Passenger Seats. Airplanes will be used for Flights.
Every Airplane can only perform one Flight at a time. Every Airplane is going to follow a certain Route to reach their Destination. Multiple airplanes can use the same Route. Multiple airplanes can use one airport. Every Plane can only use one airport at a time.

Every Route is going to have a Unique route Id. (is related Airport of departure (fk), Airport of arrival(fk)

Every Seat is going to have a unique Seat Id, every seat can only be provided to one passenger.

Every Flight will have a unique Flight Number, Date of Departure, Time of Departure, Date of Arrival, Time of Arrival, Number of Seats Available on a certain Plane. The information about Flights will be used by Travel Agencies to create Reservations.
Every Flight Can Have as many reservations as there are Seats Available.

Every Travel Agency is going to be able to use a Ticket reservation System after they register with it. After the registration has been approved by the Travel agency, it is going to be given a unique Account number, Name, Phone number(that consists of a Country Code, Area Code, and Number), Location, and date of Registration going to be Stored in a System. These

agencies are going to use the Flight Information to create Reservations, and Tickets for their Customers.
Every Travel Agency Can Create Multiple reservations For Multiple Customers.

Travel Agencies are also going to have authorized Employees. Every employee is going to be granted a Unique Employee Number, and a password that is going to be used to access the reservation System. The Database is also going to store the SSN, Name, DOB, Phone Number, Email, and Physical Address, Job Title.

Every Reservation is Going to have a unique Reservation ID, which relates to a flight [Flight ID(fk)]. Airline Company Name (fk), Airplane Model, Date of Departure, Time of Departure, Date of Arrival, Time of Arrival, Airport of Departure(AirportID fk), Airport of arrival(AirportID fk), Seat Number(fk), Passenger's Fname, Passenger's Init, Passenger's Lname, Dependants' Full Name and DOB, and a Employee name as well as Emploee's Unique Employee Number that has made a reservation(fk) will be displayed on a reservation form. Reservations are going to have a certain Price. Passenger's Email will be used to identify a customer. Customers are going to have to process the initial deposit in order to lock in a reservation. The Amount of a deposit that has already been made and a remaining Balance Due, as well as Number of Seats Reserved will be recorded. After the Passenger Process the full amount due for a Reservation they will receive The Reservation Confirmation. One Reservation Can only have one Primary Customer.
Every Customer may have many Dependants in their Reservation.

In case a Person wants to Book a flight, they will need to refer to their local travel Agency, to book a Reservation. The Customers then will need to provide their First Name, Middle Initial, Last Name, Phone Number(that consists of a Country Code, Area Code, and Number), valid email, DOB, Billing Address, and Number Of seats reserved. If a Customer has any Dependents they must provide the Dependents' First Name, Middle Name, Last Name,Date of Birth, and Relation to a Customer.
Every Customer can request service from multiple Travel Agencies as long as the travel agency is registered with a Ticket Reservation System. One Customer may have multiple Dependents.

Project Description (Section 1)

The designed database is a central system that manages air ticket bookings for multiple airline companies and travel agencies in different locations. The database stores information about airports, airlines, airplanes, flights, routes, reservations, passengers, travel agencies, and employees.

The motivation for selecting this project topic is to streamline the booking process for airline companies and travel agencies by providing a central database for managing flight information, reservations, and ticketing as well as reducing errors, and improving customer experience. This database can be used by airline companies, travel agencies, and customers to book flights, manage reservations, and process payments.

Important aspects of the database design include the use of foreign keys to establish relationships between tables, such as airport ID and airplane ID. The database also includes unique identifiers for every entity, such as airport ID, airline code, and employee number. Additionally, the database includes a reservation system that tracks the status of each reservation and payment information, as well as the ability to manage dependent passengers. Finally, the database includes user authentication and authorization systems to ensure the security and privacy of data.

Member Tasks:

Omar Madjitov: Organize the meeting for all the team members, Help to peer review and finalize the Description.

Aninda Ahsan: Prepare multiple drafts of a project description

Joshua Pauldin: Help to peer review and finalize the Description.

Database Requirement Analysis (Section 2):

CONSTRAINTS:

1. Unique identifiers: Every table has a unique identifier which is required to identify and differentiate each record uniquely. These include Airport ID, Airline Code, PlaneID, Route ID, Seat ID, Flight Number, Reservation ID, Employee Number, and Account Number.
2. Participation Constraints: There are some mandatory relationships. Below are some key Participation Constraints:
    - Every reservation must have a flight ID.
    - Every flight must have a departure airport and an arrival airport.
    - Every Airplane has to follow a route.
    - Every Airplane has to have seats.
    - Every Airline must Own an Airplane
    - Every Airplane in the System has to be owned by an Airline Company
    - Every Flight has to have an Airplane that performs it
    - Every Reservation has to have a Travel Agency that has created it.
    - Every Travel Agency in the system has to have Employees that work for the Agency.
    - Every Employee in the System has to work for an Agency.
    - Every Dependent must be associated with a customer on whose name the Reservation has been created for.
3. Cardinality: The relationships between tables have different cardinalities, such as one-to-one, one-to-many, and many-to-many. Below are some key Cardinality Constraints:
    - Airports Can be used by Multiple Airplanes.
    - Every Airline Company may own Multiple Airplanes.
    - Every Airplane can only perform one Flight at a time.
    - Every Airplane is going to follow a certain Route to reach their Destination.
    - Multiple airplanes can follow the same Route.

- Multiple airplanes can use one airport.
- Every seat can only be provided to one passenger.
- Every Flight Can Have as many reservations as there are Seats Available.
- Every Employee can only work for 1 travel Agency
- Every Customer may have many Dependants in their Reservation.

Functional Requirements:

Data Storage and Retrieval:

- Travel Agency will be able to store their employee and customer information, including their dependents.
- Flight information will be stored in the database and upon query, employees can retrieve them.
- Employees will also be able to insert customer reservations.

Data Insertion:

- Various Flight Information from various Airports will be inserted and updated in the Database.
- Travel Agency Employees will be able to enter their Customer information, their dependents' information as well as their own Employee information.
- The System must be able to handle the Reservation Creation, using the Flight and Customer information.

Data Manipulation:

- System must handle Employees' requests to filter and sort flight information by their price, duration and/or Airline companies.

Data Integrity:

- The Database System will have appropriate triggers put in place to ensure Data Integrity.

Data Security:

- Access to the System will be restricted to Agency employees through authentication by username and password.
- Unique Employee ID will be used, instead of Social Security Number to distinguish employees.

Data Validation: Certain fields require validation:

- Phone number has to consist of a country code, area code, and number.
- Address has to consist of a Street Name, City, Zip Code, and a Country.

Data Backup and Recovery:

- The Database System has to have a backup mechanism to ensure no data is lost to system failures.

Reporting and Analysis:

- Analysis of Flight information will ensure that agency employees are able to make the most economic reservations for the customers.
- Customer information will be used to categorize frequent flyers, so that the most effective promotional offers can be generated.

Performance and Scalability:

- The system must be large enough to be able to store hundreds of thousands of Flight, Customer, Reservation and Employee information using Cloud Storage.

Integration:

- The Database has to integrate with a middleware software that will connect the Database to its Website. Travel Agencies must be able to access that website to make the Ticket reservations.

Business rules:

- Customers have to process the initial deposit in order to lock in a reservation.

Member Tasks:

Omar Madjitov: Prepare 15 Constraints and 3 functional Requirements, organized an online meeting, participate in the process of Requirements and Constraint Editing

Aninda Ahsan: Prepare 5 Constraints and 10 Functional Requirements, participate in the process of Requirements and Constraint Editing

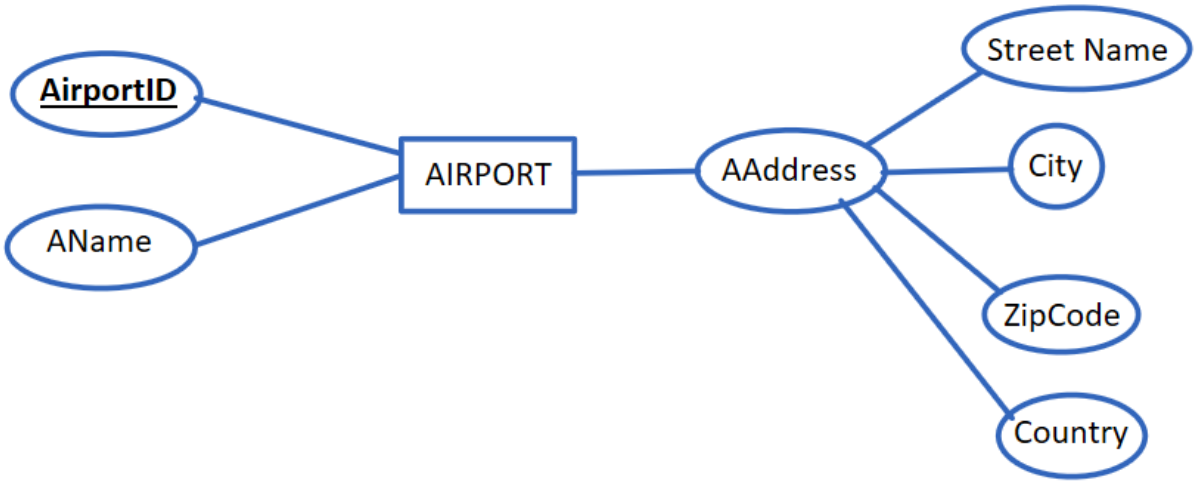
Joshua Pauldin: Prepare 10 Constraints and 4 functional Requirements, participate in the process of Requirements and Constraint Editing

ER Model (Section 3)

Entities:

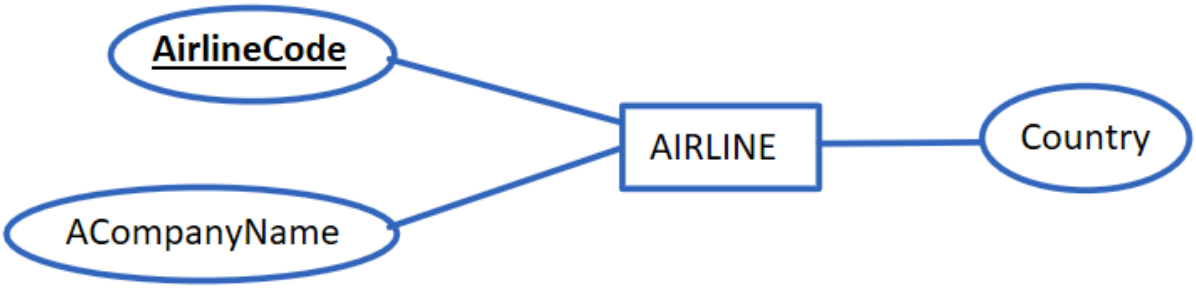
AIRPORT:

Every Airport is going to have a unique airport ID, Airport Name, and Airport Address(Street Name, City, ZipCode, Country). Airports are going to be used by Airplanes owned by Airlines.



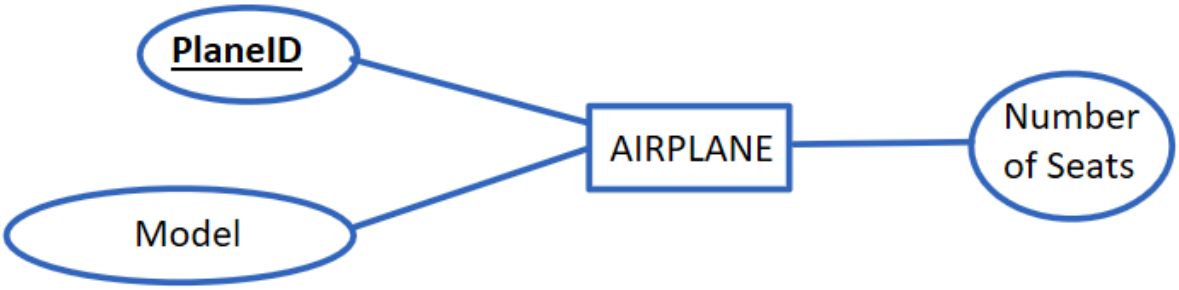
AIRLINE:

Every Airline Company will have a unique Airline Code, Airline Company Name, Country of Origination. Airlines *Own* Airplanes which utilize airports to operate.



AIRPLANE:

Every Airplane is going to have a Unique PlaneId, Model, Total number of Passenger Seats. Airplanes will be used for Flights.Every Airplane can only *perform* one Flight at a time. Every Airplane is going to *follow* a certain Route to reach their Destination.

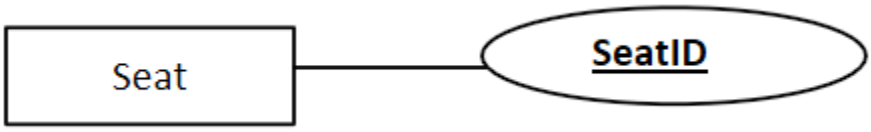


ROUTE:

Every Route is going to have a Unique route Id.

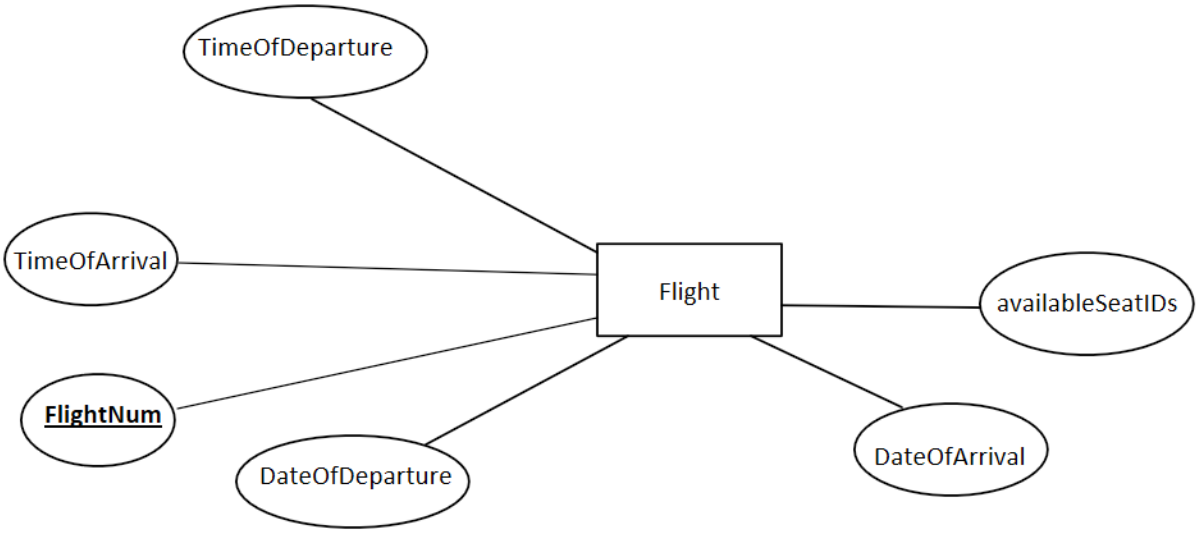
SEAT:

Every Seat is going to have a unique Seat Id.



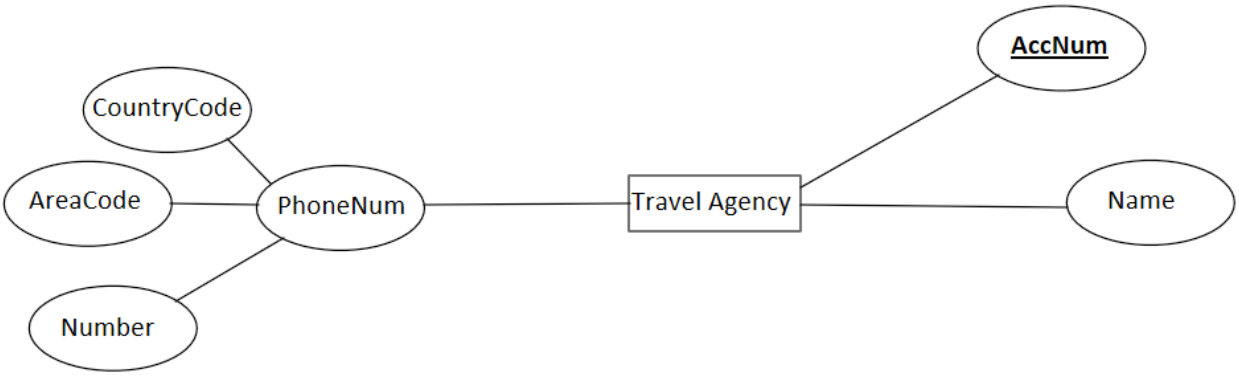
FLIGHT:

Every Flight will have a unique Flight Number, Date of Departure, Time of Departure, Date of Arrival, Time of Arrival, Number of Seats Available on a certain Plane. The information about Flights will be used by Travel Agencies to create Reservations.



TRAVEL AGENCY:

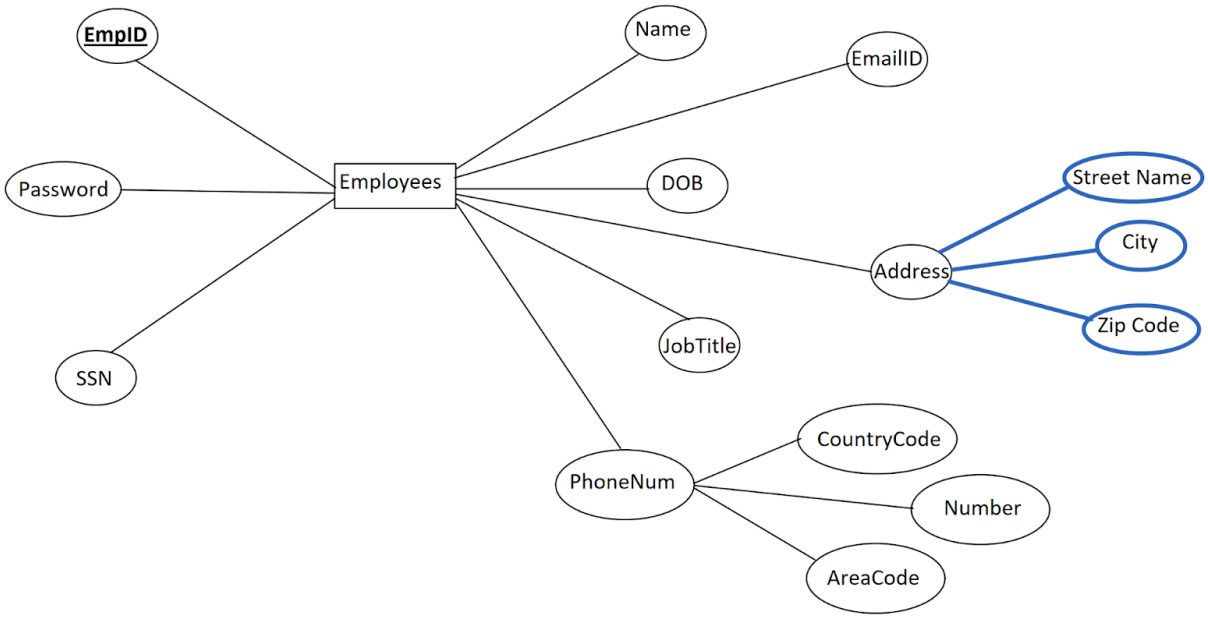
Every Travel Agency is going to be able to use a Ticket reservation System after they register with it. After the registration has been approved by the Travel agency, it is going to be given a unique Account number. Companies are going to have Name, Phone number(that consists of a Country Code, Area Code, and Number), and Location are going to be Stored in a System. These agencies are going to use the Flight Information to create Reservations, and Tickets for their Customers.



EMPLOYEES:

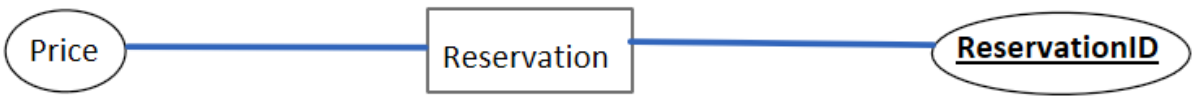
Travel Agencies are also going to have authorized Employees. Every employee is going to be granted a Unique Employee Number(Username), and a password that is going to

be used to access the reservation System. The Database is also going to store the SSN, Name, DOB, Phone Number, Email, and Physical Address, Job Title.

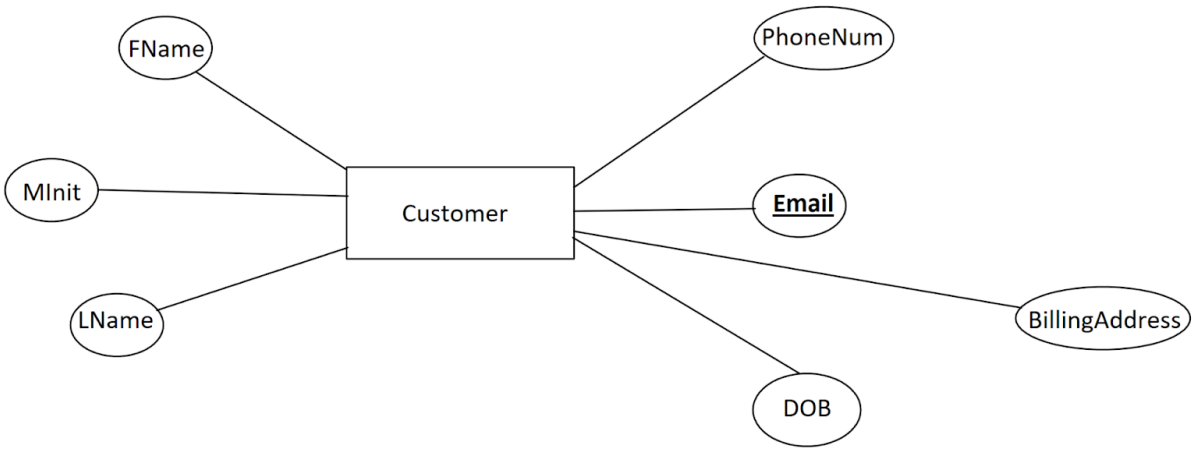


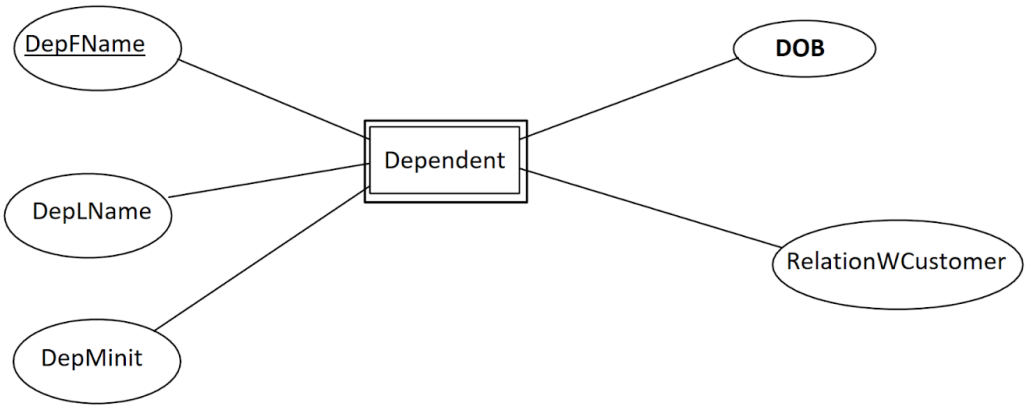
RESERVATION:

Every Reservation is Going to have a unique Reservation ID, which relates to a Flight. Airline Company Name (fk), Airplane Model, Date of Departure, Time of Departure, Date of Arrival, Time of Arrival, Airport of Departure(AirportID fk), Airport of arrival(AirportID fk), Seat Number(fk), Passenger's Fname, Passenger's Init, Passenger's Lname, Dependants' Full Name and DOB, and a Employee name as well as Emploee's Unique Employee Number that has made a reservation(fk) will be displayed on a reservation form. Reservations are going to have a certain Price. Passenger's Email will be used to identify a customer. Customers are going to have to process the initial deposit in order to lock in a reservation. The Amount of a deposit that has already been made and a remaining Balance Due, as well as Number of Seats Reserved will be recorded. After the Passenger Process the full amount due for a Reservation they will receive The Reservation Confirmation.

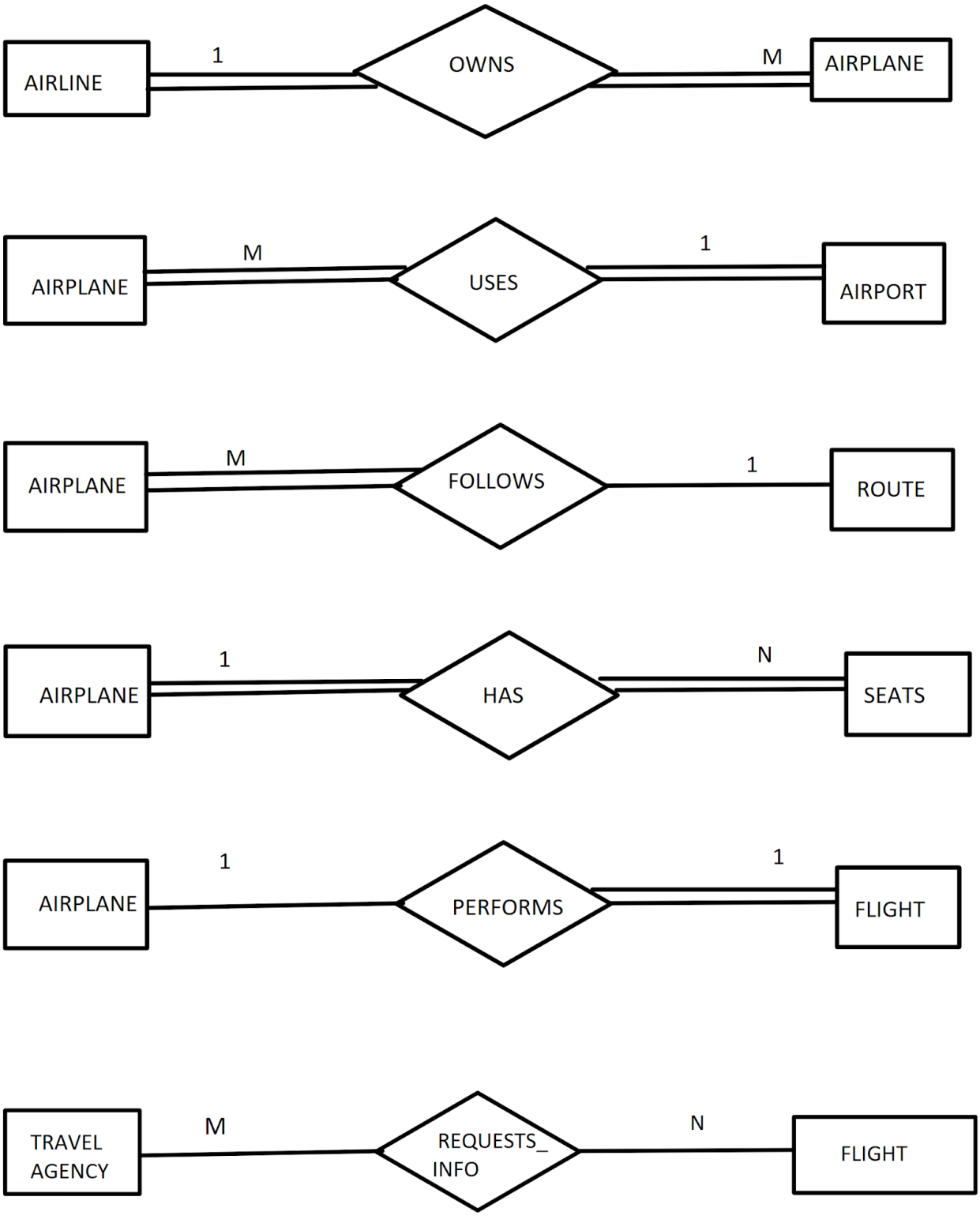


In case a Person wants to Book a flight, they will need to refer to their local travel Agency, to book a Reservation. The Customers then will need to provide their First Name, Middle Initial, Last Name, Phone Number(that consists of a Country Code, Area Code, and Number), valid email, DOB, Billing Address, and Number Of seats reserved. If a Customer has any Dependents they must provide the Dependents' First Name, First Name, First Name,Date of Birth, and Relation to a Customer.





Relationships:


AIRLINE
1
OWNS
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AIRPLANE
AIRPLANE
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USES
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AIRPORT
AIRPLANE
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FOLLOWS
1
ROUTE
AIRPLANE
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SEATS
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PERFORMS
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FLIGHT
TRAVEL AGENCY
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REQUESTS_ INFO
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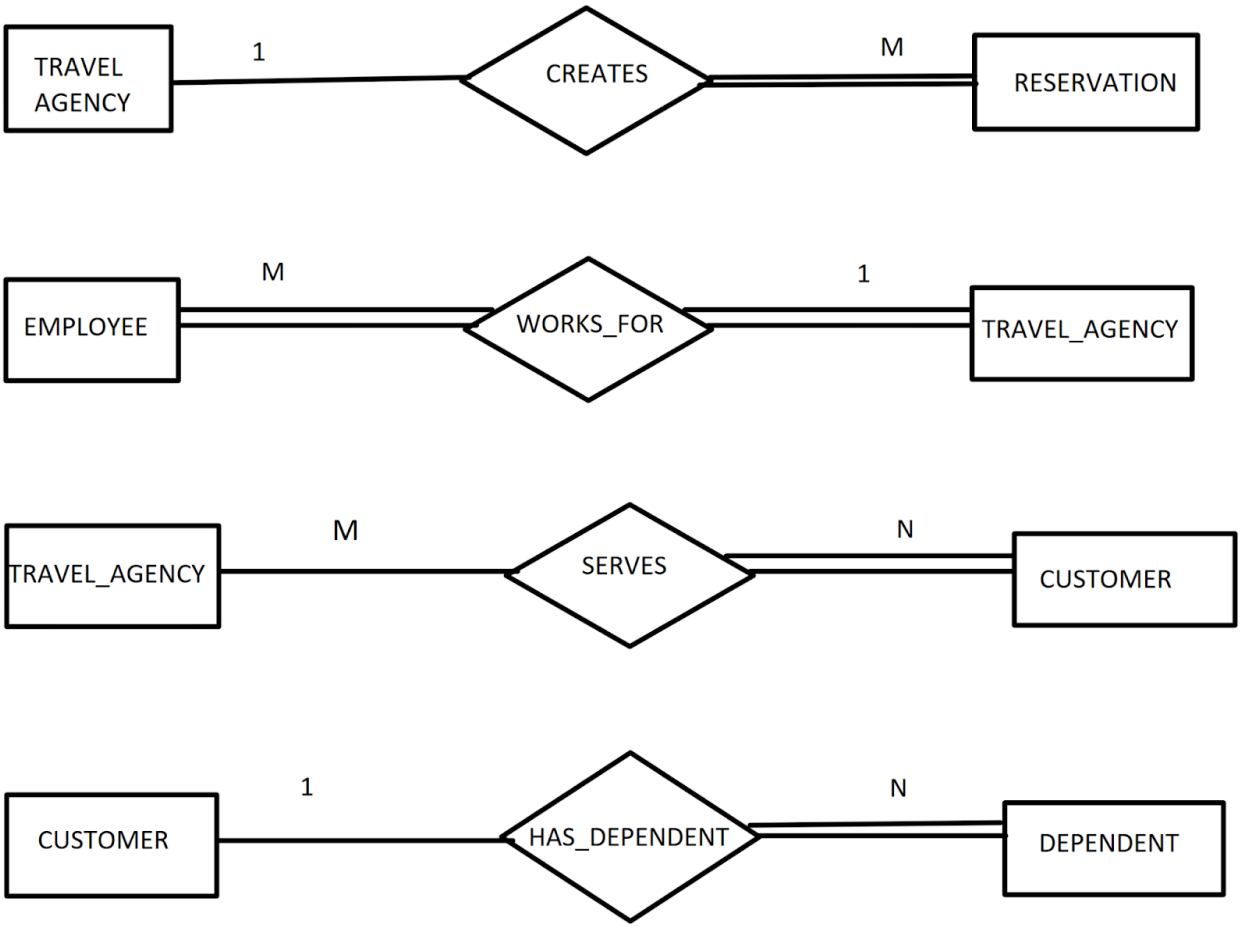
FLIGHT



Data Dictionary (Section 4)

Airline

airlineCode varchar(10) PRIMARY KEY,
companyName varchar(30) NOT NULL,
country varchar(2)

Airplane

planeID varchar(3) PRIMARY KEY,
model varchar(10) NOT NULL,
numberOfSeats int NOT NULL,
airlineCode varchar(10),
references Airline (airlineCode)

Route

routeID varchar(7) primary key (/* (ATL-NYC) - First 3 letters of origin and destination cities */),
distance int

Airport
airportID varchar(3) PRIMARY KEY,
airportName varchar(30) NOT NULL,
streetName varchar(20) NOT NULL,
city varchar(10) NOT NULL,
zip varchar(5) NOT NULL,
country varchar(10) NOT NULL

Flight
flightNumber varchar(5) PRIMARY KEY,
price double,
timeOfArrival time,
dateOfArrival date,
timeOfDeparture time,
dateOfDeparture date,
availableSeats int, planeID varchar(3) references Airplane (planeID), routeID varchar(7) references Airline (routeID)

TravelAgency
accountNumber varchar(5) PRIMARY KEY,
name varchar(20),
countryCode int,
areaCode int,
phoneNumber int

Employee
employeeID varchar(4) PRIMARY KEY,
passcode varchar(7) NOT NULL,
SSN varchar(9) unique,
countryCode int,
areaCode int,
phoneNumber int,
name varchar(20),
email varchar(30),
DOB date,
streetName varchar(10),
city varchar(10),
zipCode varchar(5),
jobTitle varchar(10),
accountNum varchar(5) references TravelAgency (accountNumber)

Reservation
reservationID varchar(5) PRIMARY KEY,
balance double,
price double,
deposit double,
seatsBooked int,
accountNum varchar(5) references TravelAgency (accountNumber),
customerEmail varchar(20) REFERENCES Customer(emailID)

Customer
emailID varchar(20) PRIMARY KEY,
firstName varchar(20),
middleInitial varchar(20),
lastName varchar(20),
phoneNumber varchar(10),
billingAddress varchar(10),
DOB date

Dependent
firstName varchar(20) PRIMARY KEY,
middleInitial varchar(20),
lastName varchar(20),
DOB date,
relationWCustomer varchar(10),
email varchar(30) references Customer (emailID)

RequestInfo
flightNum varchar(10),
accNum varchar(5) primary key

Serves
email varchar(30),
accNum varchar(5) primary key

Implementation (Section 5)

/* The system can handle insertion of any flight information */
INSERT INTO Flight VALUES ('F540', 550.00, '11:10:00', '2023-07-01', '11:00:00', '2023-08-01', 300, 'A01', 'DAL-ATL');

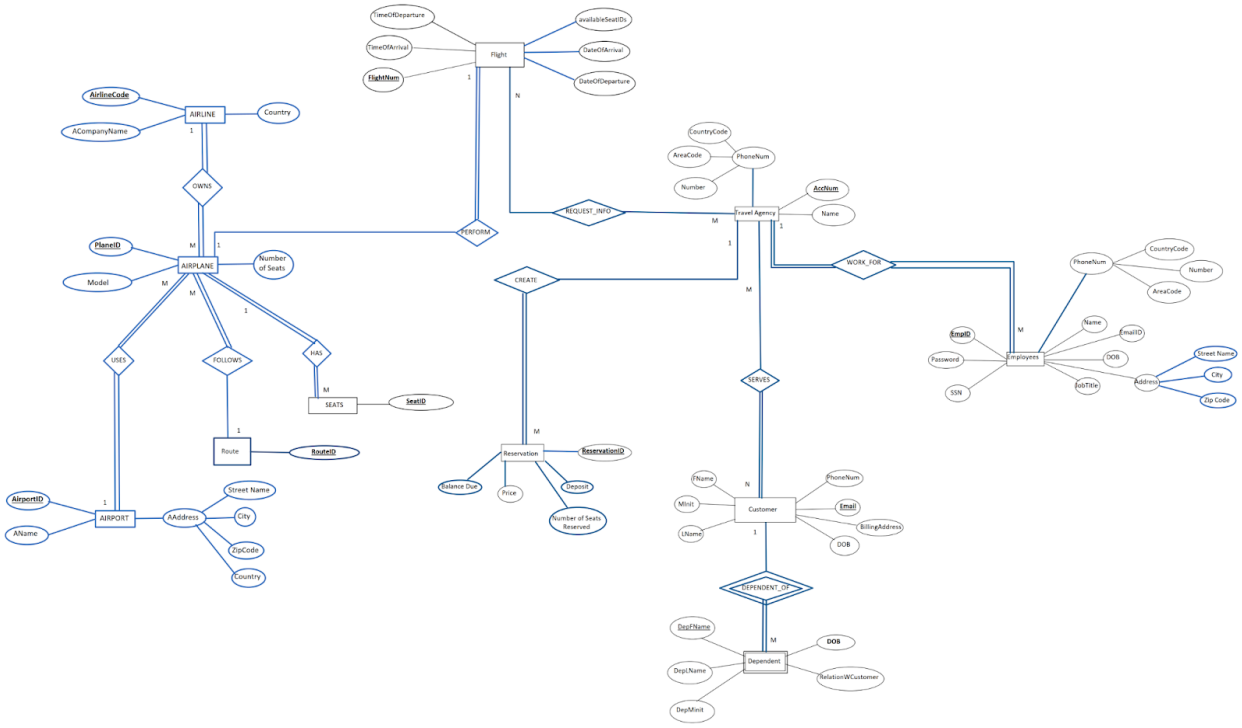
```
/* The system can handle insertion of any customer information */
INSERT INTO CUSTOMER VALUES ("DBC@YAHOO.COM","NATE","M","DIAZ","874950","28
N ST","1990-08-08");


/* The system can handle insertion of any dependent of customer information */
INSERT INTO DEPENDENT VALUES
("ANINDA","C","LACE","1958-03-03","MOTHER","ACA@GMAIL.COM");


/* The system can handle insertion of any employee of a travel agency information */
INSERT INTO EMPLOYEE VALUES
("1071","2458","258741258","01","88","123654","Joshua","jp@gmail.com","1058-9-21","2ndstre
et","NYC","30055","manager","TA111");


/* The system can handle insertion of any reservation made */
INSERT INTO RESERVATION VALUES ('RES72', 200.00, 800.00, 600.00, 3,
'ACC04',"BCD@GMAIL.COM");


/* getting date of flight numbers of flights that have a specific price*/
SELECT f.flightNumber FROM FLIGHT f WHERE price < 400;


/* getting date of arrival of flights that fly out of a specific airport */
SELECT f.dateOfDeparture FROM FLIGHT f WHERE f.routeID LIKE "%NYC%";


/* acquiring flight number of flights that fly a specific route */
SELECT f.flightNumber from flight f where f.routeID = "HOU-ATL";


/* acquiring deposit amount from the reservation table of a specific customer */
select r.deposit from reservation r where r.customerEmail = "johndoe@example.com";


/* select first and last name of customer who made reservations */
select firstName, lastName from reservation r, customer c where r.customerEmail = c.emailID;
```

Summary (Section 6)

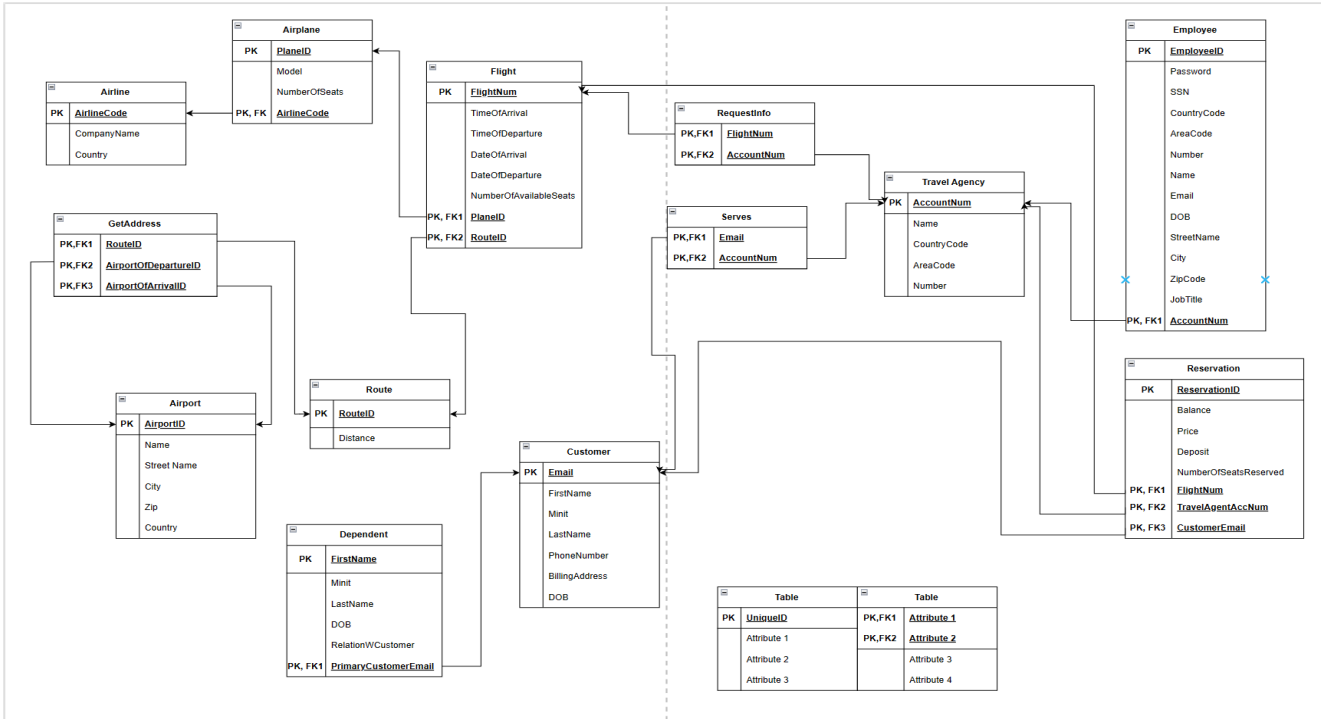
The system was designed to be used by travel agencies located in different countries to book tickets for their clients. The airlines will be utilizing different airports for their flights. The project's contributions include the development of a centralized reservation system that allows multiple airline companies to manage their bookings efficiently. The system will also provide travel agencies with a single platform to search and book flights from different airlines, making it easier for them to provide better service to their clients. Our team has learned a lot about creating a highly functional and efficient database. We stayed focused and objective throughout the development process, carefully selecting key features and removing non-essential components. The hardest part was making sure our data was concise and not redundant during the normalization process.

APPENDIX:

ER MODEL



RELATIONAL SCHEMA



SQL CODE

FOR SQL WE USED MICROSOFT SQL WORKBENCH 8.0 CE

CREATION.SQL

```
create database FlightReservation;
use FlightReservation;

create table Airline (
   airlineCode varchar(10) PRIMARY KEY,
   companyName varchar(30) NOT NULL,
   country varchar(2)
) ;

create table Airplane (
   planeID varchar(3) PRIMARY KEY,
   model varchar(10) NOT NULL,
   numberOfSeats int NOT NULL,
   airlineCode varchar(10) references Airline (airlineCode)
) ;

create table Route (
   routeID varchar(7) primary key,  /* ATL-NYC */
   distance int
);
```

```
create table Airport (
   airportID varchar(3) PRIMARY KEY,
   airportName varchar(30) NOT NULL,
   streetName varchar(20) NOT NULL,
   city varchar(10) NOT NULL,
   zip varchar(5) NOT NULL,
   country varchar(10) NOT NULL
) ;

create table Flight (
    flightNumber varchar(5) PRIMARY KEY,
   price double,
   timeOfArrival time,
   dateOfArrival date,
   timeOfDeparture time,
   dateOfDeparture date,
   availableSeats int,
   planeID varchar(3) references Airplane (planeID),
   routeID varchar(7) references Airline (routeID)
) ;

create table TravelAgency (
   accountNumber varchar(5) PRIMARY KEY,
   name varchar(20),
   countryCode int,
   areaCode int,
   phoneNumber int
) ;
```

```
create table Employee (
   employeeID varchar(4) PRIMARY KEY,
   passcode varchar(7) NOT NULL,
   SSN varchar(9) unique,
   countryCode int,
   areaCode int,
   phoneNumber int,
   name varchar(20),
   email varchar(30),
   DOB date,
   streetName varchar(10),
   city varchar(10),
   zipCode varchar(5),
   jobTitle varchar(10),
   accountNum varchar(5) references TravelAgency (accountNumber)
) ;

 create table Reservation (
   reservationID varchar(5) PRIMARY KEY,
   balance double,
   price double,
   deposit double,
   seatsBooked int,
   accountNum varchar(5) references TravelAgency (accountNumber),
   customerEmail varchar(30) REFERENCES Customer(emailID)
) ;
```

```
create table Customer (
   emailID varchar(30) PRIMARY KEY,
   firstName varchar(20),
   middleInitial varchar(20),
   lastName varchar(20),
   phoneNumber varchar(10),
   billingAddress varchar(10),
   DOB date
);

create table Dependent (
   firstName varchar(20) PRIMARY KEY,
   middleInitial varchar(20),
   lastName varchar(20),
   DOB date,
   relationWCustomer varchar(10),
   email varchar(30) references Customer (emailID)
) ;

create table RequestInfo (
        flightNum varchar(10), accNum varchar(5) primary key
);

create table Serves (
        email varchar(30), accNum varchar(5) primary key
);
ALTER TABLE Reservation
ADD customerEmail varchar(30) REFERENCES Customer(emailID);
```

INSERT.SQL

```
use flightreservation;
INSERT INTO Airline (airlineCode, companyName, country)
VALUES
   ('AA', 'American Airlines', 'US'),
   ('UA', 'United Airlines', 'US'),
   ('DL', 'Delta Air Lines', 'US'),
   ('BA', 'British Airways', 'UK'),
   ('LH', 'Lufthansa', 'DE'),
   ('AF', 'Air France', 'FR'),
   ('EK', 'Emirates', 'AE'),
   ('TK', 'Turkish Airlines', 'TR'),
   ('NH', 'All Nippon Airways', 'JP'),
   ('QF', 'Qantas', 'AU');

INSERT INTO Airplane (planeID, model, numberOfSeats, airlineCode)
VALUES ('A01', 'Boeing 737', 150, 'AL001'),
      ('A02', 'Airbus A320', 180, 'AL002'),
      ('A03', 'Boeing 747', 416, 'AL003'),
      ('A04', 'Airbus A380', 853, 'AL001'),
      ('A05', 'Boeing 777', 396, 'AL002'),
      ('A06', 'Airbus A330', 440, 'AL004'),
      ('A07', 'Boeing 787', 335, 'AL003'),
      ('A08', 'Airbus A350', 440, 'AL004'),
      ('A09', 'Boeing 767', 375, 'AL002'),
      ('A10', 'Airbus A319', 156, 'AL001');
```

```
INSERT INTO Airport (airportID, airportName, streetName, city, zip, country)
VALUES
  ('AAA', 'Airport A', 'Street A', 'City A', '11111', 'Country A'),
  ('BBB', 'Airport B', 'Street B', 'City B', '22222', 'Country B'),
  ('CCC', 'Airport C', 'Street C', 'City C', '33333', 'Country C'),
  ('DDD', 'Airport D', 'Street D', 'City D', '44444', 'Country D'),
  ('EEE', 'Airport E', 'Street E', 'City E', '55555', 'Country E'),
  ('FFF', 'Airport F', 'Street F', 'City F', '66666', 'Country F'),
  ('GGG', 'Airport G', 'Street G', 'City G', '77777', 'Country G'),
  ('HHH', 'Airport H', 'Street H', 'City H', '88888', 'Country H'),
  ('III', 'Airport I', 'Street I', 'City I', '99999', 'Country I'),
  ('JJJ', 'Airport J', 'Street J', 'City J', '00000', 'Country J');

INSERT INTO Customer (emailID, firstName, middleInitial, lastName, phoneNumber, billingAddress, DOB)
VALUES
 ('jdoe@example.com', 'John', 'D', 'Doe', '555-1234', '123 Main St', '1980-01-01'),
 ('susanm@example.com', 'Susan', NULL, 'Miller', '555-5678', '456 Elm St', '1985-05-05'),
 ('rsmith@example.com', 'Robert', 'C', 'Smith', '555-9012', '789 Oak St', '1990-10-10'),
 ('jlee@example.com', 'Jennifer', 'S', 'Lee', '555-3456', '321 Pine St', '1975-03-03'),
 ('mjohnson@example.com', 'Michael', 'A', 'Johnson', '555-7890', '987 Birch St', '1982-02-02'),
 ('dbrown@example.com', 'David', 'E', 'Brown', '555-2345', '654 Cedar St', '1988-08-08'),
 ('elopez@example.com', 'Emma', NULL, 'Lopez', '555-6789', '321 Maple St', '1995-01-15'),
 ('bchan@example.com', 'Brian', 'T', 'Chan', '555-0123', '876 Walnut St', '1987-07-07'),
 ('jwang@example.com', 'Jessica', 'L', 'Wang', '555-4567', '543 Oakwood St', '1989-09-09'),
 ('jchen@example.com', 'Jason', NULL, 'Chen', '555-8901', '234 Pineapple St', '1984-04-04');
```

insert into dependent values

("rakim","b.","karim","1478-6-24","son","abc@gmail.com"),

("rahim","c.","barim","1428-7-15","daughter","nbcc@gmail.com"),

("farim","d.","labik","1728-7-15","nephew","xbc@gmail.com");

insert into employee values

("1234","2587","125748","00","88","258741","Abu","abc@gmail.com","1258-9-21","12street","atl","30044","accnt","12345"),

("1235","1587","125648","01","78","248741","ibu","bbc@gmail.com","1358-9-21","17street","ctl","00044","lawyer","22345"),

("2234","3587","125848","10","98","278741","bibu","nbc@gmail.com","1858-4-11","20street","col","20044","admin","52345");

INSERT INTO Flight (flightNumber, price, timeOfArrival, dateOfArrival, timeOfDeparture, dateOfDeparture, availableSeats, planeID, routeID)

VALUES ('F001', 150.00, '12:30:00', '2023-05-01', '10:00:00', '2023-05-01', 200, 'A01', 'ATL-NYC'),

('F002', 200.00, '16:15:00', '2023-05-01', '13:45:00', '2023-05-01', 250, 'A02', 'LAS-COL'),

('F003', 300.00, '20:30:00', '2023-05-01', '17:00:00', '2023-05-01', 300, 'A03', 'ATL-LOS'),

('F004', 250.00, '09:45:00', '2023-05-02', '07:15:00', '2023-05-02', 175, 'A04', 'LOS-ATL'),

('F005', 175.00, '14:00:00', '2023-05-02', '11:30:00', '2023-05-02', 100, 'A05', 'NYC-CHI'),

('F006', 225.00, '18:45:00', '2023-05-02', '15:15:00', '2023-05-02', 150, 'A06', 'CHI-HOU'),

('F007', 275.00, '10:30:00', '2023-05-03', '08:00:00', '2023-05-03', 225, 'A07', 'HOU-ATL'),

('F008', 190.00, '15:15:00', '2023-05-03', '12:45:00', '2023-05-03', 175, 'A08', 'ATL-HOU'),

('F009', 350.00, '19:45:00', '2023-05-03', '16:15:00', '2023-05-03', 300, 'A09', 'NYC-HOU'),

('F010', 225.00, '11:00:00', '2023-05-04', '08:30:00', '2023-05-04', 150, 'A10', 'DAL-ATL');

```
INSERT INTO RequestInfo VALUES
('FL001', 'ACC01'),
('FL002', 'ACC02'),
('FL003', 'ACC03');

INSERT INTO Reservation (reservationID, balance, price, deposit, seatsBooked, accountNum)
VALUES ('RES01', 150.00, 300.00, 75.00, 2, 'ACC01'),
    ('RES02', 200.00, 350.00, 100.00, 3, 'ACC02'),
    ('RES03', 100.00, 200.00, 50.00, 1, 'ACC03');

INSERT INTO Route (routeID, distance) VALUES
("ATL-NYC",1000),
("LAS-COL",2000),
("ATL-LOS",3000),
("LOS-ATL",11000),
("NYC-CHI",4000),
("CHI-HOU",5000),
("HOU-ATL",6000),
("ATL-HOU",7000),
("NYC-HOU",8000),
("DAL-ATL",9000);

INSERT INTO TravelAgency (accountNumber, name, countryCode, areaCode, phoneNumber)
VALUES ('ACC01', 'Agency One', 1, 123, 4567890),
    ('ACC02', 'Agency Two', 1, 234, 5678901),
    ('ACC03', 'Agency Three', 1, 345, 6789012);
```

```
INSERT INTO Customer (emailID, firstName, middleInitial, lastName, phoneNumber, billingAddress, DOB)
VALUES
 ('jdoe@example.com', 'John', 'D', 'Doe', '555-1234', '123 M St', '1980-01-01'),
 ('susanm@example.com', 'Susan', NULL, 'Miller', '555-5678', '456 El St', '1985-05-05'),
 ('rsmith@example.com', 'Robert', 'C', 'Smith', '555-9012', '789 Oa St', '1990-10-10'),
 ('jlee@example.com', 'Jennifer', 'S', 'Lee', '555-3456', '321 Pin St', '1975-03-03'),
 ('mjohnson@example.com', 'Michael', 'A', 'Johnson', '555-7890', '987 Bir St', '1982-02-02'),
 ('dbrown@example.com', 'David', 'E', 'Brown', '555-2345', '654 Ce St', '1988-08-08'),
 ('elopez@example.com', 'Emma', NULL, 'Lopez', '555-6789', '321 M St', '1995-01-15'),
 ('bchan@example.com', 'Brian', 'T', 'Chan', '555-0123', '876 W St', '1987-07-07'),
 ('jwang@example.com', 'Jessica', 'L', 'Wang', '555-4567', '543 O St', '1989-09-09'),
 ('jchen@example.com', 'Jason', NULL, 'Chen', '555-8901', '234 P St', '1984-04-04');

INSERT INTO Reservation (reservationID, balance, price, deposit, seatsBooked, accountNum,
customerEmail)
VALUES
('001', 150.00, 100.00, 50.00, 2, '001', 'johndoe@example.com'),
('002', 250.00, 200.00, 50.00, 3, '002', 'janedoe@example.com'),
('003', 350.00, 300.00, 50.00, 4, '003', 'jack@example.com'),
('004', 450.00, 400.00, 50.00, 5, '004', 'jane@example.com'),
('005', 550.00, 500.00, 50.00, 6, '005', 'john@example.com'),
('006', 650.00, 600.00, 50.00, 7, '006', 'janejo@example.com'),
('007', 750.00, 700.00, 50.00, 8, '007', 'jacksp@example.com'),
('008', 850.00, 800.00, 50.00, 9, '008', 'eliza@example.com'),
('009', 950.00, 900.00, 50.00, 10, '009', 'willt@example.com'),
("011", 200.00, 700.00, 500.00, 3, "011", "jchen@example.com"),
('010', 1050.00, 1000.00, 50.00, 1, '010', 'barb@example.com')
```

DEMO VIDEO

YOUTUBE LINK

https://youtu.be/11awexe3-nk

P.S. Incase if the picture above is unclear please use the link to a google drive below to access an ER Diagram:

https://drive.google.com/file/d/1HsuA9yzYjEfMzBgFIHunUMvkC6Jl_7vT/view?usp=share_link

Member Tasks:

Omar Madjitov: Assemble a draft of an ER Model, Organize a group meeting, Participate in Editing Entities and Relationship.

Aninda Ahsan: List Entity Description and Entities and their Attributes based on the Project Description. Participate in editing the Final ER model and Relationships.

Joshua Pauldin: List Relationships, their Cardinalities, and Participation Constraints based on the ER Model. Participate in editing the Final ER model and Entities.