



Department of Computer Engineering
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CS353 Database Systems

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Design Report

Tour Reservation Management System

Group 1

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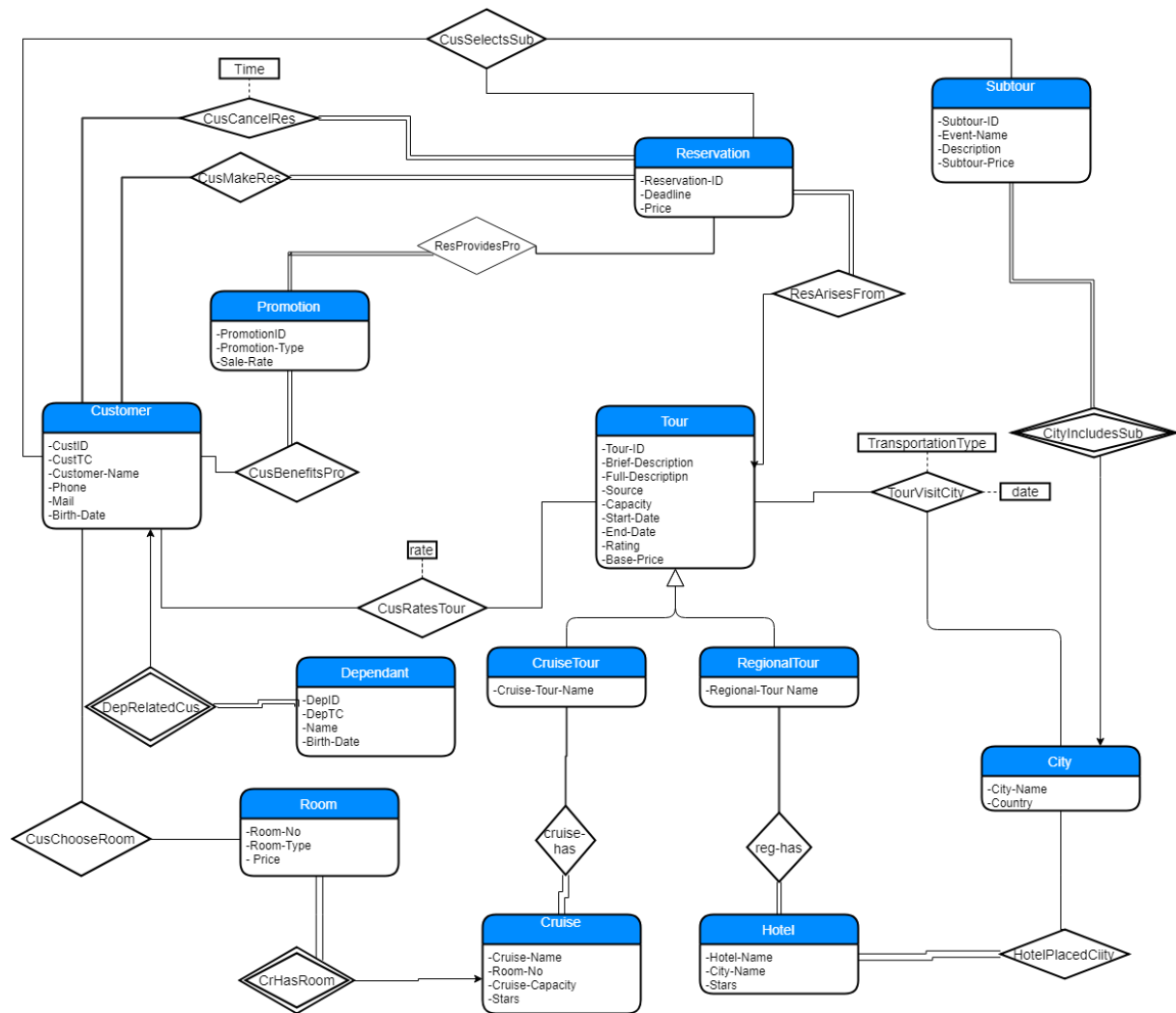
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1. Revised E/R Model



2. Relational Schema

2.1 Customer

Relational Model:

Customer(custID, custTC, customer-name, phone, mail, birth-date)

Functional Dependencies:

custID -> custTC, customer-name, phone, mail, birth-date

Candidate Key: {(custID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Customer(  
    custID          int not null auto-increment  
    custTC          int not null  
    customer-name   varchar(50) not null,  
    phone           long not null unique,  
    mail            varchar(50) not null unique,  
    birth-date      date,  
    PRIMARY KEY(custID)  
)
```

2.2 Reservation

Relational Model:

Reservation (reservationID, deadline, price, tourID)

Functional Dependencies:

reservationID -> deadline, price, tourID

Candidate Key: {(reservationID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Reservation(  
    reservationID      int not null,  
    price              numeric(8,2),  
    deadline           date,  
    tourID             int not null  
    PRIMARY KEY(reservationID)  
    FOREIGN KEY tourID REFERENCES Tour(tourID)  
)
```

2.3 Tour

Relational Model:

Tour(tourID, brief-description, full-description, source, capacity, startDate, endDate, rating, base-price)

Functional Dependencies:

tourID -> source, brief-description, full-description, capacity, startDate, endDate, rating, base-price

Candidate Key: {(tourID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Tour(  
    tourID          int not null auto-increment,  
    brief-description varchar(300) not null,  
    full-description varchar(1200),  
    source           varchar(20) not null,  
    capacity         long not null,  
    startDate        date,  
    endDate          date,  
    rating           numeric(11,9),  
    base-price       numeric(8,2),  
    PRIMARY KEY(tourID)  
)
```

2.4 Regional Tour

Relational Model:

RegionalTour(tourID, regional-tour-name)

Functional Dependencies:

tourID -> regional-tour-name

Candidate Key: {(tourID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```

CREATE TABLE RegionalTour(
    tourID                int not null,
    regional-tour-name    varchar(50) not null,
    PRIMARY KEY(tourID),
    FOREIGN KEY tourID REFERENCES Tour(tourID)
)

```

2.5 Hotel

Relational Model:

Hotel(hotelName, cityName, stars)

Functional Dependencies:

hotelName -> cityName, stars

Candidate Key: {(hotelName)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```

CREATE TABLE Hotel(
    hotelName            varchar(20) not null,
    cityName             varchar(20) not null,
    stars                int(1) not null,
    PRIMARY KEY(hotelName)
)

```

2.6 Reg-Has

Relational Model:

Reg-Has(tourID, hotelName)

Functional Dependencies:

No functional Dependencies

Candidate Key: {(tourID, hotelName)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Reg-Has(  
    hotelName          varchar(20) not null,  
    tourID             int not null,  
    FOREIGN KEY tourID REFERENCES RegionalTour(tourID),  
    FOREIGN KEY hotelName REFERENCES Hotel(hotelName)  
)
```

2.7 Cruise Tour

Relational Model:

CruiseTour(tourID, cruise-tour-name)

Functional Dependencies:

tourID -> cruise-tour-name

Candidate Key: {(tourID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```

CREATE TABLE CruiseTour(
    tourID                int not null,
    regional-tour-name    varchar(50) not null,
    PRIMARY KEY(tourID),
    FOREIGN KEY tourID REFERENCES Tour(tourID)
)

```

2.8 Cruise

Relational Model:

Cruise (cruise-name, room-no, cruise-capacity, stars)

Functional Dependencies:

cruise-name -> room-no, cruise-capacity, stars

Candidate Key: {(cruise-name)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```

CREATE TABLE Cruise(
    cruise-name          varchar(50) not null,
    room-no              int not null,
    cruise-capacity      int not null,
    stars                int(1) not null,
    PRIMARY KEY(cruise-name)
)

```

2.9 City

Relational Model:

City(cityname, country)

Functional Dependencies:

cityname -> country

Candidate Key: {(cityName)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE City(  
    cityName          varchar(20) not null,  
    countryName       varchar(20) not null,  
    PRIMARY KEY(cityName)  
)
```

2.10 SubTour

Relational Model:

Subtour(subtourID, cityName, event-name, description, subtourPrice)

Functional Dependencies:

subtourID,cityName -> event-name, description, subtourPrice

Candidate Key: {(subtourID, cityName)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Subtour(  
    event-name      varchar(20) not null,  
    description     varchar(300) not null,  
    subtourID       int not null,  
    cityName        varchar(20) not null,  
    subtourPrice    numeric(5,2) not null,  
    PRIMARY KEY(subtourID, cityName),  
    FOREIGN KEY cityName REFERENCES City(cityName)  
)
```

2.11 Dependant

Relational Model:

Dependant(custID, deptID, deptTC, name, birthDate)

Functional Dependencies:

custID, deptID -> name, birthDate, deptTC

Candidate Key: {(deptID, custID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Dependant(  
    deptID          int not null auto-increment,  
    deptTC          int not null  
    name            varchar(40) not null,  
    birthDate       date not null,  
    custID          int not null,  
    PRIMARY KEY(deptID, custID),
```

FOREIGN KEY custID **REFERENCES** Customer(custID)
)

2.12 Room

Relational Model:

Room(room-no, cruise-name, room-type, price)

Functional Dependencies:

cruise-name, room-no -> room-type, price

Candidate Key: {(cruise-name, room-no)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Room(  
    room-no          int(4) not null,  
    cruise-name      varchar(20) not null,  
    room-type        int(1) not null,  
    price            int(8,2) not null,  
    PRIMARY KEY(room-no,cruise-name)  
)
```

2.13 Promotion

Relational Model:

Promotion(promotionID, promotion-type, sale-rate)

Functional Dependencies:

promotionID -> promotion-type, sale-rate

Candidate Key: {(promotionID)}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE Promotion(  
    promotionID                int not null,  
    promotion-type             int not null,  
    sale-rate                   float not null,  
    PRIMARY KEY(promotionID)  
)
```

2.14 CusMakeRes

Relational Model:

CusMakeRes(custID, reservationID)

Functional Dependencies:

None

Candidate Key: {custID, reservationID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE CusMakeRes(  
    custID                    int not null,  
    reservationID             int not null,  
    FOREIGN KEY custID REFERENCES Customer(custID),
```

FOREIGN KEY reservationID REFERENCES

Reservation(reservationID)
)

2.15 CusCancelRes

Relational Model:

CusCancelRes(custID, reservationID, time)

Functional Dependencies:

None

Candidate Key: {custID, reservationID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE CusCancelRes(  
    custID          int not null,  
    reservationID   int not null,  
    time            date,  
    FOREIGN KEY custID REFERENCES Customer(custID),  
    FOREIGN KEY reservationID REFERENCES  
    Reservation(reservationID)  
)
```

2.16 CusSelectsSub

Relational Model:

CusSelectsSub(custID, reservationID, subtourID, cityName)

Functional Dependencies:

None

Candidate Key: {custID, reservationID, subtourID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE CusSelectsSub(  
    custID          int not null,  
    reservationID   int not null,  
    subtourID       int not null,  
    FOREIGN KEY custID REFERENCES Customer(custID),  
    FOREIGN KEY reservationID REFERENCES  
Reservation(reservationID),  
    FOREIGN KEY subtourID REFERENCES Subtour(subtourID)  
)
```

2.17 CusChooseRoom

Relational Model:

CusrChooseRoom(custID,room-no,cruise-name)

Functional Dependencies:

None

Candidate Key: {custID,room-no,cruise-name}

Normal Form: Boyce-Codd Normal Form

Table Definition:


```

CREATE TABLE CusChooseRoom(
    custID          int not null,
    room-no        int not null,
    cruise-name     varchar(20) not null,
    FOREIGN KEY custID REFERENCES Customer(custID),
    FOREIGN KEY room-no,cruise-name REFERENCES
    Room(room-no,cruise-name)
)

```

2.18 CusRatesTour

Relational Model:

CusRatesTour(custID,tourID, rate)

Functional Dependencies:

None

Candidate Key: {custID,tourID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```

CREATE TABLE CusRatesTour(
    custID          int not null,
    tourID         int not null,
    rate           int not null,
    FOREIGN KEY custID REFERENCES Customer(custID),
    FOREIGN KEY tourID REFERENCES Tour(tourID)
)

```

2.19 CusBenefitsPro

Relational Model:

CusBenefitsPro(custID,promotionID)

Functional Dependencies:

None

Candidate Key: {custID,promotionID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE CusBenefitsPro(  
    custID          int not null,  
    promotionID     int not null,  
    FOREIGN KEY custID REFERENCES Customer(custID),  
    FOREIGN KEY promotionID REFERENCES Promotion(promotionID)  
)
```

2.20 ResProvidesPro

Relational Model:

ResProvidesPro(promotionID,reservationID)

Functional Dependencies:

None

Candidate Key: {promotionID,reservationID}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE ResProvidesPro(  
    reservationID      int not null,  
    promotionID        int not null,  
    FOREIGN KEY reservationID REFERENCES  
Reservation(reservationID),  
    FOREIGN KEY promotionID REFERENCES Promotion(promotionID)  
)
```

2.21 TourVisitCity

Relational Model:

TourVisitsCity(tourID, cityName, transportationtype, date)

Functional Dependencies:

None

Candidate Key: {tourID, cityName}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE TourVisitsCity(  
    tourID              int not null,  
    cityName            varchar(20) not null,  
    transportationtype varchar(20) not null,  
    date                date,
```

FOREIGN KEY cityName **REFERENCES** City(cityName),
FOREIGN KEY tourID **REFERENCES** Tour(tourID)
)

2.22 HotelPlacedCity

Relational Model:

HotelPlacedCity(cityName, hotel-name)

Functional Dependencies:

None

Candidate Key: {cityName, hotel-name}

Normal Form: Boyce-Codd Normal Form

Table Definition:

```
CREATE TABLE HotelPlacedCity(  
    hotel-name varchar(20) not null,  
    cityName varchar(20) not null,  
    FOREIGN KEY cityName REFERENCES City(cityName),  
    FOREIGN KEY hotel-name REFERENCES Hotel(hotel-name)  
)
```

3. Functional Components

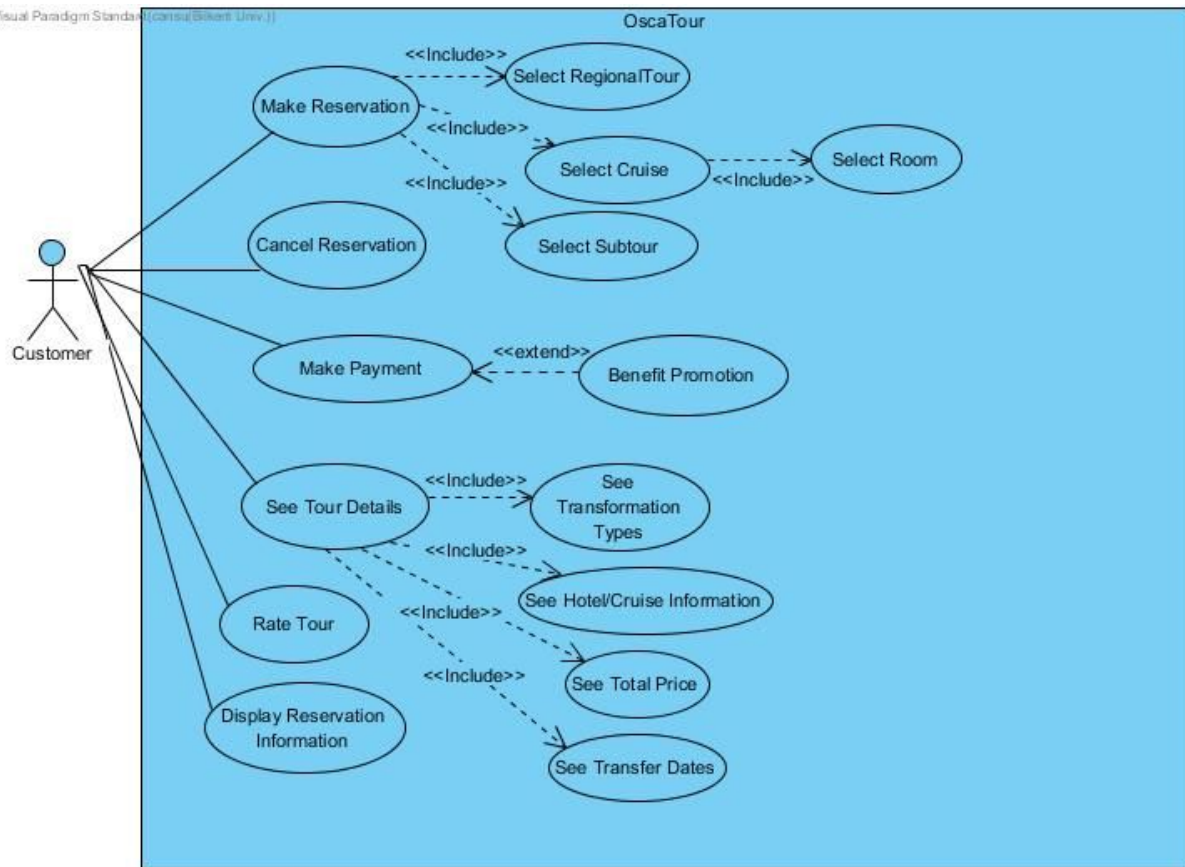
3.1 Use Cases

OascaTour has two different types of users which are Customer and Admin. Use Cases are below.

3.1.1 Customer

All Customers should be able

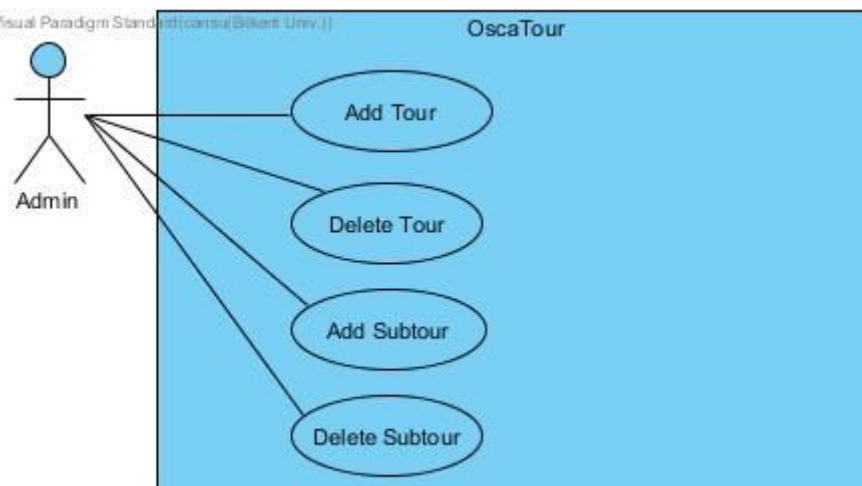
- to make reservations for more than one person
- to cancel their reservations due to a specified day
- to benefit from promotions for their children according to their ages
- to select the tour type which are hotel and cruise
- to select the room types for cruise tours
- to see all the dates for a tour
- to see the hotel/cruise information in detail (number of stars, capacity of the cruise ship etc.)
- to see all the transportation types (plane, bus, train etc.)
- to select the subtrips to attend
- to see the total price that will be paid
- to make payment through the system
- to display their reservation information in detail
- to rate the tour that he/she attended



3.1.2 Admin

Admin should be able

- to add/delete tours to the system
- to add/delete subtours to the system



3.2 Algorithms

We will try to use different algorithms to keep track of information and process management for both customer and admin.

3.2.1 Customer Related Algorithm

When customers enter the system, in the home page, they are expected to select a tour type which are hotel and cruise. In cruise tours, customers stay the night in the ship. They can select their room types in the system as well because there are many rooms with different locations and sizes. In hotel tours, customers are not able to select their room types in this platform.

Then the available tours will be listed. Customers can see the details of each tour. Tours will be arranged at least for 2 nights accommodation. In the details of tours, start and end day of the trip, cities that will be visited, transportation types between the cities, detailed hotel information if it is a hotel tour or cruise information otherwise, the number of days of accommodation for each city, the price and city-specific subtours can be seen. Customer must select which subtour(s) s/he will attend on the system before the payment. After all the selections for a tour, payment must be done.

Customers can rate tours in our system. This process can be done during tour time which is between start and end date of tour.

Customer can display his/her reservation with this reservation id number in detail. Also, customers are able to cancel their reservations until a specified day by the company.

3.2.2 Admin Related Algorithm

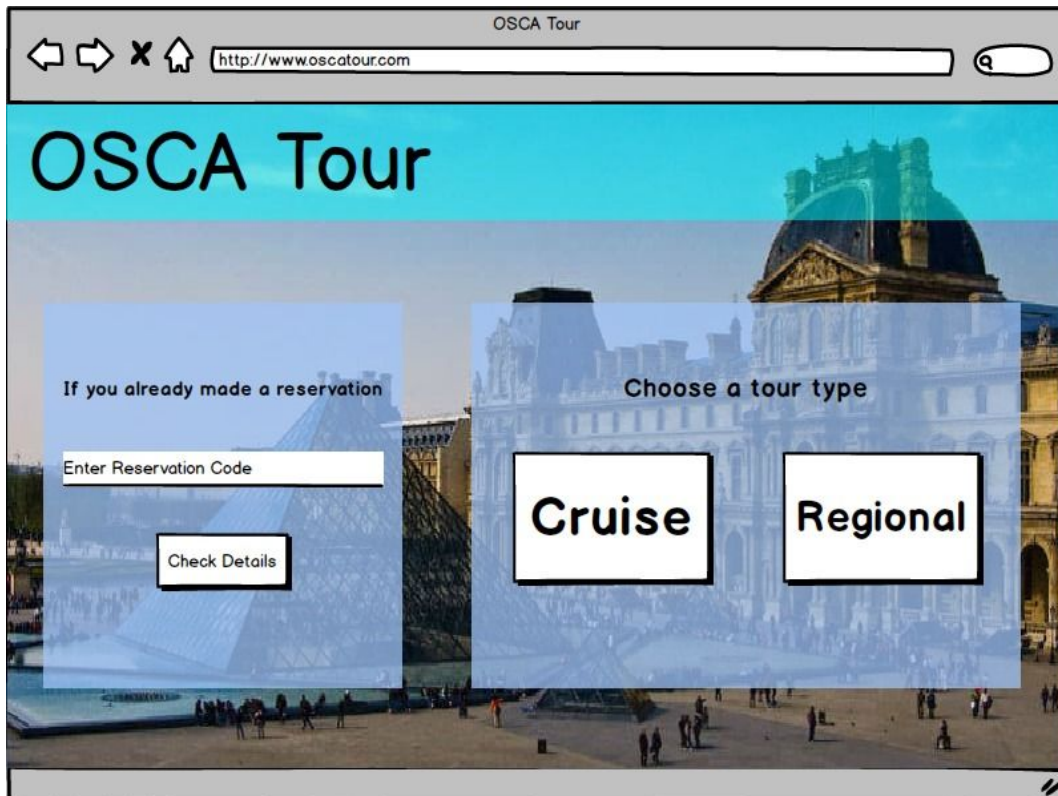
In this system admin's mission is create, delete and edit tours. In our system admin can update rate which is done by customer by using their own experience about a tour. Moreover admin can select and assign subtours for a specified tour.

3.3 Data Structure

We are using built-in data types of SQL such as int, varchar, char, float, boolean, long, date etc.

4. User interface design and corresponding SQL statements

4.1 Home Page



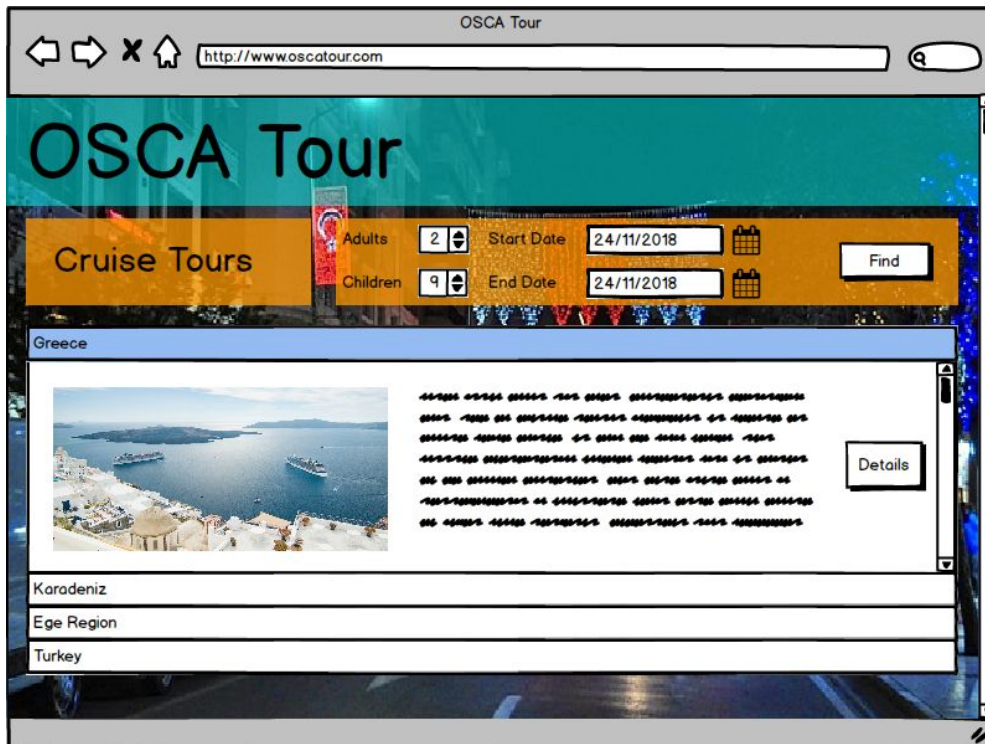
Inputs: @reservationcode

Process: Customers can display their reservation information from the home page with their reservation code. Also, customers can choose the tour type for their new reservations by selecting the relevant button.

SQL Statements:

To display the reservation information, SQL Query is given in the Section 4.9

4.2 Cruise Tours



Inputs: @adults, @children, @startdate, @enddate, @selectedtour

Process: After selecting cruise tour from the home page, all the cruise tours will be displayed. Above the page, there is a filter menu. Customers can filter the results by selecting the adult and children number, start and end date. Customers can see the detailed information of tours by clicking the button next to the brief tour description. @selectedtour will take the id of the selected tour and pass it to section 4.5.

SQL Statements:

Listing all the cruise tours:

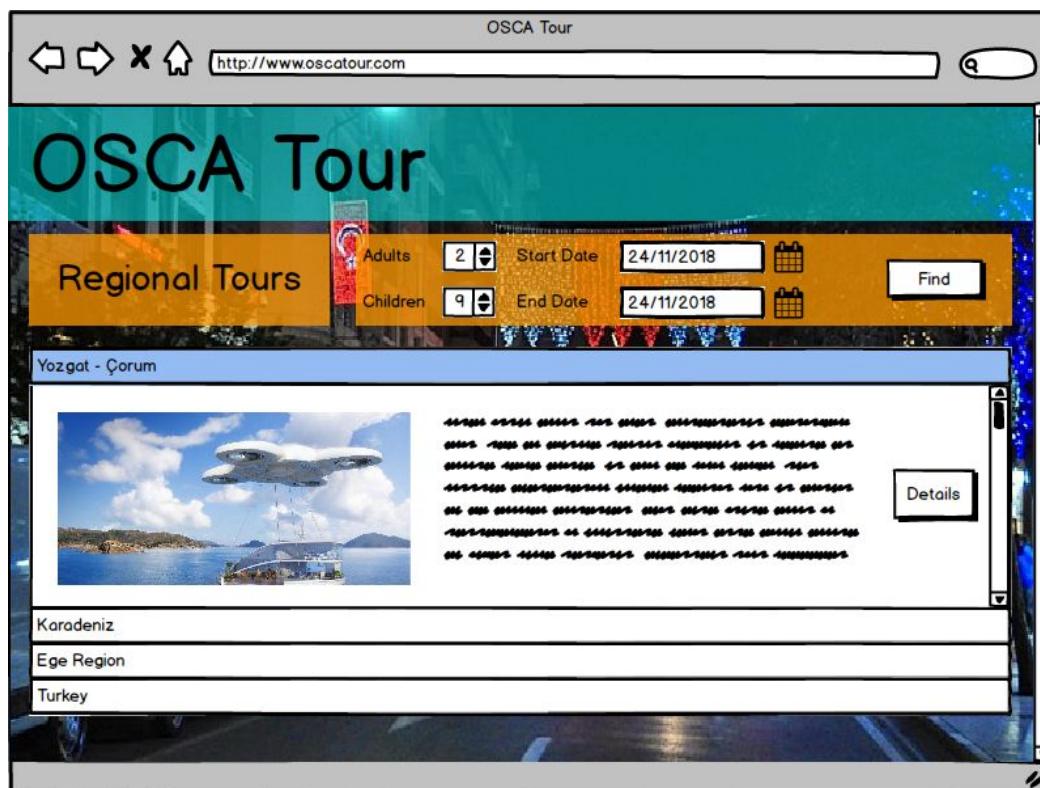
```
SELECT c.cruise-tour-name, t.brief-description
```

```
FROM CruiseTour c NATURAL JOIN Tour t
WHERE t.start-date > CURDATE()
```

Filtering according to user's inputs:

```
SELECT c.cruise-tour-name, t.brief-description
FROM CruiseTour c NATURAL JOIN Tour t
WHERE t.start-date > @startdate AND t.finish-date < @enddate AND t.capacity >=
(@adults + @children)
```

4.3 Regional Tours



Inputs: @adults, @children, @startdate, @enddate, @selectedtour

Process: After selecting regional tour from the home page, all the regional tours will be displayed. Above the page, there is a filter menu. Customers can filter the results by selecting the adult and children number, start and end date. Customers can see the detailed information of tours by clicking the button next to the brief tour description.

@selectedtour will take the id of the selected tour and pass it to section 4.5.

SQL Statements:

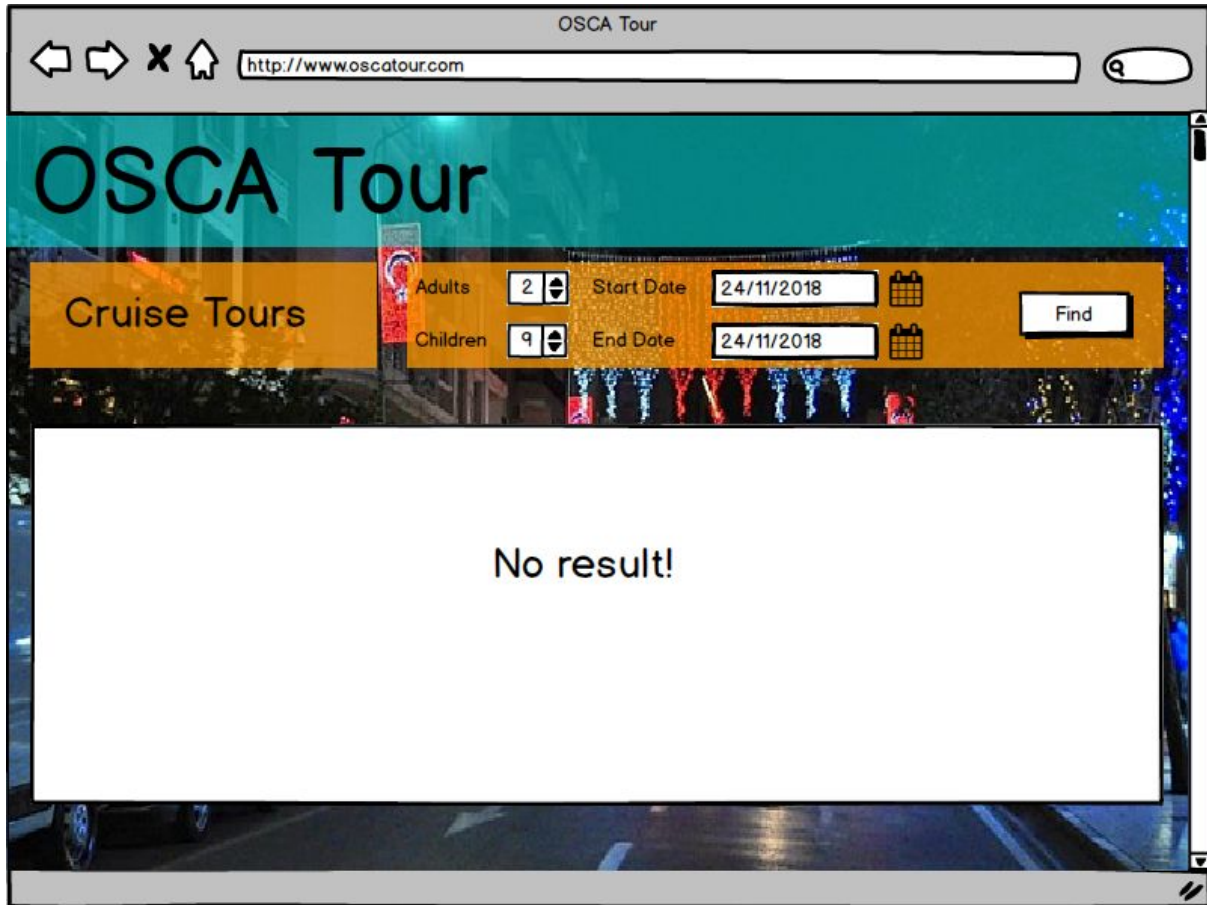
Listing all the regional tours:

```
SELECT r.regional-tour-name, t.brief-description  
FROM RegionalTour r NATURAL JOIN Tour t  
WHERE t.start-date > CURDATE()
```

Filtering according to user's inputs:

```
SELECT r.regional-tour-name, t.brief-description  
FROM RegionalTour r NATURAL JOIN Tour t  
WHERE t.start-date > @startdate AND t.finish-date < @enddate AND t.capacity >=  
(@adults + @children)
```

4.4 No result Page



Inputs: @adults, @children, @startdate, @enddate

Process: After selecting cruise or regional tour, according to inputs, if there is no available tours, user will see this page.

SQL Statements:

If it is a regional tour:

```
SELECT r.regional-tour-name, t.brief-description
FROM RegionalTour r NATURAL JOIN Tour t
WHERE t.start-date > @startdate AND t.finish-date < @enddate AND t.capacity >=
(@adults + @children)
```

If it is a cruise tour:

```
SELECT c.cruise-tour-name, t.brief-description
```

```
FROM CruiseTour c NATURAL JOIN Tour t
```

```
WHERE t.start-date > @startdate AND t.finish-date < @enddate AND t.capacity >= (@adults + @children)
```

4.5 Tour Information Page

The screenshot shows a web browser window with the URL <http://www.oscatour.com>. The page title is "OSCA Tour". The main content area features a large image of the Louvre Museum in Paris. Below the image, the text "Louvre, Paris" is displayed next to a 5-star rating. To the right of the main image, there is a "SubTours" section with two dropdown menus: "Select City" and "Select a SubTour". Below these, there is an "Information" section with a paragraph of text. Further down, there are two buttons: "+ Add SubTour" and "+ Rent a Car". A link "Click here to rent a car." is also present. At the bottom of the sidebar, the price "1000\$" is shown next to a "Proceed to Payment" button.

Inputs: @selectcity, @selectsubtour, @selectedtour

Process: When the customer clicked the details button from the previous page (section 4.2 / 4.3), this page will be shown. In this page, customer can see the detailed information about the tour which he/she selected. On the right side of the page, there is a menu that provides information about the subtours. If the customer

wants to attend a subtour, firstly s/he has to select a city and then s/he can add subtour(s) within the listed subtours. The price will be changed according to it. In this screen if user wants to rent a car, he/she must click rent a car button and a link will be popped. Link forwards user to the rent a car website.

SQL Statements:

Listing the description of the selected regional tour:

```
SELECT r.regional-tour-name, t.full-description, t.rating, t.startdate, t.enddate,  
t.source, t.baseprice  
FROM RegionalTour r NATURAL JOIN Tour t  
WHERE t.tourID = @selectedtour
```

Listing the cities according to the selected tour:

```
SELECT city-name  
FROM TourVisitsCity  
WHERE tourID = @selectedtour
```

Listing subtours according to city:

```
SELECT s.event-name, s.description, s.subtour-price  
FROM Subtour s  
WHERE s.cityName in(SELECT c.cityName  
                     FROM City c  
                     WHERE c.cityName=@selectcity)  
AND s.cityName in(SELECT tvc.city-name  
                  FROM TourVisitsCity tvc  
                  WHERE tvc.tourID = @selectedtour)
```


4.6 Subtour Selection

The screenshot shows a web browser window titled "OSCA Tour" with the URL "http://www.oscatour.com". The main heading is "OSCA Tour" in large black letters. Below it, a banner for "Ankara - İstanbul" is displayed with five stars. The page is divided into two main sections. The left section features a large image of a modern building complex, likely a university or government building, with a list of text in Turkish below it. The right section is titled "SubTours" and contains two dropdown menus: "Select City" and "Select a SubTour". Below these menus is an "Information" section with a list of text in Turkish. At the bottom of the "SubTours" section, there are two buttons: "+ Add SubTour" and "+ Rent a Car". Below these buttons, the text "Selected SubTours" is followed by "1 - Kadıköy - 999\$". At the bottom of the page, the total price "1000\$" is displayed next to a "Proceed to Payment" button.

Inputs: @currentCust, @currentRes, @selectcity, @selectsubtour

Process: When the customer selects the city and selects the subtour, the selected subtour and its price will be shown in below. While s/he adds more subtours, all of them will be shown. Also, the price of the tour will be updated according to the number of adults and the selected subtours.

@currentCust is the custID that is given by the system when the user interacted with the system

@currentRes is the reservationID that is given by the system when the user wants to see the details of a tour

SQL Statements:

List all the subtours that customer selects:

```

INSERT INTO CusSelectsSub VALUES( @currentCus, @currentRes,
@selectsubtour, @selectcity)
SELECT s.event-name, s.price
FROM Subtour s
WHERE s.cityName in(SELECT cus.cityName
FROM CusSelectsSub cus
WHERE cus.cityName = @selectcity AND
cus.subtourID = @selectsubtour)

```

Update the price:

```

UPDATE Reservation
SET Price=Price + (SELECT subtour-price
FROM Subtour
WHERE subtour-id = @selectsubtour
AND subtour-city = @selectcity) *
(SELECT COUNT(d.depID)+1
FROM Dependant d NATURAL JOIN Customer
WHERE custID = @currentCust AND
(DATEDIFF(CURDATE(),d.birthdate))/365 > 12
GROUP BY custID
)
)
WHERE reservationID = @currentRes

```

Show the current price to the customer:

```

SELECT price
FROM Reservation
WHERE reservationID = @currentRes

```


4.7 Tourist Information Page

OSCA Tour

http://www.oscatour.com

OSCA Tour

Tourist Information

- 1 - Adult
- 2 - Adult
- 3 - Child

Name

Surname

Birth Date

TC Identity Number

Next Person

Go to Payment

Inputs: @currentCust, @name1, @surname1, @birthdate1, @TC1, @name2, @surname2, @birthdate2, @TC2, @name3, @surname3, @birthdate3, @TC3

Process: In this page, user enters the needed information about all the attendees in order to reservations to be made by system. In our example, there are two adults and one child. Customer should give the information about first person and click the 'next person' button, and do these for the others. After all the information is given, s/he must make a payment by clicking the 'go to payment' button.

SQL Statements:

Inserting the Customer (The one who will pay for trip / First Person):

```
INSERT INTO Customer VALUES(@currentCust, @TC1,@name1 + @surname1,
1,"1", @birthdate1)
```

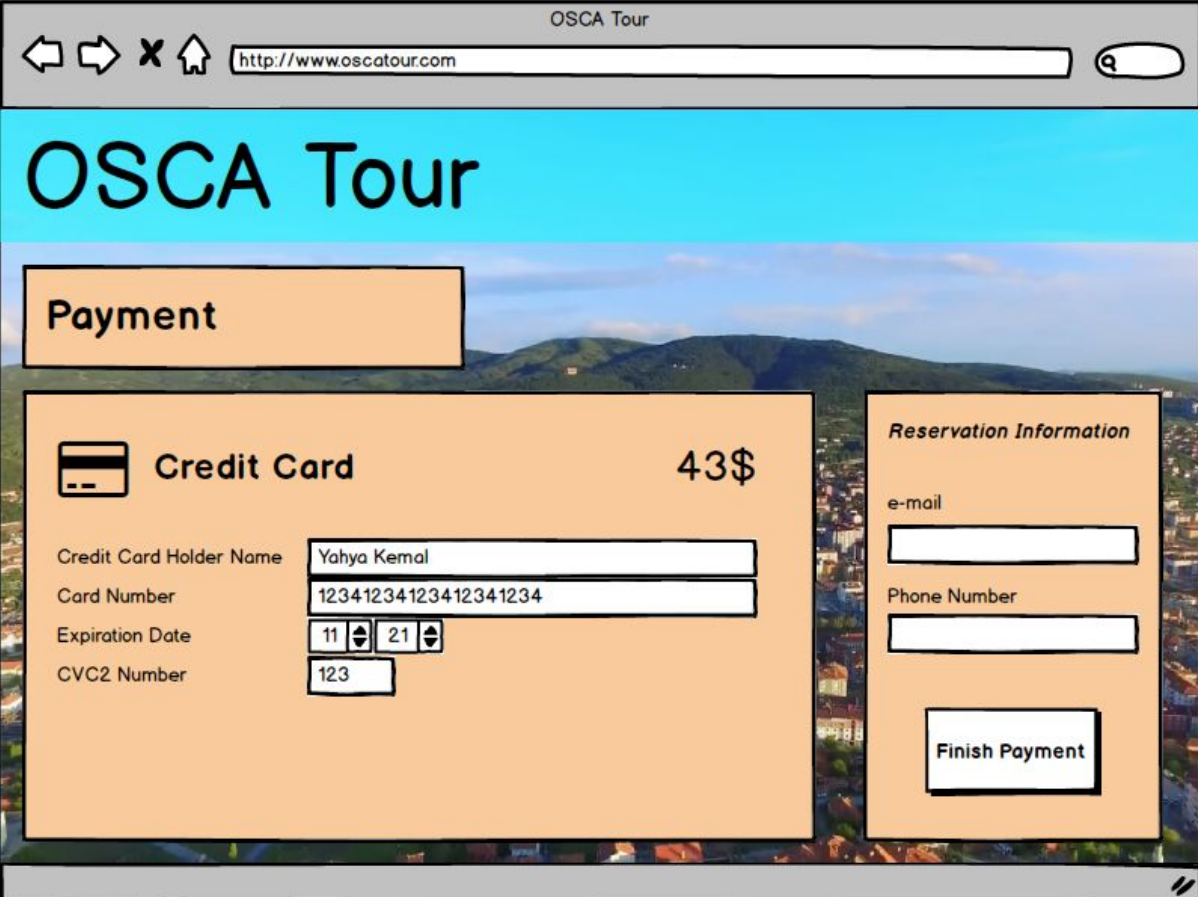
Inserting the Dependant 1 who is not a child:

```
INSERT INTO Dependant VALUES(@currentCust, @dep2ID, @TC2, @name2 +
@surname2, @birthdate2)
```

Inserting the Dependant 2 who is a child:

```
INSERT INTO Dependant VALUES(@currentCust, @dep3ID, @TC3, @name3 +
@surname3, @birthdate3)
```

4.8 Payment Page



The screenshot shows a web browser window titled "OSCA Tour" with the URL "http://www.oscatour.com". The page features a blue header with the "OSCA Tour" logo. Below the header is a large orange box labeled "Payment". Inside this box, there are two main sections: "Credit Card" and "Reservation Information".

Credit Card Section:

- Icon: Credit Card
- Card Holder Name:
- Card Number:
- Expiration Date:
- CVC2 Number:
- Total Amount: 43\$

Reservation Information Section:

- e-mail:
- Phone Number:
- Finish Payment:

Inputs: @creditcardholdername, @cardnumber, @expirationdatemonth,
@expirationdateyear, @cvc2no, @email, @phone

Process: This is the payment page. User must give the needed information in order to pay the price of the tour. Right side of the page, user must give his/her email and phone number in order to get the reservation code.

SQL Statements:

Update the customer information:

```
UPDATE Customer
SET phone=@phone, mail = @email
WHERE custID = @cusID
```

Apply promotion for the customer if there is any promotion:

```
UPDATE Reservation
SET Price = Price - Price * (SELECT promotion-rate
                             FROM Promotion NATURAL JOIN Customer
                             WHERE custID = @custID
                             )
```

Show the total price for the customer to pay:

```
SELECT Price
FROM Reservation
WHERE ReservationID = @ReservationID
```


- Osca Tour does not hold the customer's credit card information for the security priorities.

OSCA Tour

http://www.oscatour.com

OSCA Tour

Payment

**Credit Card**

Payment Successful!

Credit Card Holder Name

Yahya Kemal

Card Number

1234123412341234

Expiration Date

11 21

CVC2 Number

123

Reservation Information

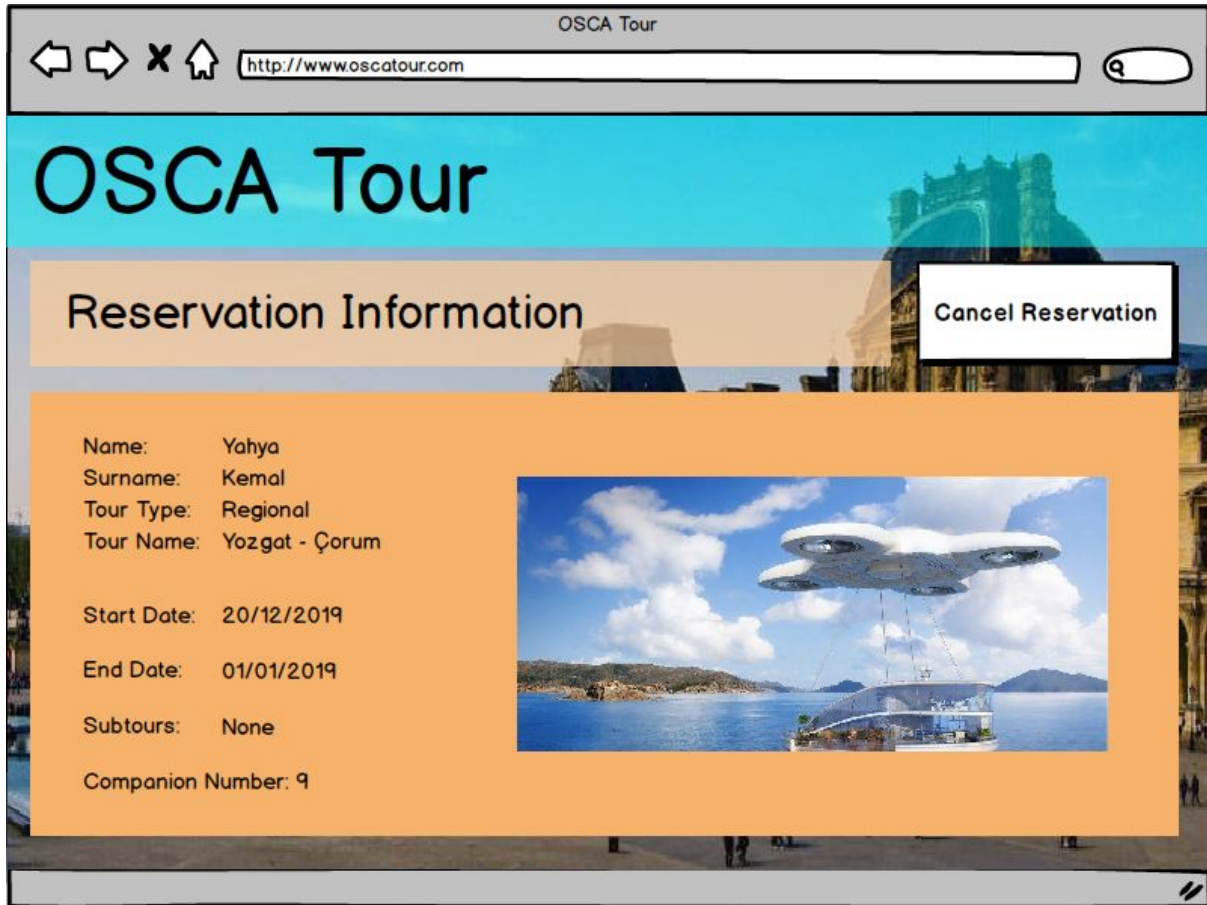
e-mail

Phone Number

Finish Payment

If user pays and finishes the payment, a message will pop up and says that the payment is successful.

4.9 Reservation Information



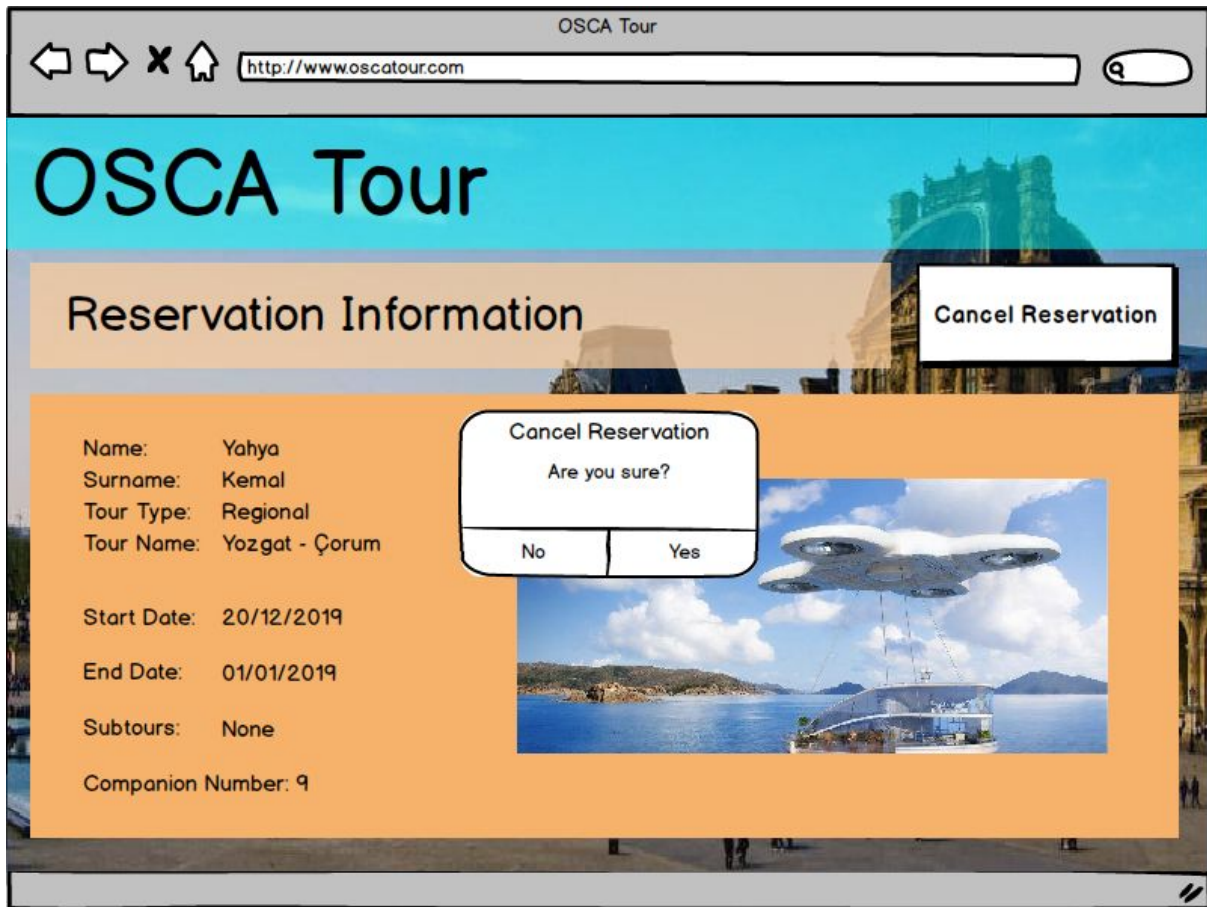
Inputs: @reservationID

Process: In the home page, if the customer enters the reservationID code ,this reservation information page will be shown. In here, customers can see the details about their reservation. Customers can cancel their reservations until the one week before of the tour's start date.

SQL Statements:

```
SELECT c.name, d.name, t.name, t.fulldescription, r.price, t.source, t.startdate,  
t.enddate  
FROM ((Reservation r natural join Tour t) natural join (Customer c natural join  
Dependant d))  
WHERE r.reservationID = @reservationID
```


4.10 Cancellation of the reservation



Inputs: @reservationID

Process: If the remaining time for the reservation to start is more than one week, customers are able to cancel their reservations. If the remaining time is proper for the deletion, cancel reservation button become active. When the customer clicks this button, it will ask whether the customer is sure or not and according to the response, transaction will be made.

SQL Statements:

DELETE

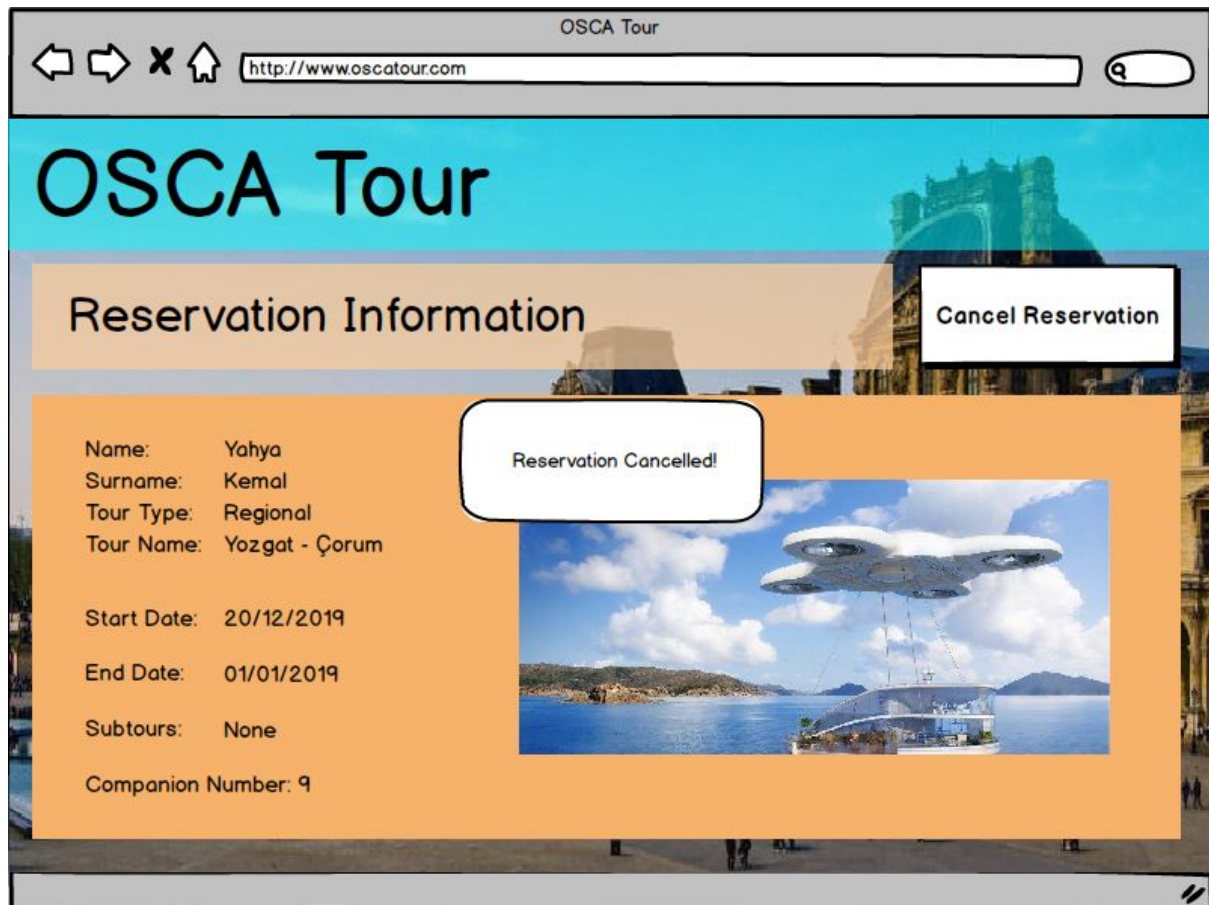
FROM Reservation

WHERE reservationID = @reservationID AND

reservationID in (SELECT r.reservationID

FROM Reservation r NATURAL JOIN Tour

(DATEDIFF(CURDATE(),t.startdate))>7)



If the customer selects the 'yes' button for the approval question, "reservation cancelled" pops up.

4.10 Rating the tour

OSCA Tour

http://www.oscatour.com


OSCA Tour

Reservation Information

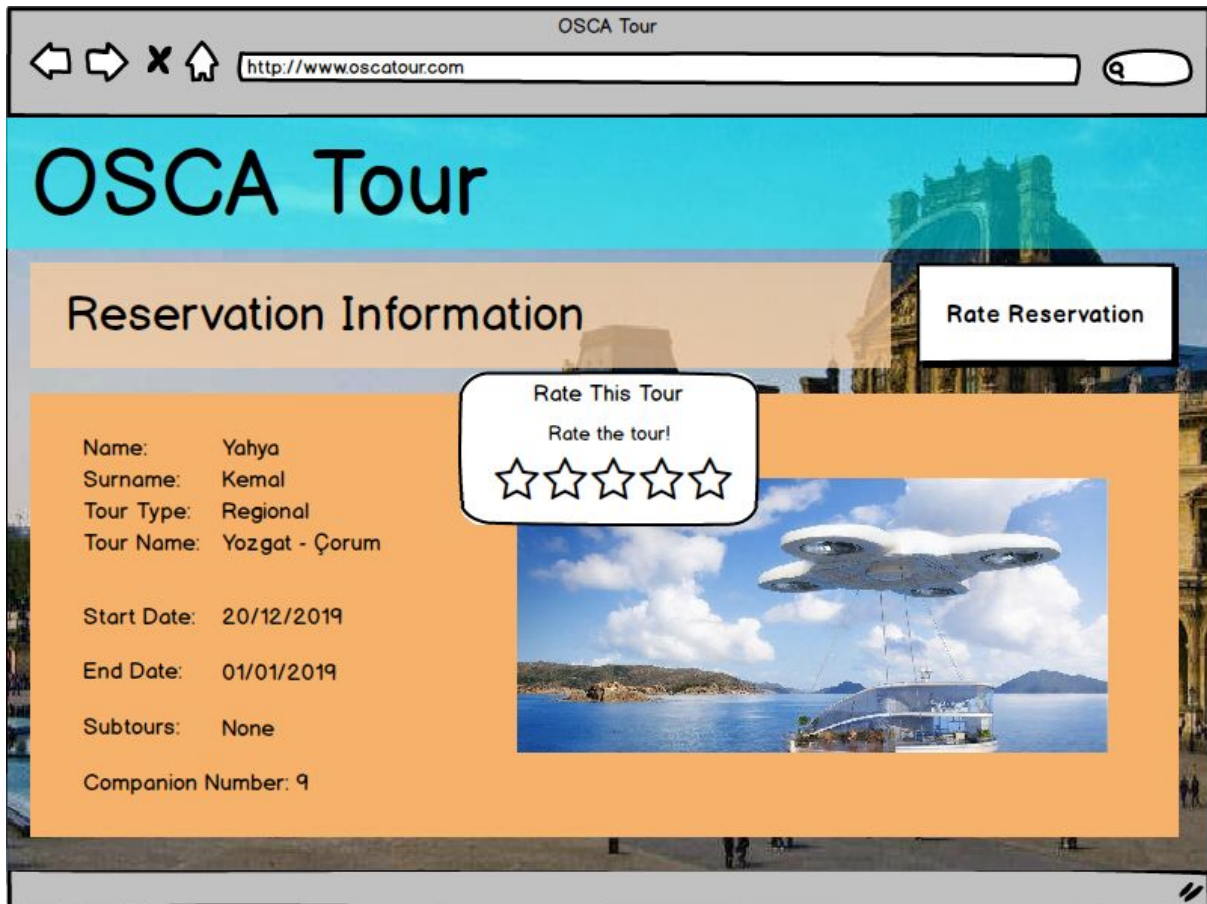
Rate Reservation

Name: Yahya
Surname: Kemal
Tour Type: Regional
Tour Name: Yozgat - Çorum

Start Date: 20/12/2019
End Date: 01/01/2019
Subtours: None
Companion Number: 9



If the reservation date is started, customers can rate their reservation. Rate reservation button becomes active if the date is proper for the rate.



Inputs: @rate

Process: Customers can rate their reservation by giving the stars up to 5.

SQL Statements:

```
INSERT INTO CusRatesTour VALUES(CustID, tourID, @rate)
```

```
UPDATE TOUR
```

```
SET Rating = (
```

```
    SELECT Avg(Rating)
```

```
    FROM CusRatesTour NATURAL JOIN Tour
```

```
    WHERE tourID in(SELECT tourID
```

```
        FROM Reservation
```

```
        WHERE reservationID = @reservationID))
```

5. Advanced Database Components

5.1 Reports

Average age of people for the tours

```
CREATE VIEW avgAgeForTours AS (  
  SELECT tourID, Avg(birth-date)  
  FROM Tour natural join Reservation natural join Customer natural join Dependant  
  GROUP BY tourID)
```

Number of hotels per city

```
CREATE VIEW avgHotelPerCity AS (  
  SELECT city-name, Count(hotel-name)  
  FROM HotelPlacedCity  
  GROUP BY city-name)
```

5.2 Views

View for displaying the reservation information

```
CREATE VIEW ResInfo AS(  
  SELECT c.name, d.name, t.name, t.full-description, r.price, t.source,  
  t.startdate, t.enddate  
  FROM ((Reservation r natural join Tour t) natural join (Customer c natural join  
  Dependant d))  
  WHERE r.reservationID = @reservationID  
)
```

View for listing the subtours with their prices for a selected city in the selected tour:

```
CREATE VIEW SubtourList AS (  
    SELECT s.event-name, s.price  
    FROM Subtour s  
    WHERE s.cityName in(SELECT cus.cityName  
                        FROM CusSelectsSub cus  
                        WHERE cus.cityName = @selectcity AND  
                        cus.subtourID = @selectsubtour)
```

5.3 Triggers

- Tour Rate will be changed after every rate by a customer
- Tour Capacity will be changed after each reservation
- CustID is given for the current user when s/he first interacts with the system
- ReservationID is created when the customer wants to see detailed information for a tour
- While the customer adds new subtours for a selected tour, price should be updated as well
- If there is a promotion, it must be applied to the total price in the payment page
- System should not require money for the children who are under 12 years old

5.4 Constraints

- Customers cannot cancel their reservations if the remaining time for the tour to start is less than 1 week
- Customers cannot rate their reservation if the tour has not started yet
- Customers cannot select their hotels within a tour.
- Customers cannot select their rooms for hotel tours.
- Customers cannot select transportation types between cities.
- Customers cannot change the arrival days for any city in the tour.

- Customers cannot make reservations without making payment in the last step.
- Customers must be an adult to make a reservation.

5.5 Stored Procedures

- Customers will be messaged and mailed before 1 day of the start date
- Admin will be notified when the stars of a tour is decreased under 3 stars