

**BILKENT UNIVERSITY**

**ENGINEERING FACULTY**



**DEPARTMENT OF COMPUTER ENGINEERING**

**Project Proposal Report**

**Group 7**

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# 1. Introduction

Vacations are the most anticipated time of the year where one can leave behind all the stress and fatigue of working. Being the only couple of days of the year that one can truly relax, deciding what to do and where to go in that time becomes one of the hardest decisions one must make. Therefore, everybody expects to have good service while planning and enjoying their vacation. In addition to having vacations focused on a limited amount of times like summer and Christmas, service providers and hotels face an overload of customers at a season and are expected to give the best possible service. There exist many examples of such services nowadays like booking.com or Etstur where one can go and plan all of their vacations without the need to book everything separately.

As there are many different possible tours and many customers, they need to be able to support all their services while being as fast and easy as possible. Their system should not only be easy to use, but it should also be accessible and detailed enough to help customers decide their vacation points. This system should also be accessible by not only customers and employees, but also by the guides in order to have information about tours they get assigned to and have a feedback mechanism for the customer to rate the tours that they have attended.

# 2. Project Description

This project will be a web-based application that uses a database system. In the application, there will be a list of hotels and tours. There will be 3 types of users: customers, employees, and guides. Customers will be regular users that cannot be able

to change the system but the employees and the guides have some options to change the system details.

Customers can access the list of hotels and the tours, they can book a hotel room from the desired hotel or make a reservation for the desired tour. They can select the desired dates and the prices for those specific dates. The tours will have some different activities in them and the customers can see the activities plan of the tours and the determined tour fees. In the tours, there will be activities that are not included in the tour package, the customers need to pay an extra fee if they want to attend the extra activities. Evaluating the tour and the guides will be possible when the tour is done. The ratings and the comments will be visible to the other customers.

Employees can make reservations and update them for the customers, and also assign guides to tours. They can access the information of the customers, guides, tours, and hotels.

Guides can choose to accept or decline the tours and also give feedback about the tours. They can access the detailed and necessary information of the activities and will be able to see the feedback about themselves after the tour.

There will be an additional feature in the application. Customers can also search and make reservations for a flight.

## 3. Requirements

### 3.1. Functional Requirements

- In our travel agency system, there are 3 different types of users such as customer, employee, and guide. The functional requirements change according to the user type.

### 3.1.1. Functional Requirements for Customer

- Customers are able to make bookings for one or many hotel rooms.  
They can book a room in a hotel for the desired date and for a selected number of people if there is a suitable room for a given date and capacity in the hotel.
- The system can display the available hotel rooms for a given date and the number of people with the price information.
- The system can display the information related to a hotel such as a hotel name and hotel address.
- Customers can see the details of their hotel room booking such as total price, date, hotel name, and room number.
- Customers are able to make flight bookings for one or many flights.  
They can book a flight for a selected departure and arrival location together with a selected number of people if there is a suitable flight for a given date and quota.
- The system can display the available flights with a selected date and selected departure and arrival information together with the price information.
- Customers can see the details of their flight booking such as total price, date, departure, and arrival location.
- Customers can make a reservation for one or many tours, for a selected number of people, if there is an available quota.
- The system is able to display the available tours for a given date and number of people with the price information.
- Customers are able to select which activities they want to attend.

- The system is able to display the details of the activities such as the name and description of the activity. The system displays the activities in two different categories such as normal activities and extra activities which are paid ones.
- Customers can buy the extra activities.
- Customers can see the details of their tour reservation such as total price, date, starting location, guide name, guide phone number, places to visit, and selected activities.
- At the end of the tour, customers can comment on and rate the tour and guide.
- Customers can cancel their booking for the hotel room or reservation for the tour.

### 3.1.2. Functional Requirements for Employee

- Employees can view the hotel bookings with the following details; customer name, customer phone number, booking id, name of the hotels, room numbers, and dates.
- Employees can view the tour reservations with the following details; customer name, customer phone number, reservation id, tour id's, guide names.
- Employees are able to make hotel room/flight booking and tour reservations for a customer when the booking or reservation details are provided.
- Employees can edit the room/flight booking or tour reservation details.
- Employees are able to assign guides to the tour.

### 3.1.3. Functional Requirements for Guide

- Guides can view the details of the assigned tours such as; tour id, tour date, starting location, and number of people who made reservations for the tour.
- For the assigned tour, guides can view the customer's personal information such as name, age, and phone number.
- Guides can accept or decline the assigned tours.
- Guides can give feedback about the tour after it finishes.

## 3.2. Non-functional Requirements

### 3.2.1. Usability

Usability is one of the most important things to consider in such a project because it will be used by a variety of people frequently and ease of use is an important aspect to consider. This web application will not only make planning trips easy but also our UI design will prioritize the user's experience.

### 3.2.2. Security

Since the application will be used to plan trips and provide access to hotel and tour reservations, payment methods and storing credit card information will be needed, in order to prevent any unwanted accident for the user's information, security will be the main concern and we will store such sensitive information using SHA256 encryption in the database.

### 3.2.3. Maintainability

Besides the continuous need for modification, update, and bug-fix in software development, this project is open to improvement. Different varieties of features can be added such as different user types, discounts for the reservations, different tour types, etc. Due to these reasons, maintainability will be considered during the design process.

### 3.2.4. Portability

Naturally, by being a web-based application, it will be usable on any device such as an Iphone, android phone, computer, etc. Besides that, it will be compatible with any version of a web browser such as Firefox, Chrome, or safari.

### 3.2.5. Scalability

With traveling being more accessible to people, each year the number of people traveling around the world is increasing. We plan to be able to support an increasing number of users in our system. A wide number of users is expected and the designed system needs to meet the required needs. We will meet the needs by optimizing the database SQL queries and implementing indexing strategies.

## 4. Limitations

- Only the related customer or travel agency employee will be able to create, update or cancel a trip and a customer cannot edit another customer's travel plan



- The tour's guide will be assigned by employees
- A customer cannot rate or evaluate a hotel or tour if he hasn't attendant to it
- Only the employees can create and edit an activity
- A tour cannot be reserved if there is no capacity left or if the date has passed
- A hotel cannot be booked if there is no place left for the related dates
- A customer can only attend extra activities if reserved and paid for the activity.
- Evaluations cannot be changed by the employees or guides.

## 5. ER Model

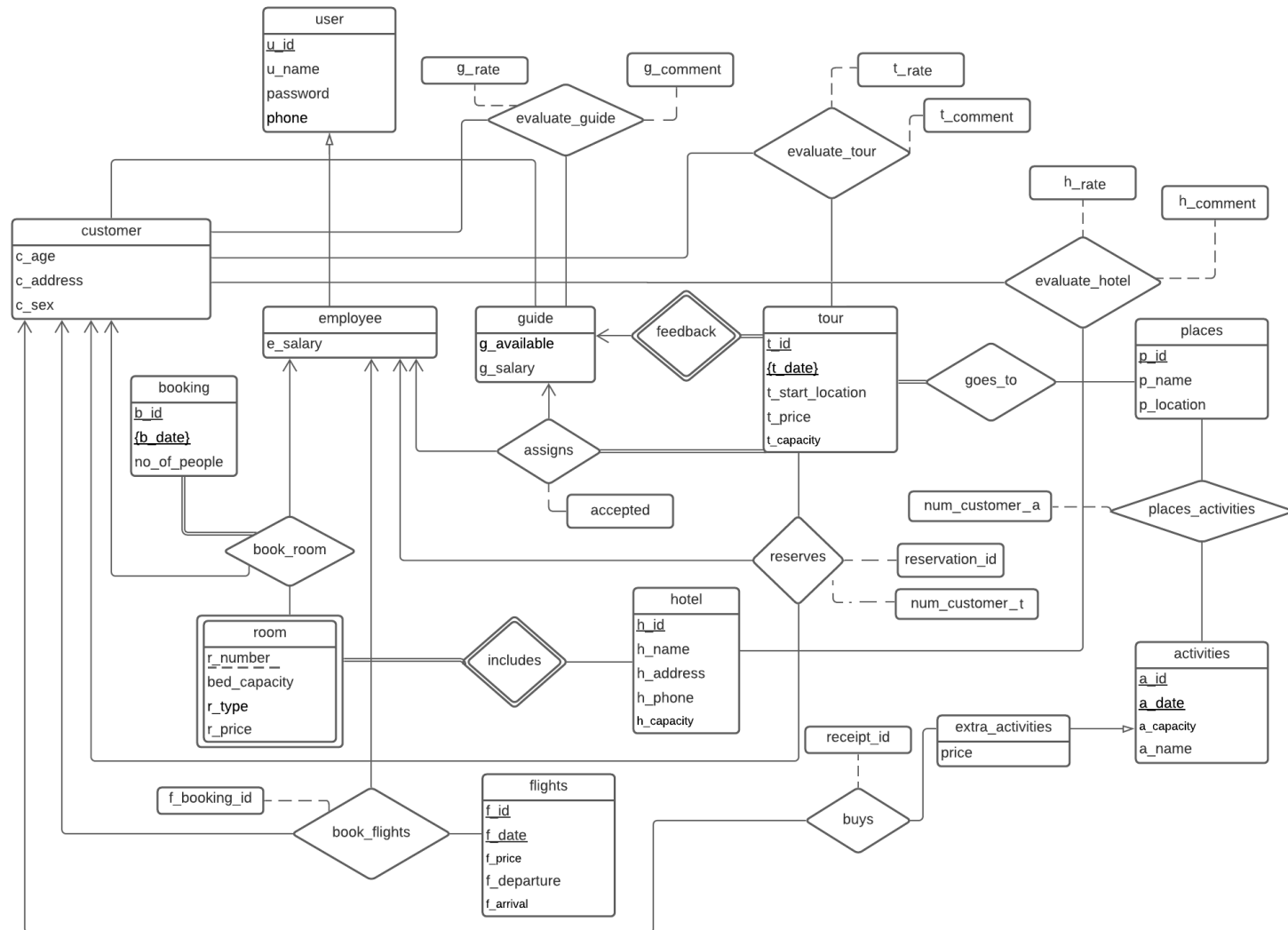


Figure 1

## 6. Project Web Page

<https://cs353dbproject.github.io/>

## 7. References

[1] “The Largest Selection of Hotels, Homes, and Vacation Rentals.” *Booking.com*,

<https://www.booking.com/>

[2] “Tatil, Etstur'dan Sorulur!” *Etstur*, <https://www.etstur.com/>

[3] “Lucidchart” <https://www.lucidchart.com/>