



Shiraz University

Computer Science and
Engineering Department

Database Design Principles

Dr. M H Sadreddini

Alireza Bahrololoom
Nirvana Niroomand
Hosein Mirhoseini
Mahmoudreza Kheyrafard

Assignment: Final Project

Deadline: 1402/04/xx

Introduction:

Traveling allows us to explore new places, cultures, and perspectives. The growth of the internet has made a significant impact on the travel industry, providing travelers with the convenience of purchasing travel tickets online from their own homes. This has greatly simplified the process of booking travel arrangements and has made it easier for travelers to plan their trips with greater flexibility and ease of use. With the ability to purchase tickets online, travelers can feel more at ease about their travel plans, and can easily compare prices and options to find the best deals for their needs. During this project your goal is to design the database system of an online travel ticket purchasing platform, considering customer's side and travel agency's side.

Project outlines:

Taking a look at these kinds of platforms like Ali baba travelling website, gives you the very first ideas about project's details, but in order to avoid any misunderstandings please regard the following.

Travels:

The platform contains three types of travels based on the vehicle: Train, Bus and Airplane where air travel can be domestic or abroad. Each travel has some info:

- Date and time
- Type of vehicle
- Price
- Number of available seats

(Please consider that you should handle number of seats in each travel and it should be dynamically updated after any passenger interactions.)

User:

This project contains three types of users with different roles: passenger, travel agency manager and super admin.

Any user should register with one-time password (OTP) via SMS or Email. There is no need to use real services and it's enough to log the password. (Just log it in a file or console).

OTP should have expiration time and it shouldn't be accepted after the expiration time. User's account verification should only occur after the successful completion of the OTP process. Until the OTP is validated within the specified expiration time, the user's account should remain unverified and inaccessible. While the account is verified, user can log in using its passwords.

Users should be provided with the flexibility to log in to their accounts using either their registered phone number or email address. The system should support both login methods, allowing users to choose their preferred option during the authentication process.

Note that database security is very important and many famous databases get leaked every day, so you have to think about keeping users' passwords safe!

Passenger:

- Each passenger should have their own panel with personal information.
- They should be able to reserve tickets, order them and pay for them and eventually track orders' status.
- They should be able to apply discounts to their orders with discount codes. Discount codes must have a maximum limit of price.
- Passengers can search for tickets with different search parameters and filters such as rating, price and etc.
- Passengers who have bought tickets, should be able to rate the previous travels afterwards

Travel Agency Manager:

- Managers should be able to add new travels.
- Managers can filter travels that their agency involved using different filtering parameters such as rating, price, time and etc.
- They can receive needed stats at once, like: Bestselling travels, highest income through the year based on time, highest rating, most popular destination and etc.
- Managers should be able to retrieve information on the top 5 customers with the highest total paid price for travels in a specific month. Include their full name, contact information (email or phone number), total paid price, number of destinations they traveled to in that month, and the name of the city they visited the most.

Support System:

To enhance customer and travel agency manager interaction, an online support system will be implemented on the website. Super admins will have the ability to engage in chat conversations with customers and travel agency managers. It is important to note that server-side technologies such as web sockets are not required for this project.

Key features of the support system include:

- Ticket Creation: Customers and travel agency managers should have the ability to create support tickets. These tickets serve as a means of communication with the support team. Users can submit their queries, concerns, or requests through the ticket creation process.
- Messaging: Users (customers and travel agency managers) will be able to send and receive messages within the support system. Each message will be associated with a date and time, ensuring a clear timeline of the conversation. Additionally, to enhance functionality, a **bonus feature** can be implemented where messages have a status indicating if the recipient has viewed the message or not.

Grading:

- ERD and database design -> 40%
- Database management, CRUD and handling queries -> 60%
- Maximum bonus percentage -> 20%