
Software Requirements Specification

for

TRIPIFY- Trip Planning System

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Revision History

Name	Date	Reason For Changes	Version
SRS-tripify-1.1	21/11/22	Some requirements were ambiguous	1.0

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Trip planning System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system.

1.2 Document Conventions

All the main headings are bold. Every requirement statement has its own priority.

1.3 Intended Audience and Reading Suggestions

This system is a prototype for the Trip Planning system. This has been implemented under the guidance of college professors. This includes software developers, project consultants and team managers. This project is useful for trip planner users and customers of the system. This document needs to be read sequentially; users are encouraged to jump to any section they find relevant.

1.4 Product Scope

The user can book hotel rooms and the system will suggest rooms according to the number of persons entered by the user. Users can take a view of hotels by using a trip planner system. The system will also have a feature of restaurant suggestions near the user. Restaurant tables can also be booked by the user by providing information about the day and date of booking. The user can also add restaurants to favorites. The user can view the reviews and location of hotels and restaurants. The user can also book bus tickets through the system. The user can book according to the days, time and number of people. The user will also be able to view details of drivers and guides and can contact them in person. The user can also give ratings to the drivers and guides. Users can also rent a car by providing the information about the number of days. The system will also suggest must visit places and famous attractions of the searched city. It also includes information about weather and traffic conditions of the selected city.

1.5 References

802.11 IEEE Specification.

<https://standards.ieee.org/findstds/standard/802.11-2016.html> (accessed June 2017).

Requirements Engineering for Software and Systems by Phillip A. Laplante (z-lib.org)

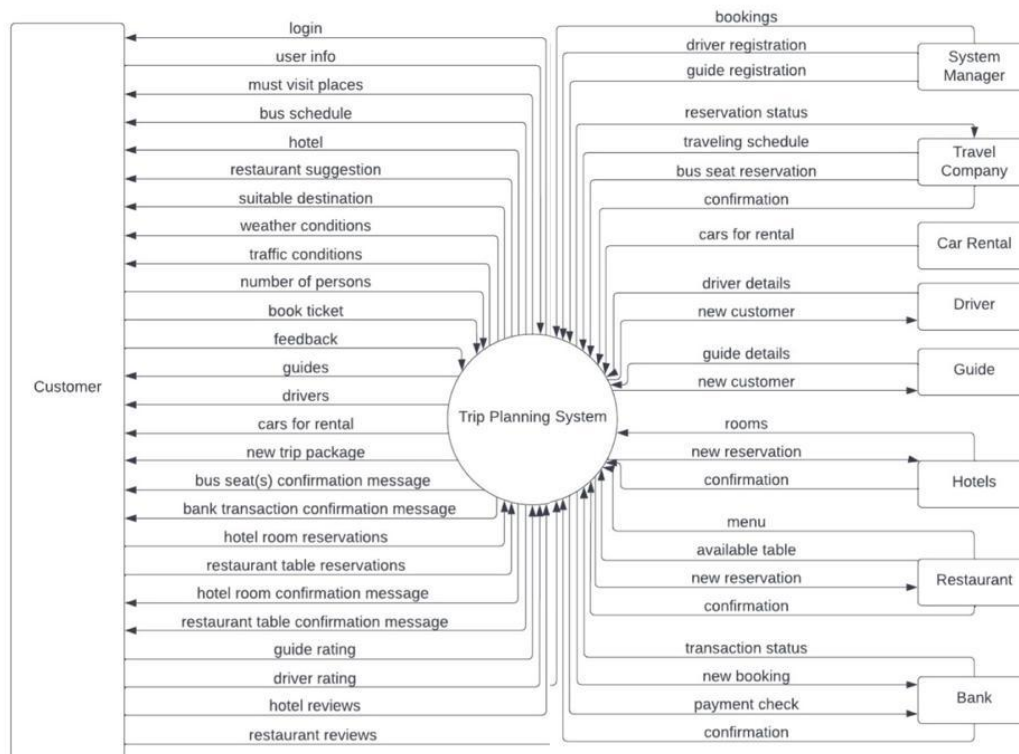
2. Overall Description

2.1 Product Perspective

A trip planning system stores the following information.

- Trip Details: It includes the originating and destination points, along with the stops in between, the number of seats booked/available seats between two destinations etc.
- Customer Description: It includes customer code, name, address and phone number. This information may be used for keeping the records of the customer for any emergency or for any other kind of information.
- Reservation Description: It includes customer details, code number, date of booking, date of travel.

2.2 Product Functions



The diagram shows the layout of trip planning system – context-level-diagram

2.3 User Classes and Characteristics

The system shall be able to do the following functions.

- Customers can book hotel rooms and restaurants.
- View visited restaurants.
- View available guides, drivers and car rentals.
- View all buses with their arrival and departure times.

The Employee should have following management functionalities:

- CUSTOMER FUNCTIONS
 - Record of customers.
 - Record of drivers and guides.
 - Record of available restaurants and hotels.
 - Count of cars for rental.

- ADMINISTRATIVE
 - Add/Delete a hotel, restaurant, guide and driver.
 - Add a new customer.
 - Add new bus routes.
 - Update departure and arrival times for bus.

2.4 Operating Environment

Operating environment for the trip planning system is as listed below.

- distributed database
- client/server system
- Operating system: Windows.
- database: SQL+ database
- platform: vb.net/Java/PHP

2.5 Design and Implementation Constraints

- The global schema, fragmentation schema, and allocation schema.
- SQL commands for above queries/applications
- How the response for application 1 and 2 will be generated. Assuming these are global queries. Explain how various fragments will be combined to do so.
- Implement the database at least using a centralized database management system.

2.6 Assumptions and Dependencies

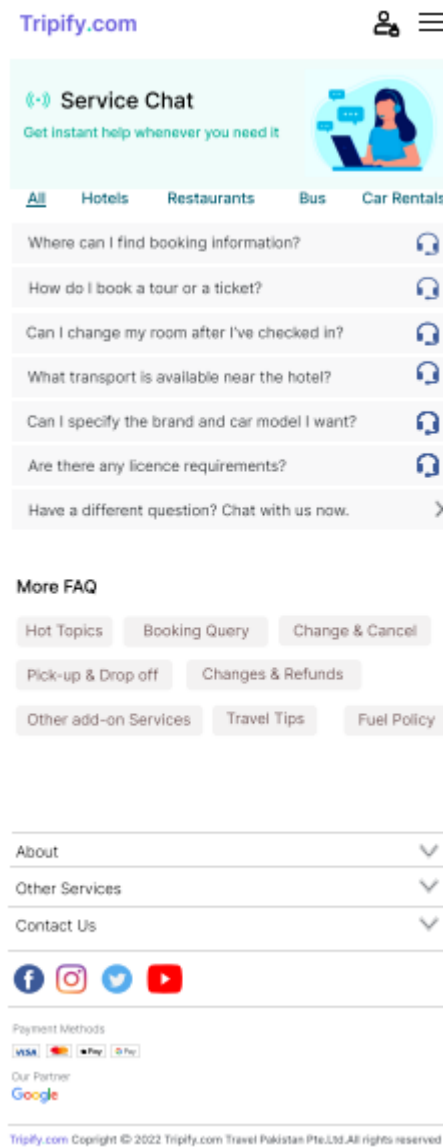
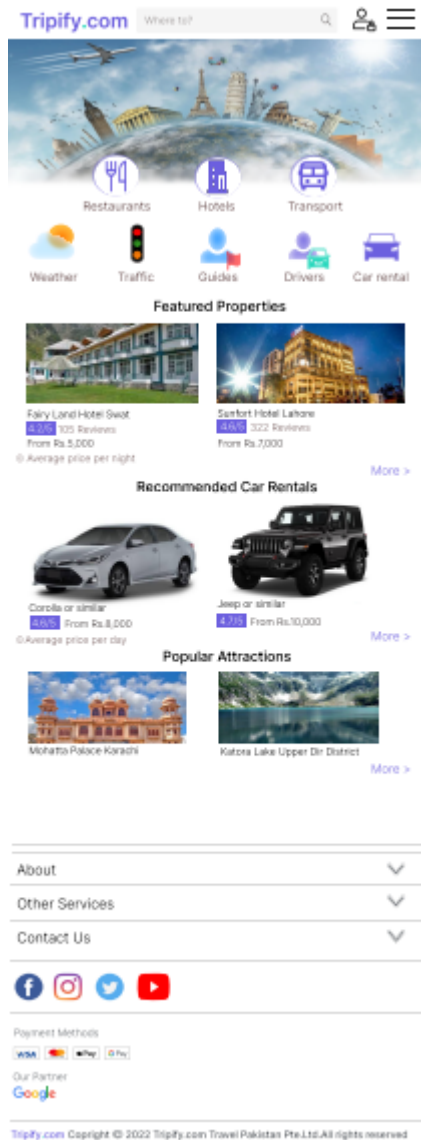
This is a trip planning system and is used in the following application:

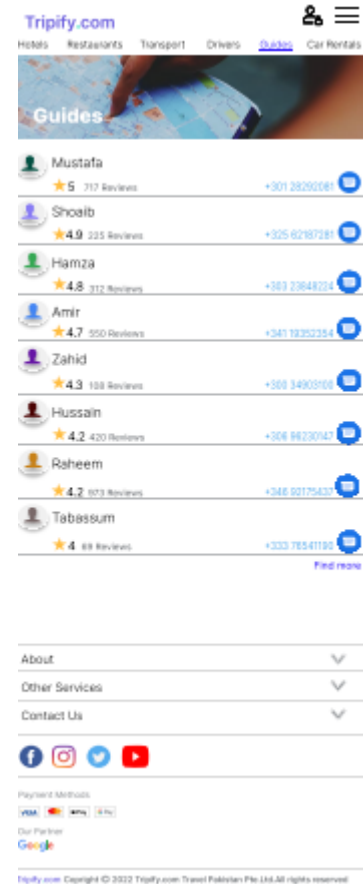
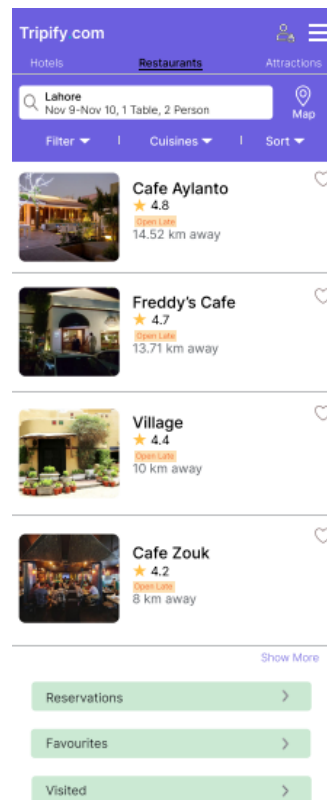
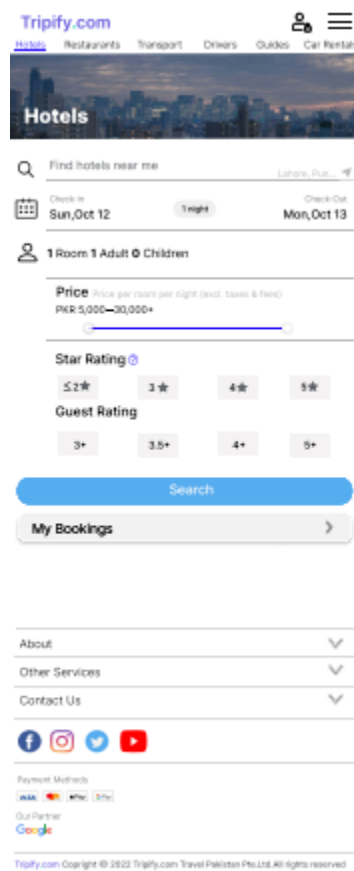
- A request for booking/cancellation of a bus ticket from any source to any destination, giving connected routes in case no direct route between the specified Source-Destination pair exists.
- A request to book a hotel room or restaurant table in case no room/table is available.

3. External Interface Requirement

3.1 User Interfaces

- Front-end software: figma
- Back-end software: SQL+





3.2 Hardware Interfaces

- Windows
- iOS
- A browser which supports HTML & JavaScript

3.3 Software Interfaces

Following are the software used for the trip planning website

Software used	Description
Operating system	We have chosen the Windows operating system and iOS for its best support and user-friendliness.
Database	To save the reservation records, customer records we have chosen SQL+ database.
Figma	To implement the project we have chosen figma for its more interactive support.

3.4 Communication Interfaces

This project supports all types of web browsers. We are using simple electronic forms for the reservation forms, ticket booking etc.

4. System Features

4.1 User Sign up

4.1.1 Description and Priority

The user will provide details i.e., name, phone number, email address, credit card, etc. The user will set the password and username of his choice. It will provide user username and password.

Priority: High

4.1.2 Stimulus/ Response Sequences

Stimulus: The user shall enter his details.

Response: User details will be stored in the user database.

Stimulus: The user will set username and password.

Response: Username and password will be stored in the user database.

4.1.3 Functional Requirements

REQ-1: The user shall create a new user account by entering his personal information e.g. Name, age, email and gender.

REQ-2: The user shall enter email and a password of minimum 6 characters having at least one alphabet and one numeric digit(special character).

REQ-3: After the user authentication, the user shall have access to the Trip planner system functionalities.

REQ-4: The user shall update his account.

REQ-5: The user shall view his account.

4.2 Administrator Sign up

4.2.1 Description and Priority

The administrator will provide details i.e., name, phone number, email address, etc. The administrator will set the password and username of his choice. It will provide administrator username and password.

Priority: High

4.2.2 Stimulus/ Response Sequences

Stimulus: The administrator shall enter his details.

Response: Administrator details will be stored in the administrator database.

Stimulus: The administrator will set username and password.

Response: Username and password will be stored in the administrator database.

4.2.3 Functional Requirements

REQ-1: The administrator shall create a new account by entering his personal information.

REQ-2: The administrator shall enter username and set a password of minimum 6 characters having at least one alphabet and one numeric digit (special character).

REQ-3: Until authentication the registered administrator shall not be provided with any administrator role.

REQ-4: The administrator shall update his account.

REQ-5: The administrator shall view his account.

4.3 Driver or Guide Sign up

4.3.1 Description and Priority

The driver or guide will provide details i.e., name, phone number, email address, etc. The driver or guide will set the password and username of his choice. It will provide a driver or guide username and password.

Priority: High

4.3.2 Stimulus/ Response Sequences

Stimulus: The driver or guide shall enter his details.

Response: Driver or guide details will be stored in the driver or guide database.

Stimulus: The driver or guide will set username and password.

Response: Username and password will be stored in the driver or guide database.

4.3.3 Functional Requirements

REQ-1: The driver or guide shall create a new account by entering his personal information.

REQ-2: The driver or guide shall enter username and set a password of minimum 6 characters having at least one alphabet and one numeric digit (special character).

REQ-3: Until authentication the registered driver or guide shall not be not provided with any administrator role.

REQ-4: The driver or guide shall update his account.

REQ-5: The driver or guide shall view his account.

4.4 Login

4.4.1 Description and Priority

The user will enter username and password. The account will be opened after the verification of the user.

Priority: High

4.4.2 Stimulus/ Response Sequences

Stimulus: The user will enter username and password.

Response: His account will be opened.

4.4.3 Functional Requirements

REQ-1: The user shall login using a username and password before using the system.

REQ-2: The user shall have the “forgot password” option.

REQ-3: After authentication, the user shall access the trip planner system functionalities.

REQ-4: The user shall view his account.

4.5 Reviews and Ratings

4.5.1 Description and Priority

The user will give ratings and reviews about the restaurants or hotels that he has booked or visited.

Priority: Low

4.5.2 Stimulus/ Response Sequences

Stimulus: The user will give reviews about hotels or restaurants that he has visited.

Response: His review will be shown to other users.

Stimulus: The user will give ratings to the driver or guide.

Response: His rating will be shown to other users.

4.5.3 Functional Requirements

REQ-1: The user shall give his/her reviews and rating only about a hotel, restaurant or rented car he has visited or booked.

REQ-2: The user shall delete his/her reviews written about a hotel, restaurant or rented car that he has visited.

REQ-3: The administrator shall view the user reviews and ratings.

REQ-4: The administrator shall give a response against the user reviews and ratings.

REQ-5: The administrator shall approve the reviews and rating to be published against the hotel, restaurant or rented car.

4.6 Query

4.6.1 Description and Priority

Most questions will already be available to the user. The user can ask questions if he needs any help. His question will be answered.

Priority: Low

4.6.2 Stimulus/ Response Sequences

Stimulus: The user will ask for a query.

Response: His question will be answered.

4.6.3 Functional Requirements

REQ-1: The user shall send a query to the administrator.

REQ-2: The administrator shall reply to any query sent by the user.

REQ-3: The queries shall be based on suggestions, new hotel and restaurant updates, and help.

4.7 Plan a Trip

4.7.1 Description and Priority

The user will enter his trip destination, number of days and number of persons. The user will be provided with a trip package accordingly. The user can also customize the suggested trip.

Priority: High

4.7.2 Stimulus/ Response Sequences

Stimulus: The user will enter his trip destination, number of days and number of persons.

Response: The user will be provided with a trip package.

4.7.3 Functional Requirements

REQ-1: The user shall enter his/her trip destination.

REQ-2: The user shall enter the number of persons.

REQ-3: The system shall suggest suitable trip packages according to the user's destination.

REQ-4: The user shall be able to customize the suggested trip.

4.8 Search

4.8.1 Description and Priority

The user will be able to search hotels, restaurants or car rentals of his nearby location or desired location.

Priority: Medium

4.8.2 Stimulus/ Response Sequences

Stimulus: The user will search for hotels, restaurants or car rentals.

Response: The user will be able to view hotels, restaurants or car rentals.

4.8.3 Functional Requirements

REQ-1: The user shall search hotels, restaurants or attractions by entering location.

REQ-2: The system shall show hotels, restaurants or attractions near the user.

REQ-3: The user shall filter hotels or restaurants by rating.

REQ-4: The user shall filter hotels by price per night.

4.9 Book a Hotel Room

4.9.1 Description and Priority

The user will enter the number of persons and number of days of his stay.

Priority: High

4.9.2 Stimulus/ Response Sequences

Stimulus: The user will enter the number of persons and number of days of his stay.

Response: His hotel room will be booked.

4.9.3 Functional Requirements

REQ-1: The user shall enter the number of persons.

REQ-2: The user shall enter the arrival and departure date.

REQ-3: The system shall suggest the room according to the number of persons.

REQ-4: The system shall show room types to the user.

REQ-5: The user shall add extra rooms and guests in each room.

REQ-6: The user shall provide his contact number, email and credit card details in order to book the room.

REQ-7: The user shall view the bill and then confirm booking.

REQ-8: The system shall send confirmation messages to the user after completion of the payment process.

REQ-9: The user shall view his/her bookings.

4.10 Book a Restaurant Table

4.10.1 Description and Priority

The user will enter a number of persons, date and time.

Priority: High

4.10.2 Stimulus/ Response Sequences

Stimulus: The user will enter a number of persons, date and time.

Response: His restaurant table will be booked.

4.10.3 Functional Requirements

REQ-1: The user shall enter the number of persons.

REQ-2: The user shall enter the date and time.

REQ-3: The user shall provide his contact number and email ID in order to book the table.

REQ-4: The system shall send a confirmation message to the user after reserving the table.

REQ-5: The user shall cancel his/her booking.

REQ-6: The user shall view his/her bookings.

4.11 Search a Guide

4.11.1 Description and Priority

The user will be able to view a list of guides and their contact numbers.

Priority: Medium

4.11.2 Stimulus/ Response Sequences

Stimulus: The user will search for a guide.

Response: The user will be provided with guide details.

4.11.3 Functional Requirements

REQ-1: The system shall show the user available guides/drivers in their city.

REQ-2: The user shall contact guides/drivers by providing their phone numbers.

4.12 Search a Driver

4.12.1 Description and Priority

The user will be able to view a list of drivers and their contact numbers.

Priority: Medium

4.12.2 Stimulus/ Response Sequences

Stimulus: The user will search for a driver.

Response: The user will be provided with driver details.

4.12.3 Functional Requirements

REQ-1: The system shall show the user available guides/drivers in their city.

REQ-2: The user shall contact guides/drivers by providing their phone numbers.

4.13 Rent a Car

4.13.1 Description and Priority

The user will be able to view a list of cars available.

Priority: High

4.13.2 Stimulus/ Response Sequences

Stimulus: The user will search for a car rental.

Response: The user will be provided with car details.

4.13.3 Functional Requirements

REQ-1: The system shall show the user available car rentals in their city.

REQ-2: The user shall contact car rentals by providing their phone numbers.

REQ-3: The user shall enter pick-up and drop dates/time of the car

REQ-4: The user shall filter cars by price or ratings.

REQ-5: The user shall provide his contact number, email and credit card details in order to rent a car.

REQ-6: The user shall view the bill and then confirm booking.

REQ-7: The system shall send a confirmation message to the user after completion of the payment process.

4.14 Book Bus Tickets

4.14.1 Description and Priority

The user will enter arrival and departure details.

Priority: Medium

4.14.2 Stimulus/ Response Sequences

Stimulus: The user will enter arrival and departure details.

Response: His bus tickets will be booked.

4.14.3 Functional Requirements

REQ-1: The user shall enter the source and destination.

REQ-2: The user shall enter his departure and arrival date and time.

REQ-3: The user shall enter the number of seats.

REQ-4: The user shall see the available time and buses.

REQ-5: The user shall filter buses by class.

REQ-6: The user shall cancel the booking.

REQ-7: The user shall view his/her bookings.

4.15 View Weather Conditions

4.15.1 Description and Priority

The user can view the weather of the selected city.

Priority: Low

4.15.2 Stimulus/ Response Sequences

Stimulus: The user will select a city to view its weather.

Response: The user can view weather.

4.15.3 Functional Requirements

REQ-1: The user shall view the weather conditions based on precise location and time.

REQ-2: The user shall view the weather conditions by updating the location and time.

4.16 View Traffic Conditions

4.16.1 Description and Priority

The user can view the traffic conditions of the selected city.

Priority: Low

4.16.2 Stimulus/ Response Sequences

Stimulus: The user will select a city to view its traffic conditions.

Response: The user can view traffic conditions.

4.16.3 Functional Requirements

REQ-1: The user shall view the traffic conditions based on precise location and day.

REQ-2: The user shall view the traffic conditions by updating the location and day.

4.17 Deals and Discounts

4.17.1 Description and Priority

The user can view deals and discounts for different destinations.

Priority: Low

4.17.3 Functional Requirements

REQ-1: The administrator shall add deals & discounts for different restaurants, hotels and trips.

REQ-2: The administrator shall update the deals & discount information on the website.

REQ-3: The administrator shall remove the deals and discounts from the website that are no longer available.

REQ-4: The user shall select any deal according to his\her preference.

REQ-5: The user shall avail deals on holidays.

4.18 Notifications

4.18.1 Description and Priority

The user will receive notifications.

Priority: Low

4.18.2 Stimulus/ Response Sequences

Stimulus: The user will allow the system to send notifications.

Response: The user will receive notifications.

4.18.3 Functional Requirements

Stimulus: The user will allow the system to send notifications.

Response: The user will receive notifications.

4.18.3 Functional Requirements

REQ-1: The system shall notify the user when a new trip is uploaded.

REQ-2: The system shall notify the user about the on-going deals and discounts.

5. Other Nonfunctional Requirements

5.1. Performance

5.1.1. The starting page shall not take more than an average 5 seconds to load.

5.1.2. The average processing time taken by the system to process a request or for authentications shall not be greater than 10 seconds.

5.1.3. The average response time of the system shall be greater than 10 seconds.

5.2. Security

5.2.1. Only the authorized administrator and users shall be provided access to the system.

5.2.2. No user shall view data of any other user.

5.2.3. Only authorized persons shall control the system database.

5.3. Defect Maintenance

5.3.1. Post release defects of the system shall be a minimum of 1 critical bug arisen per month.

5.3.2. The average time to fix a post release bug shall not be more than 5 to 8 hours.

5.4. Documentation

5.4.1. Help and Documentation information of the system and its every module shall be provided to the user.

5.4.2. To avoid any sort of inconveniences help shall be easily accessible throughout the system.

5.4.3. Help documentation shall have a user-friendly language having a minimum amount of technical language used.

5.4.4. Any technical language used shall be elaborated at the end.

5.5. Usability

5.5.1. Sliders, icons and tooltips shall be used in the system to provide a user friendly environment.

5.5.2. The system shall use unique icons to represent every different element.

6. Other Requirements

- The user details and login information shall be stored in the user database.
- The administrator details and login information shall be stored in the administrator database.
- The guide details and login information shall be stored in the guide database.
- The driver details and login information shall be stored in the driver database.

Appendix A: Glossary

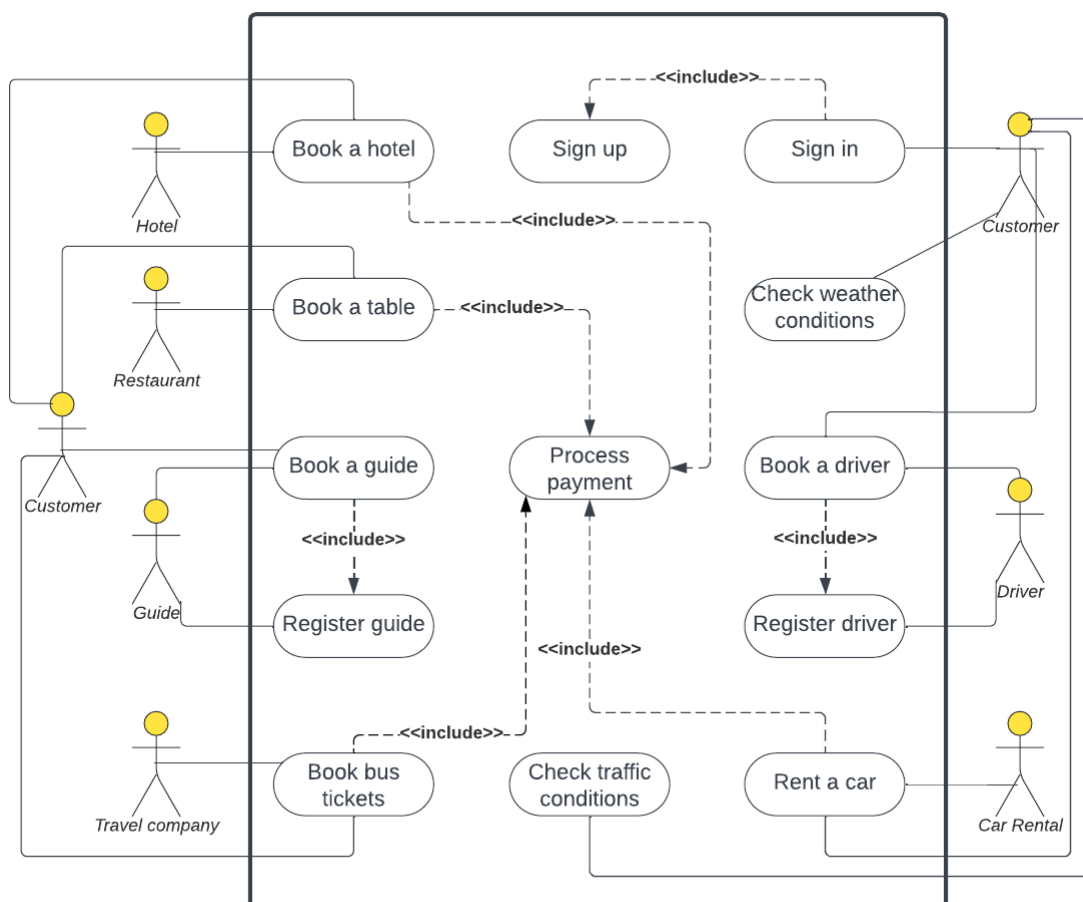
Term	Definition
Administrator	a person responsible for carrying out the administration of a business or organization.
Authentication	the process or action of verifying the identity of a user or process.
Back-end	program's code that allow it to operate and that cannot be accessed by a user
Budget	a plan for the coordination of resources and expenditures

CGI	Computer-generated imagery
Client	somebody who buys goods or pays for services
Customer	an individual or business that purchases another company's goods or services
Database	a database is an organized collection of data stored and accessed electronically
Deal	an agreement entered into by two or more parties for their mutual benefit
Discount	deduct an amount from (the usual price of something)
Destination	the place to which someone or something is going or being sent
Fragmentation	the storing of a file in several separate areas of memory scattered throughout a hard disk
Front-end	development of the graphical user interface of a website

Interface	a point where two systems, subjects, organizations, etc. meet and interact
Query	a question, especially one addressed to an official or organization
Ratings	a classification or ranking of someone or something based on a comparative assessment of their quality, standard, or performance
Reservation	the action of reserving something
Response	a verbal or written answer
Reviews	a formal assessment or examination of something with the possibility or intention of instituting change if necessary
Schema	a representation of a plan or theory in the form of an outline or model
Source	a place, person, or thing from which something comes or can be obtained
Stimulus	The input to an input/output system, especially in computers

Verification	an act or process of verifying
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Appendix B: Analysis Models



This is the Use case diagram for Tripify-Trip Planning system

Use Case# 1
Use Case: Book a Hotel Room
Priority: High
Actors: Hotel manager, user, administrator
Pre-conditions: <ul style="list-style-type: none"> • Hotel must be registered • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will search for hotels • The user will select a hotel • The user will enter number of persons and number of days of stay • The system will suggest the rooms • The user will confirm details and proceed to payment
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The system will send a confirmation message to the user • The users reservation will be added to the "Bookings" list

Use Case# 2
Use Case: Book a Restaurant Table
Priority: High
Actors: Restaurant manager, user, admin
Pre-conditions: <ul style="list-style-type: none"> • Restaurant must be registered • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will search for restaurants • The user will select a restaurant • The user will enter number of persons,date and day • The user will confirm details
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The system will send a confirmation message to the user • The users reservation will be added to the "Bookings" list

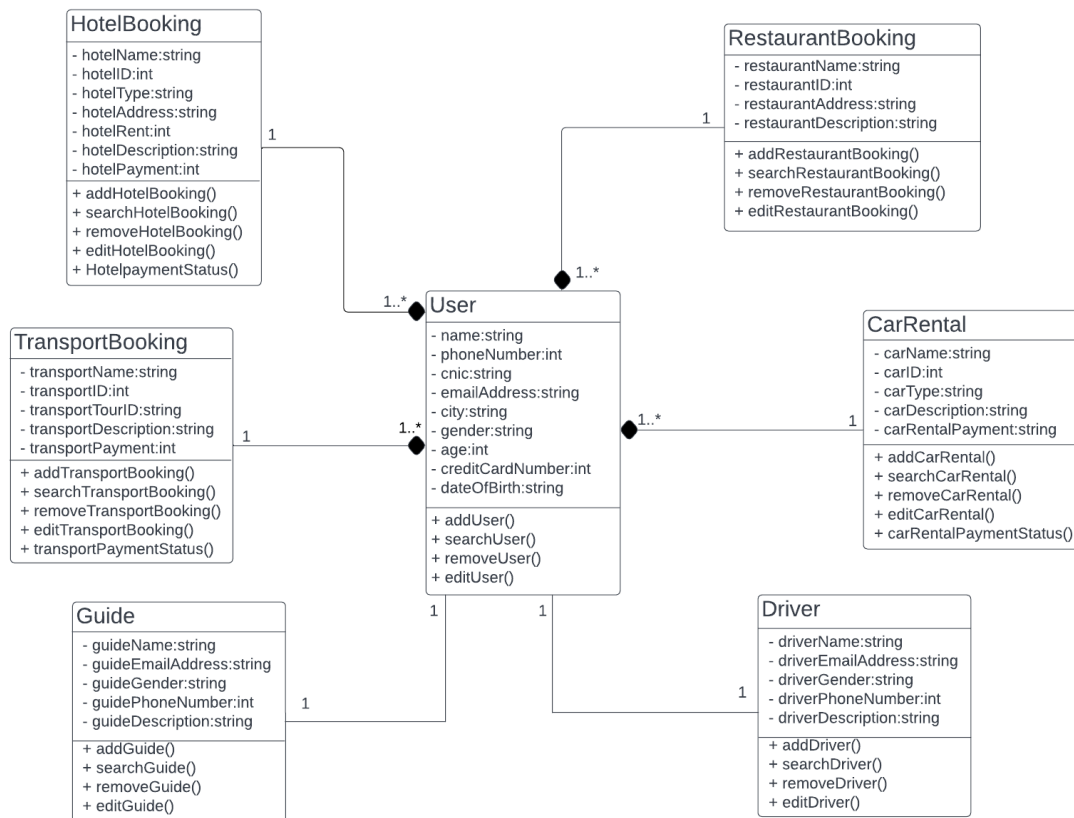
Use Case# 3
Use Case: Book Bus Tickets
Priority: Medium
Actors: Travel company, user, admin
Pre-conditions: <ul style="list-style-type: none"> • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will enter date and departure time • The user will enter source and destination point • The user will confirm details and proceed to payment
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The system will send a confirmation message to the user • The users reservation will be added to the "Bookings" list

Use Case# 4
Use Case: Rent a Car
Priority: High
Actors: Car Rental company, user, admin
Pre-conditions: <ul style="list-style-type: none"> • Car rental company must be registered • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will select a city • The user will enter date and number of days • The user will confirm details
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The system will send a confirmation message to the user that his car has been rented

Use Case# 5
Use Case: Search a Guide
Priority: Medium
Actors: guide, user, admin
Pre-conditions: <ul style="list-style-type: none"> • Guide must be registered • Guide must have logged in • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will enter his location • The user will select a guide from the list • The user will contact guide
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The users can give ratings to the guide

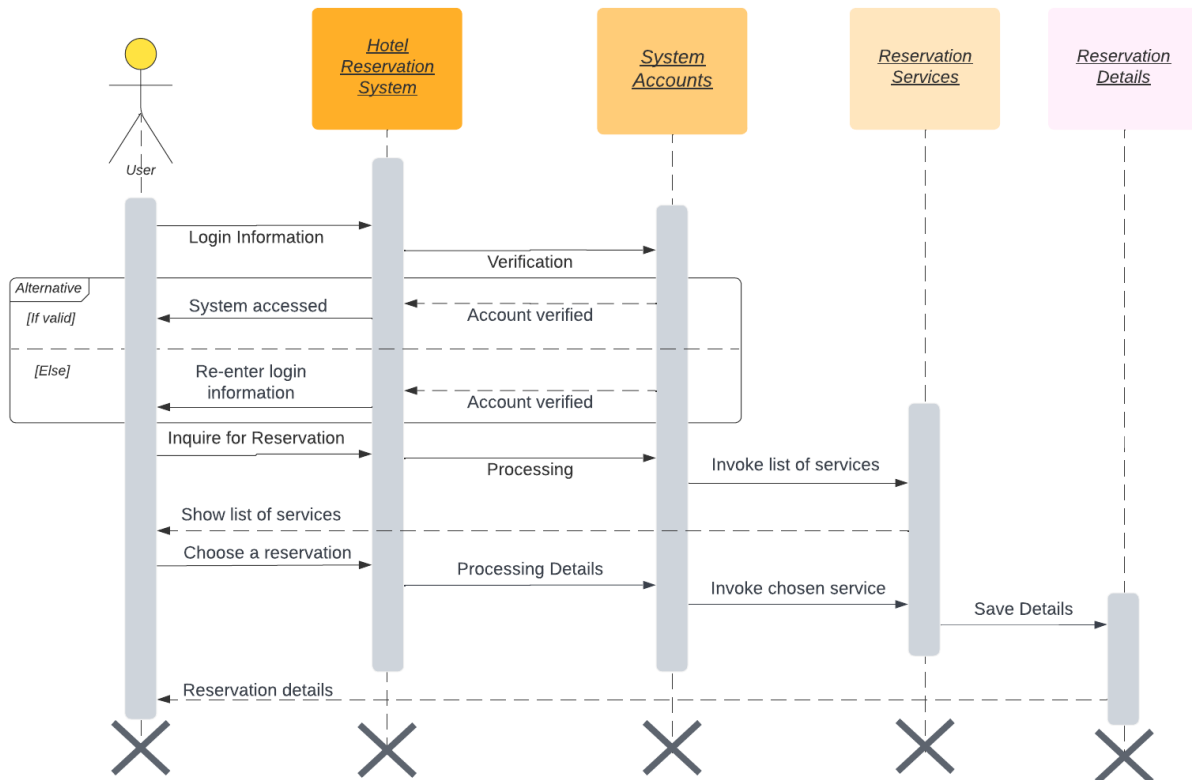
Use Case# 6
Use Case: Search a Driver
Priority: Medium
Actors: driver, user, admin
Pre-conditions: <ul style="list-style-type: none"> • Driver must be registered • Driver must have logged in • User must have account • User must be logged in
Steps: <ul style="list-style-type: none"> • The user will enter his location • The user will select a driver from the list • The user will contact driver
Alternate Flow of Events: <ul style="list-style-type: none"> • The user will be asked to enter again if he enters wrong information
Post-conditions: <ul style="list-style-type: none"> • The users can give ratings to the driver

These are major use cases for Tripify-Trip Planning system



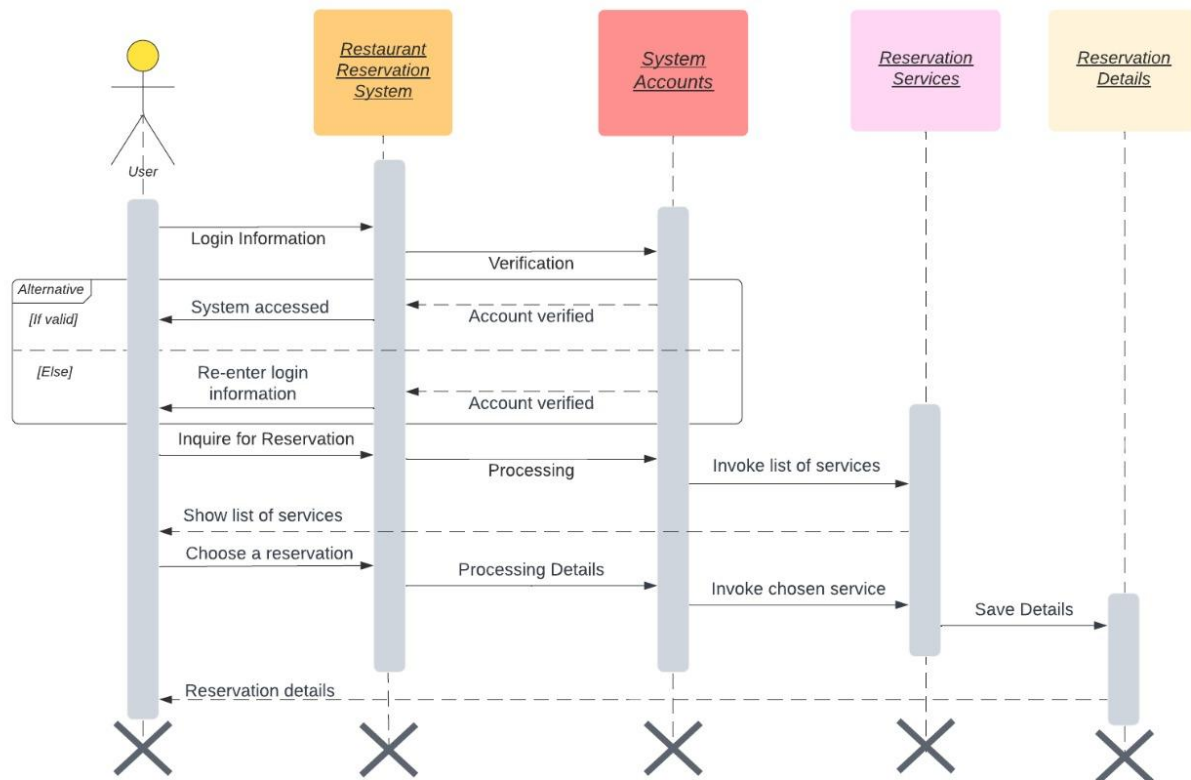
This is the Class diagram for Tripify-Trip Planning system

Hotel Booking



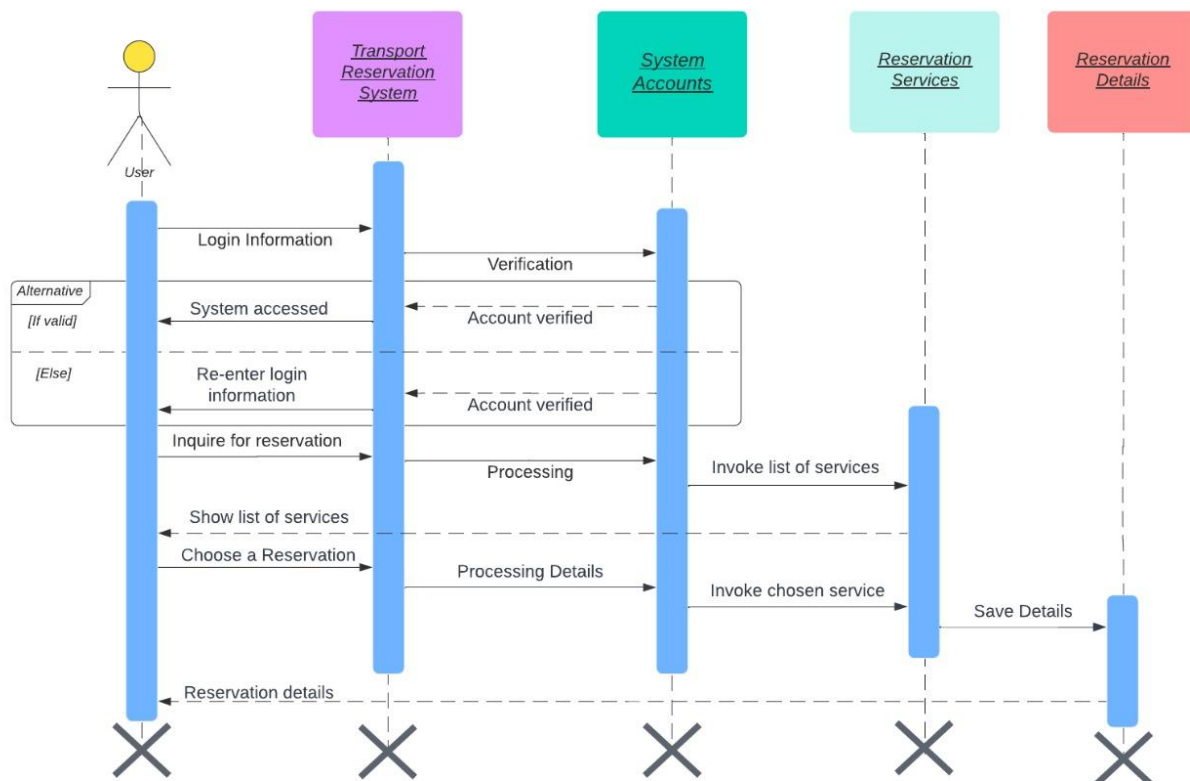
This is the Sequence diagram of Hotel Booking for Tripify-Trip Planning system

Restaurant Booking



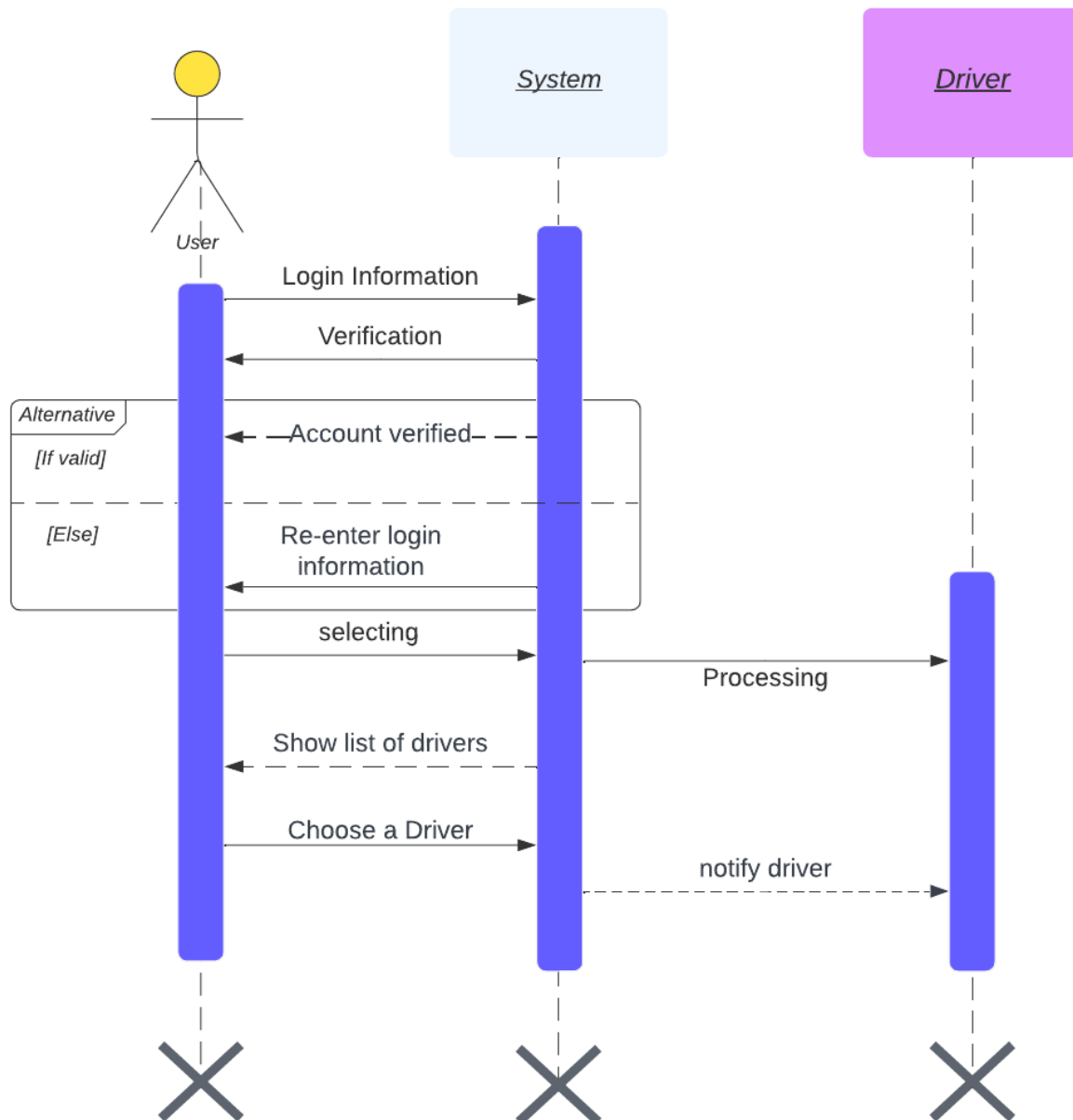
This is the Sequence diagram of Restaurant Booking for Tripify-Trip Planning system

Transport Booking



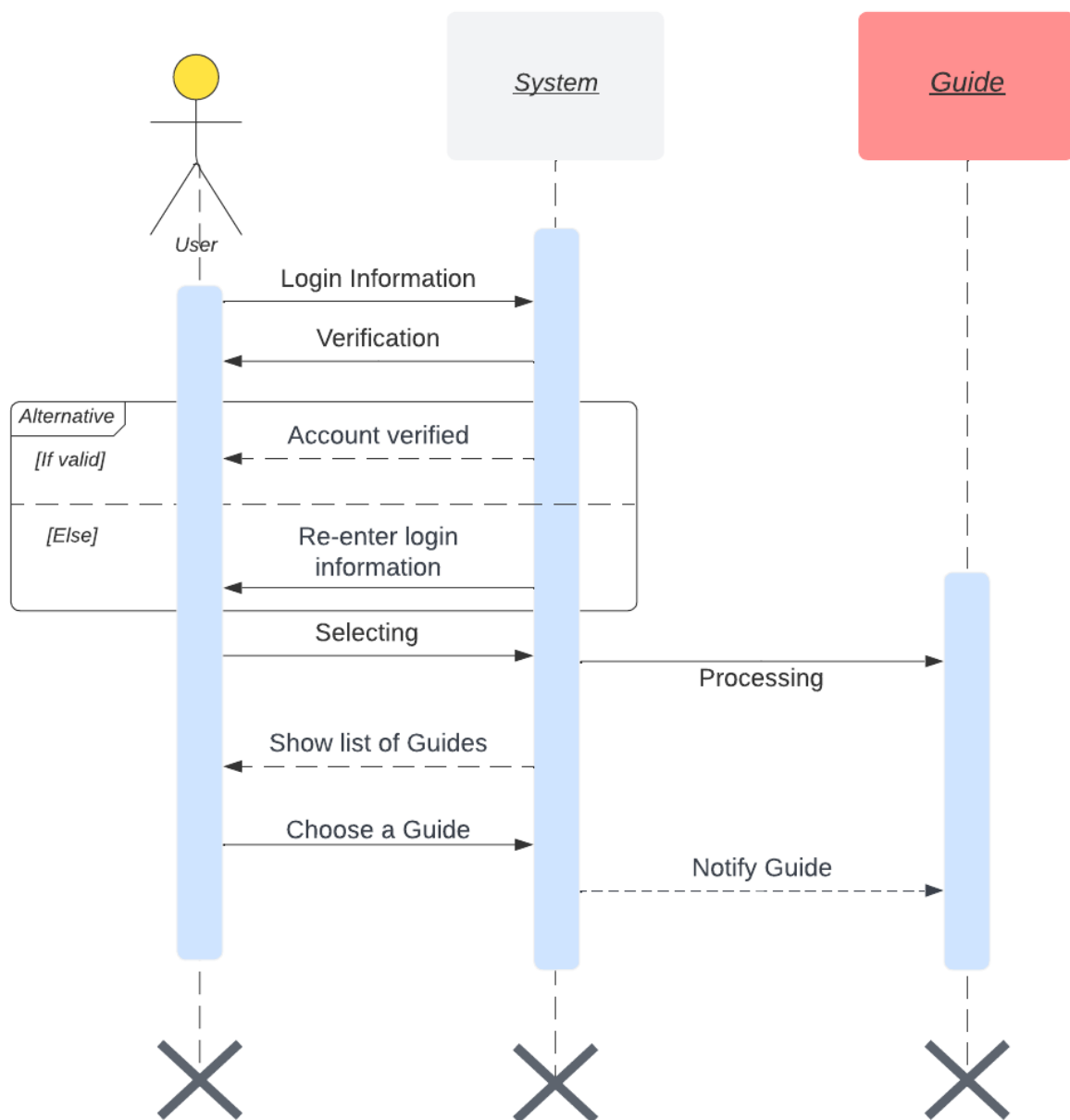
This is the Sequence diagram of Transport Booking for Tripify-Trip Planning system

Book a Driver

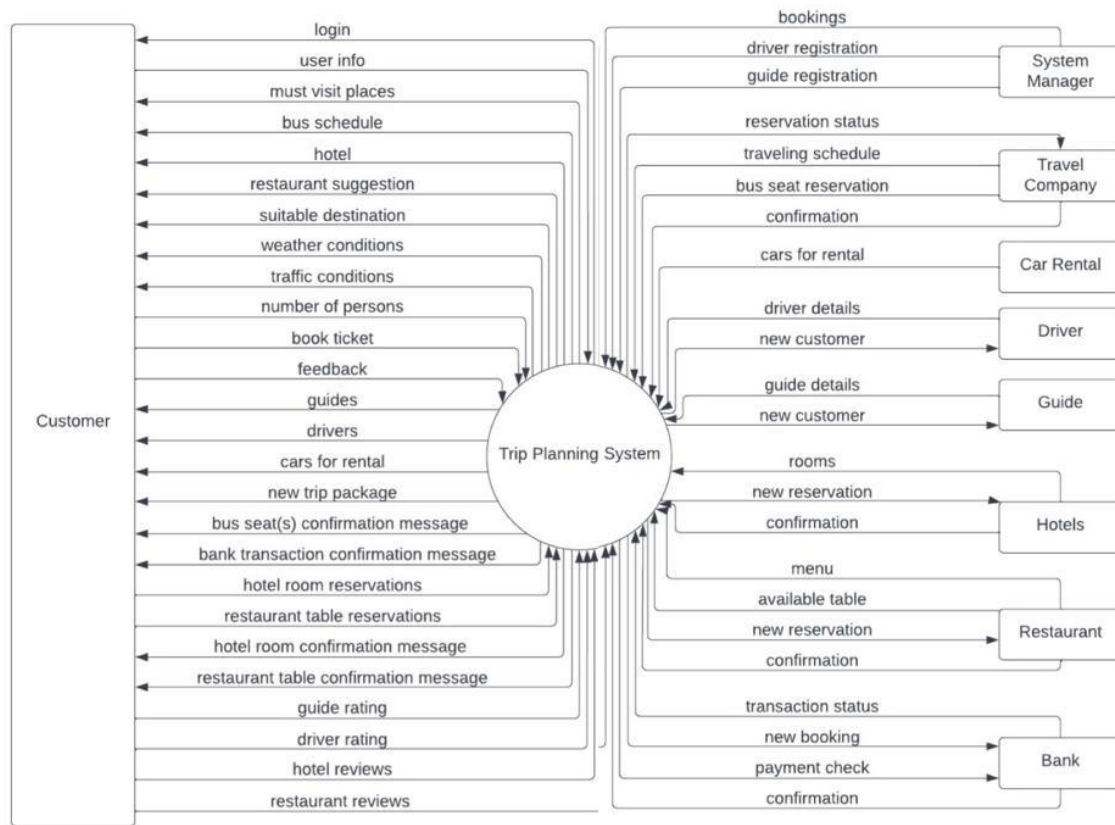


This is the Sequence diagram of Choosing a Driver for Tripify-Trip Planning system

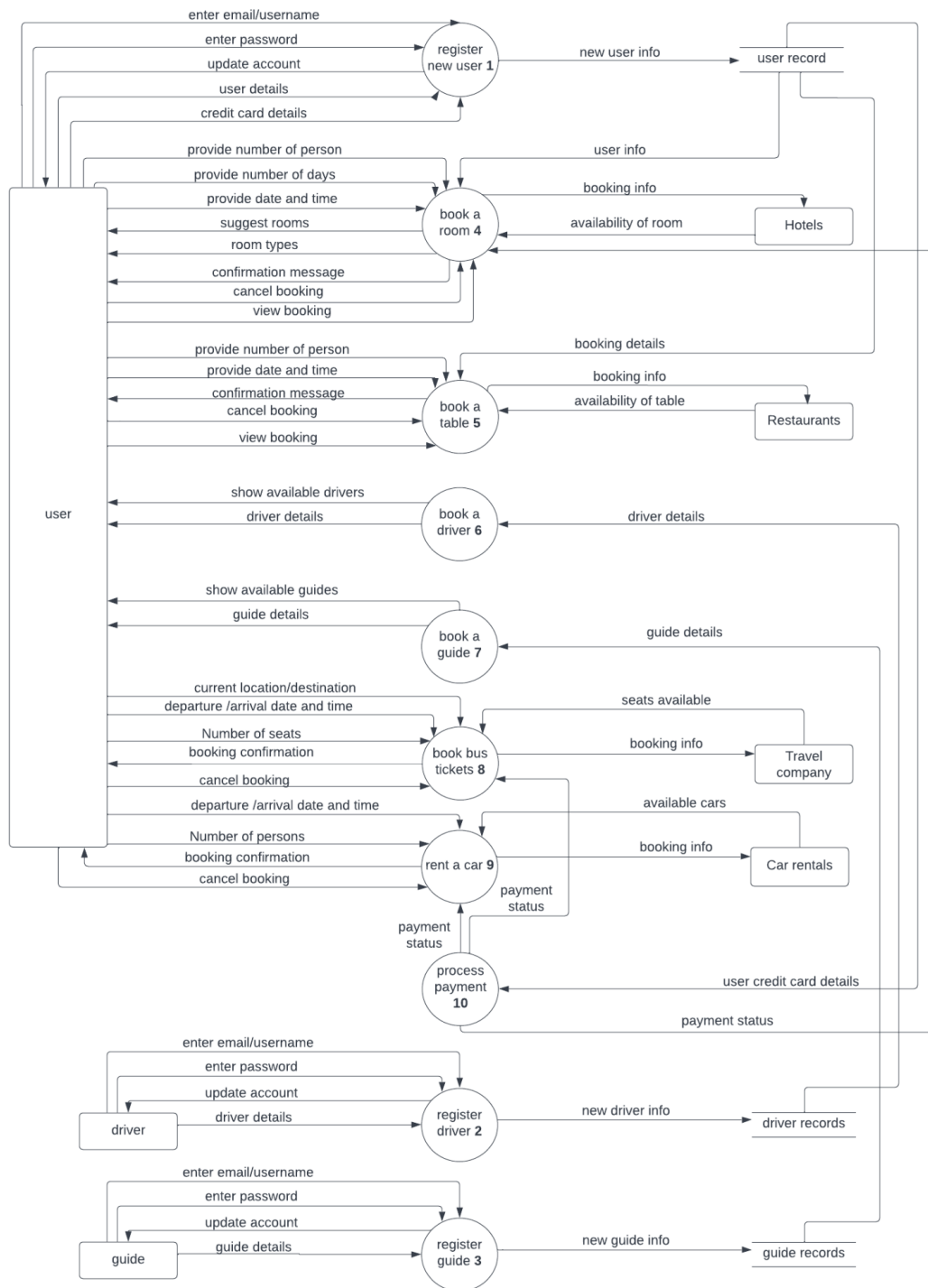
Book a Guide



This is the Sequence diagram of Choosing a Guide for Tripify-Trip Planning system



This is the Data Flow Diagram (level 0) for Tripify-Trip Planning system



This is the Data Flow Diagram (level 1) for Tripify-Trip Planning system

Appendix C : To be determined

1. The trip planner system should collaborate with hotels, restaurants, car rental companies and travel companies so that the booking process can be completed.
2. The new trip packages should be provided to the user according to his/her interest.
3. Deals & discounts should be available to the user more often and on certain events and holidays.