
# Bus Trips Reservation System

**TA: Dr/ Shamia Magdy**

**Team ID: 115**

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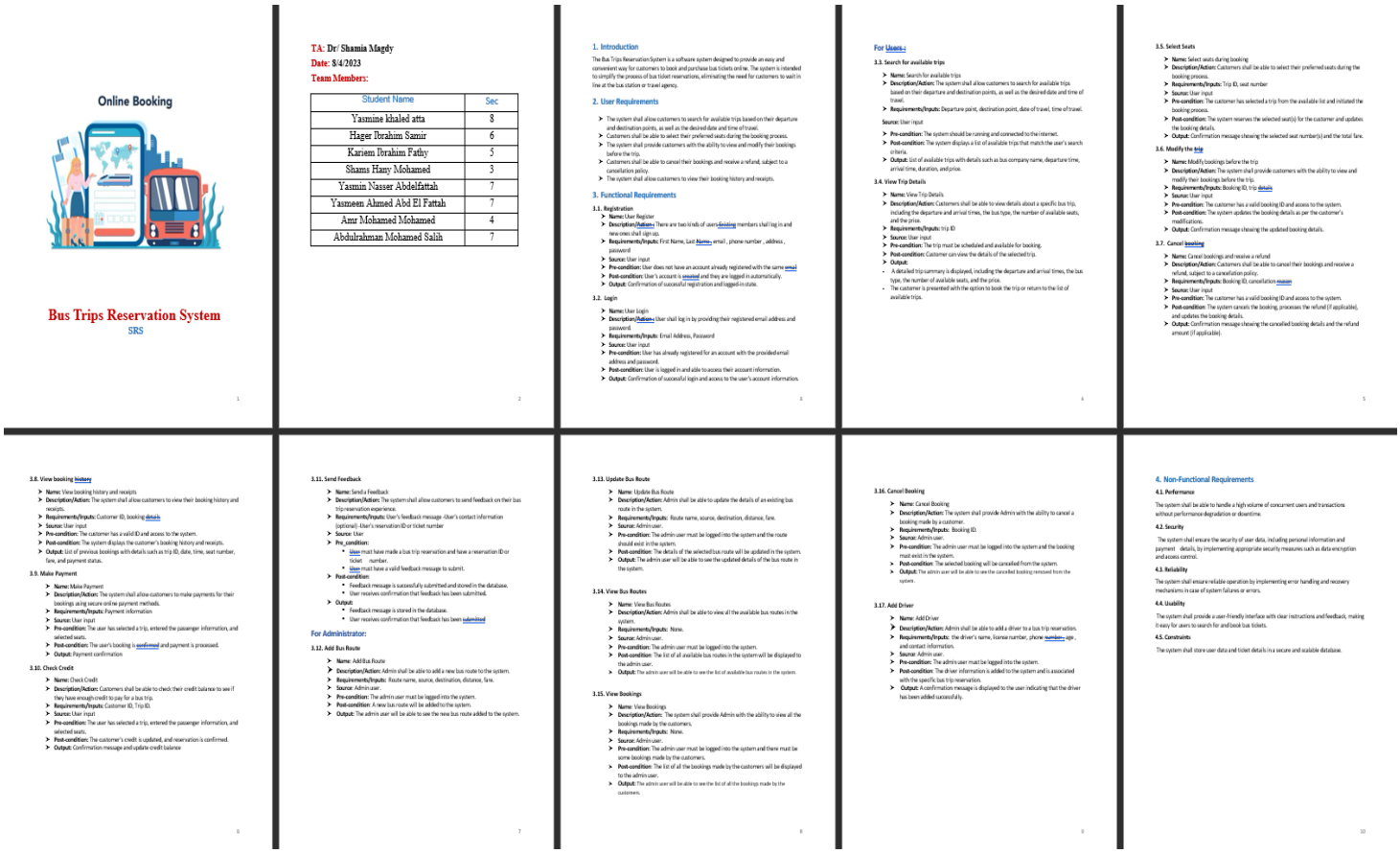
# 1- Software requirements specification (SRS)

## First: (High quality here )



Online Booking

Bus Trips Reservation System
SRS

TA: Dr/ Shamia Magdy
Date: 8/4/2023
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1. Introduction

The Bus Trips Reservation System is a software system designed to provide an easy and convenient way for customers to book and purchase bus tickets online. The system is intended to simplify the process of bus ticket reservations, eliminating the need for customers to wait in line at the bus station or travel agency.

2. User Requirements

- The system shall allow customers to search for available trips based on their departure and destination points, as well as the desired date and time of travel.
- Customers shall be able to select their preferred seats during the booking process.
- The system shall provide customers with the ability to view and modify their bookings before the trip.
- Customers shall be able to cancel their bookings and receive a refund, subject to a cancellation policy.
- The system shall allow customers to view their booking history and receipts.

3. Functional Requirements

3.1. Registration
- Name: User Register
- Description/Actions: There are two kinds of users existing members shall log in and new ones shall sign up.
- Requirements/Inputs: First Name, Last Name, email , phone number , address , password
- Source: User input
- Pre-condition: User does not have an account already registered with the same email
- Post-condition: User's account is created and they are logged in automatically.
- Output: Confirmation of successful registration and logged-in state.

3.2. Login
- Name: User Login
- Description/Actions: User shall log in by providing their registered email address and password.
- Requirements/Inputs: Email Address, Password
- Source: User input
- Pre-condition: User has already registered for an account with the provided email address and password.
- Post-condition: User is logged in and able to access their account information.
- Output: Confirmation of successful login and access to the user's account information.

For Users :

3.3. Search for available trips
- Name: Search for available trips
- Description/Action: The system shall allow customers to search for available trips based on their departure and destination points, as well as the desired date and time of travel.
- Requirements/Inputs: Departure point, destination point, date of travel, time of travel.

Source: User input
- Pre-condition: The system should be running and connected to the internet.
- Post-condition: The system displays a list of available trips that match the user's search criteria.
- Output: List of available trips with details such as bus company name, departure time, arrival time, duration, and price.

3.4. View Trip Details
- Name: View Trip Details
- Description/Action: Customers shall be able to view details about a specific bus trip, including the departure and arrival times, the bus type, the number of available seats, and the price.
- Requirements/Inputs: trip ID
- Source: User input
- Pre-condition: The trip must be scheduled and available for booking.
- Post-condition: Customer can view the details of the selected trip.
- Output:
  - A detailed trip summary is displayed, including the departure and arrival times, the bus type, the number of available seats, and the price.
  - The customer is presented with the option to book the trip or return to the list of available trips.

3.5. Select Seats
- Name: Select seats during booking
- Description/Action: The system shall provide customers with the ability to view and modify their bookings before the trip.
- Requirements/Inputs: Trip ID, seat number
- Source: User input
- Pre-condition: The customer has selected a trip from the available list and initiated the booking process.
- Post-condition: The system reserves the selected seat(s) for the customer and updates the booking details.
- Output: Confirmation message showing the selected seat number(s) and the total fare.

3.6. Modify the trip
- Name: Modify bookings before the trip
- Description/Action: The system shall provide customers with the ability to view and modify their bookings before the trip.
- Requirements/Inputs: Booking ID, trip details
- Source: User input
- Pre-condition: The customer has a valid booking ID and access to the system.
- Post-condition: The system updates the booking details as per the customer's modifications.
- Output: Confirmation message showing the updated booking details.

3.7. Cancel booking
- Name: Cancel bookings and receive a refund
- Description/Action: Customers shall be able to cancel their bookings and receive a refund, subject to a cancellation policy.
- Requirements/Inputs: Booking ID, cancellation reason
- Source: User input
- Pre-condition: The customer has a valid booking ID and access to the system.
- Post-condition: The system cancels the booking, processes the refund (if applicable), and updates the booking details.
- Output: Confirmation message showing the cancelled booking details and the refund amount (if applicable).

3.8. View booking history
- Name: View booking history and receipts
- Description/Action: The system shall allow customers to view their booking history and receipts.
- Requirements/Inputs: Customer ID, booking details
- Source: User input
- Pre-condition: The customer has a valid ID and access to the system.
- Post-condition: The system displays the customer's booking history and receipts.
- Output: List of previous bookings with details such as trip ID, date, time, seat number, fare, and payment status.

3.9. Make Payment
- Name: Make Payment
- Description/Action: The system shall allow customers to make payments for their bookings using secure online payment methods.
- Requirements/Inputs: Payment information
- Source: User input
- Pre-condition: The user has selected a trip, entered the passenger information, and selected seats.
- Post-condition: The user's booking is confirmed and payment is processed.
- Output: Payment confirmation

3.10. Check Credit
- Name: Check Credit
- Description/Action: Customers shall be able to check their credit balance to see if they have enough credit to pay for a bus trip.
- Requirements/Inputs: Customer ID, Trip ID.
- Source: User input
- Pre-condition: The user has selected a trip, entered the passenger information, and selected seats.
- Post-condition: The customer's credit is updated, and reservation is confirmed.
- Output: Confirmation message and update credit balance

3.11. Send Feedback
- Name: Send a Feedback
- Description/Action: The system shall allow customers to send feedback on their bus trip reservation experience.
- Requirements/Inputs: User's feedback message -User's contact information (optional) -User's reservation ID or ticket number
- Source: User
- Pre_condition:
  - User must have made a bus trip reservation and have a reservation ID or ticket number.
  - User must have a valid feedback message to submit.
- Post-condition
  - Feedback message is successfully submitted and stored in the database.
  - User receives confirmation that feedback has been submitted.
- Output:
  - Feedback message is stored in the database.
  - User receives confirmation that feedback has been submitted

For Administrator:

3.12. Add Bus Route
- Name: Add Bus Route
- Description/Action: Admin shall be able to add a new bus route to the system.
- Requirements/Inputs: Route name, source, destination, distance, fare.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system.
- Post-condition: A new bus route will be added to the system.
- Output: The admin user will be able to see the new bus route added to the system.

3.13. Update Bus Route
- Name: Update Bus Route
- Description/Action: Admin shall be able to update the details of an existing bus route in the system.
- Requirements/Inputs: Route name, source, destination, distance, fare.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system and the route should exist in the system.
- Post-condition: The details of the selected bus route will be updated in the system.
- Output: The admin user will be able to see the updated details of the bus route in the system.

3.14. View Bus Routes
- Name: View Bus Routes
- Description/Action: Admin shall be able to view all the available bus routes in the system.
- Requirements/Inputs: None.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system.
- Post-condition: The list of all available bus routes in the system will be displayed to the admin user.
- Output: The admin user will be able to see the list of available bus routes in the system.

3.15. View Bookings
- Name: View Bookings
- Description/Action: The system shall provide Admin with the ability to view all the bookings made by the customers.
- Requirements/Inputs: None.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system and there must be some bookings made by the customers.
- Post-condition: The list of all the bookings made by the customers will be displayed to the admin user.
- Output: The admin user will be able to see the list of all the bookings made by the customers.

3.16. Cancel Booking
- Name: Cancel Booking
- Description/Action: The system shall provide Admin with the ability to cancel a booking made by a customer.
- Requirements/Inputs: Booking ID.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system and the booking must exist in the system.
- Post-condition: The selected booking will be cancelled from the system.
- Output: The admin user will be able to see the cancelled booking removed from the system.

3.17. Add Driver
- Name: Add Driver
- Description/Action: Admin shall be able to add a driver to a bus trip reservation.
- Requirements/Inputs: the driver's name, license number, phone number, age , and contact information.
- Source: Admin user.
- Pre-condition: The admin user must be logged into the system.
- Post-condition: The driver information is added to the system and is associated with the specific bus trip reservation.
- Output: A confirmation message is displayed to the user indicating that the driver has been added successfully.

4. Non-Functional Requirements

4.1. Performance

The system shall be able to handle a high volume of concurrent users and transactions without performance degradation or downtime.

4.2. Security

The system shall ensure the security of user data, including personal information and payment details, by implementing appropriate security measures such as data encryption and access control.

4.3. Reliability

The system shall ensure reliable operation by implementing error handling and recovery mechanisms in case of system failures or errors.

4.4. Usability

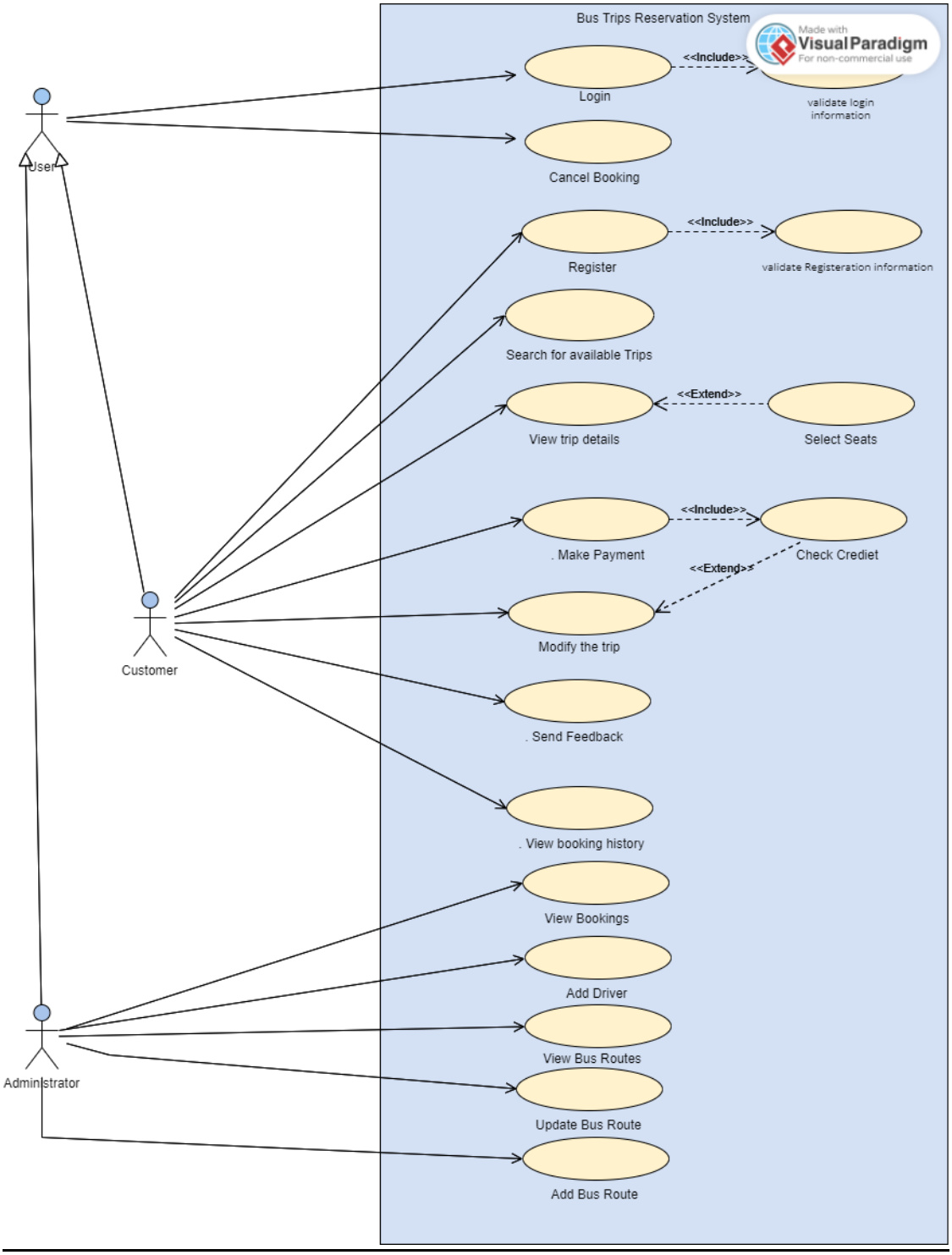
The system shall provide a user-friendly interface with clear instructions and feedback, making it easy for users to search for and book bus tickets.

4.5. Constraints

The system shall store user data and ticket details in a secure and scalable database.

# 2- Use Case diagram

## First: (High quality here )



# 3- Sequence Diagram

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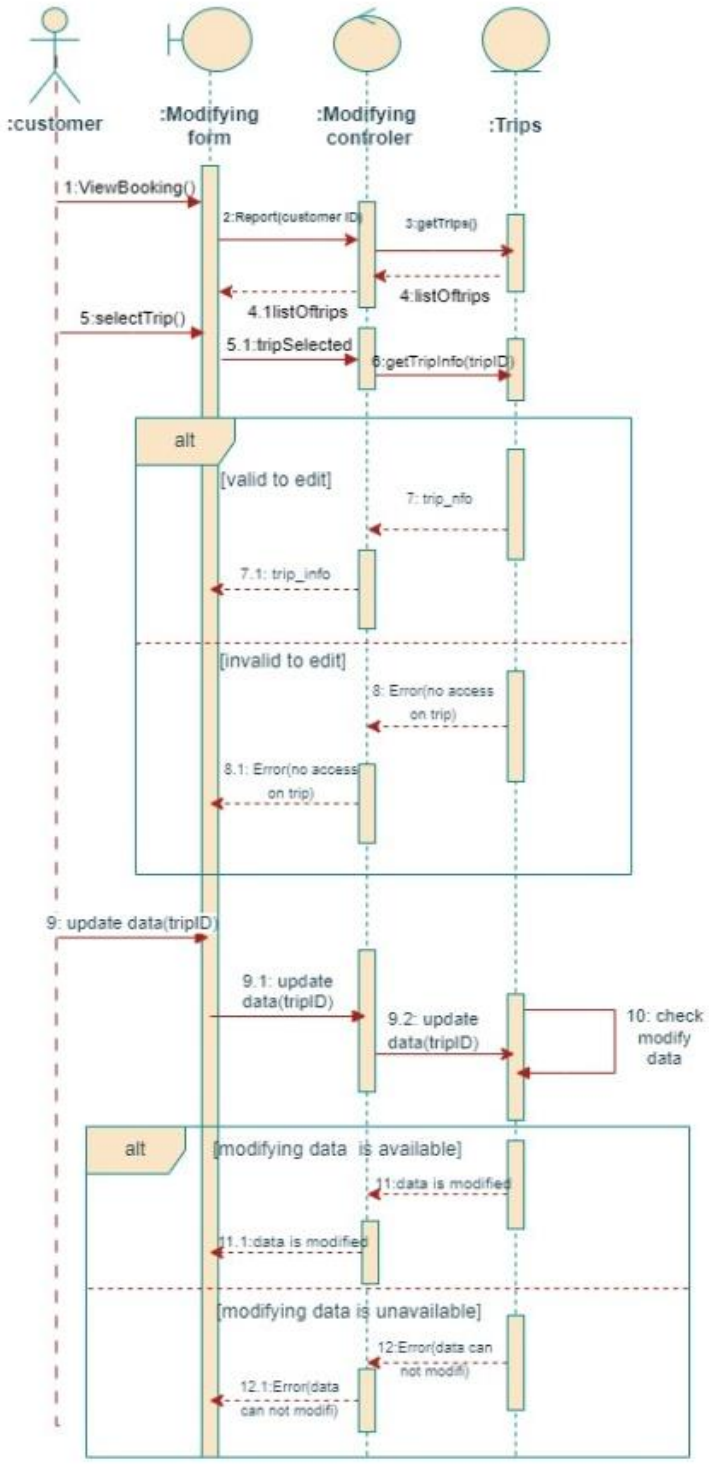

# 4- Entity Relationship Diagram (ERD)

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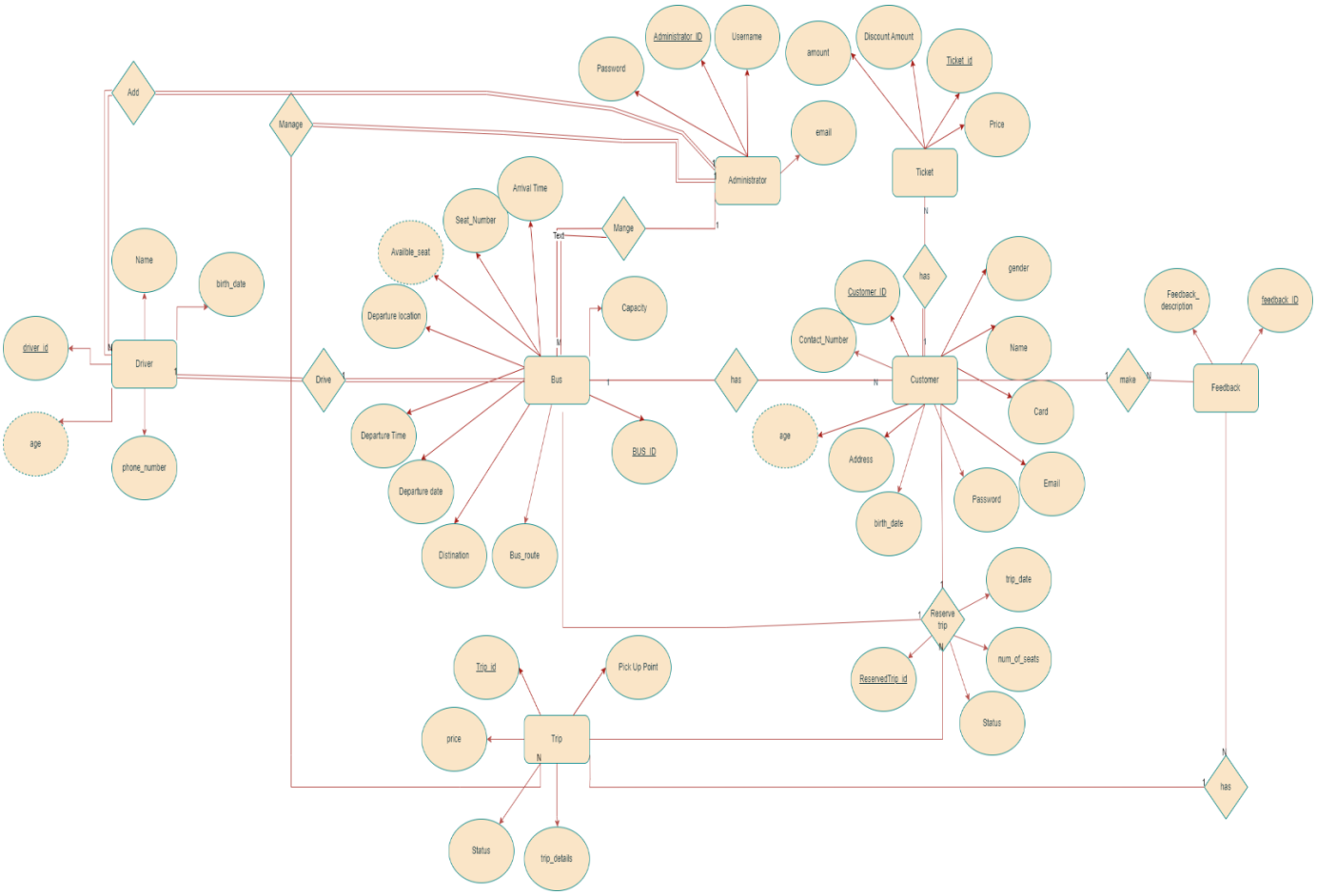

# 5-schema diagram

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