North South University

Department of Electrical & Computer Engineering

PROJECT PROPOSAL

NSU Shuttle System

Course Title: Software Engineering

Course Code: CSE327

Section Number: 07

Submitted To:

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Submission Date: 4th December 2022

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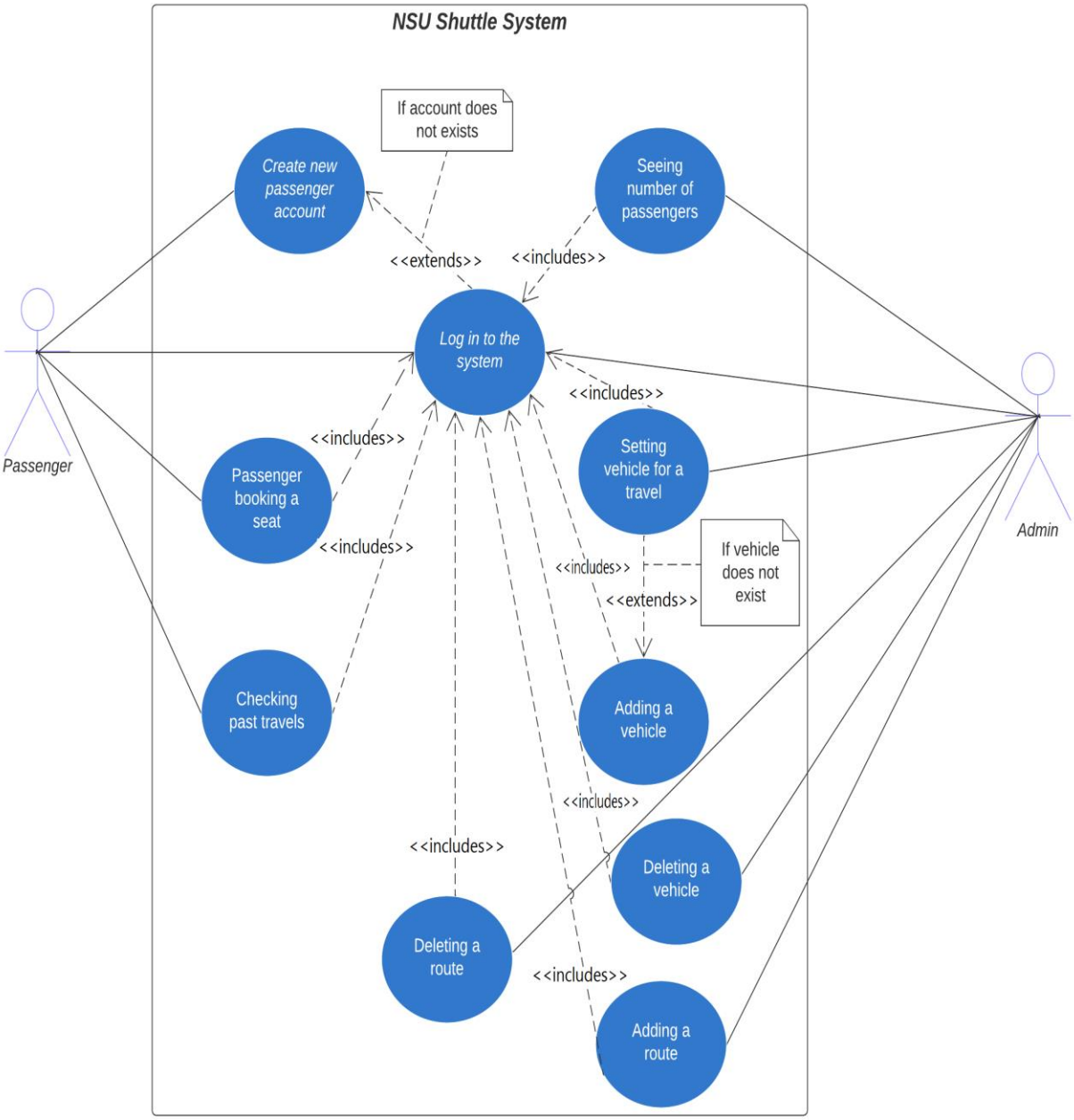
Use Case Diagram:



Use Cases:

Use Case Name: Create new passenger account

Actor: Passenger

Description:

1. Input user ID, name, email, password & confirm password.
2. Check User ID. (Unique).
3. Store new passenger account into the database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. URL of "Create account" hyperlink page.

Post Condition:

1. **Successful**- Create user account.
2. **Unsuccessful**- Stay in the same page, do not create user account & show error message.
3. **Exception**- Stay in the same page if possible.

Use Case Name: User login to the system

Actor: User

Description:

1. Input user ID & password.
2. Check user ID & password. (Authentication)
3. Save ID and password. (Local Storage)
4. Remember password.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. URL of "Log In" hyperlink page.

Post Condition:

1. **Successful**- Log in the user into the system.
2. **Unsuccessful**- Stay in the same page, do not login the user & show error message.
3. **Exception**- Stay in the same page if possible.

Use Case Name: Passenger Booking a seat

Actor: Passenger

Description:

1. Input Way (Arrival/Departure), Route, Timeslot & Date.
2. Check the data. (Valid)
3. Store new booking into database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Passenger logged in to the system.
2. Charge the cost from next semester's fee.

Post Condition:

1. **Successful**- Book a seat for the passenger.
2. **Unsuccessful**- Stay in the same page, do not book a seat & show error message.
3. **Exception**- Stay in the same page if possible.

Use Case Name: Checking past travels

Actor: Passenger

Description:

1. Retrieve and show all past travels from database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Passenger logged in to the system.

Post Condition:

1. **Successful**- Show data about user's past travels.
2. **Unsuccessful**- Stay in the same page, do not show any data & show error message.
3. **Exception**- Stay in the same page if possible

Use Case Name: Seeing number of passengers

Actor: Admin

Description:

1. Input Way (Arrival/Departure), Route, Timeslot & Date.
2. Retrieve, calculate and show the number of passengers from database

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Admin logged in to the system.

Post Condition:

1. **Successful**- Show number of passengers.
2. **Unsuccessful**- Stay in the same page, do not show any data & show error message.
3. **Exception**- Stay in the same page if possible.

Use Case Name: Adding a vehicle

Actor: Admin

Description:

1. Input brand, model, registration number & vehicle ID.
2. Check vehicle ID and registration number. (Unique)
3. Store a new vehicle into database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Admin logged in to the system.
2. The vehicle does not exists.

Post Condition:

1. **Successful**- Add a vehicle.
2. **Unsuccessful**- Stay in the same page, do not add a vehicle & show error message.
3. **Exception**- Stay in the same page if possible

Use Case Name: Deleting a vehicle

Actor: Admin

Description:

1. Input vehicle number.
2. Check data. (Valid)
3. Delete the vehicle from database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Admin logged in to the system.
2. The vehicle exists.

Post Condition:

1. **Successful**- Delete the vehicle & show success message.
2. **Unsuccessful**- Stay in the same page, do not delete the vehicle & show error message.
3. **Exception**- Stay in the same page if possible

Use Case Name: Adding a route

Actor: Admin

Description:

1. Input route ID & name.
2. Check route ID. (Unique)
3. Store a new route into database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Admin logged in to the system.
2. The route does not exists.

Post Condition:

1. **Successful**- Add a route & show success message.
2. **Unsuccessful**- Stay in the same page, do not add a route & show error message.
3. **Exception**- Stay in the same page if possible

Use Case Name: Deleting a route

Actor: Admin

Description:

1. Input route ID.
2. Check route ID.(Valid)
3. Delete the route from database.

Exception:

1. Required page not found.
2. No database connection.

Precondition:

1. Admin logged in to the system.
2. The route exists.

Post Condition:

1. **Successful**- Delete the route & show success message.
2. **Unsuccessful**- Stay in the same page, do not delete the route & show error message.
3. **Exception**- Stay in the same page if possible

Use Case Name: Setting vehicle for a travel

Actor: Admin

Description:

1. Input Way (Arrival/Departure), Route, Timeslot, Date & vehicle number.
2. Check data. (Valid)
3. Store vehicle info to that particular travel.

Exception:

1. Required page not found.
2. No database connection.

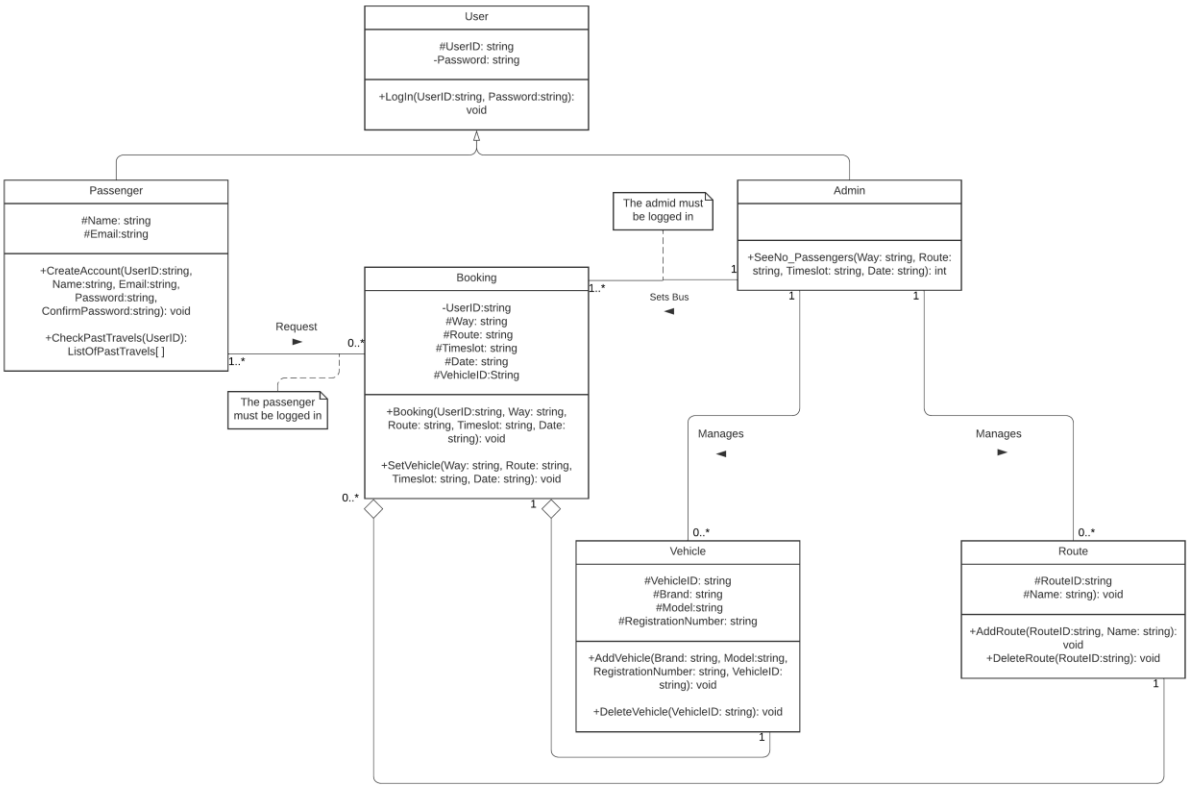
Precondition:

1. Admin logged in to the system.

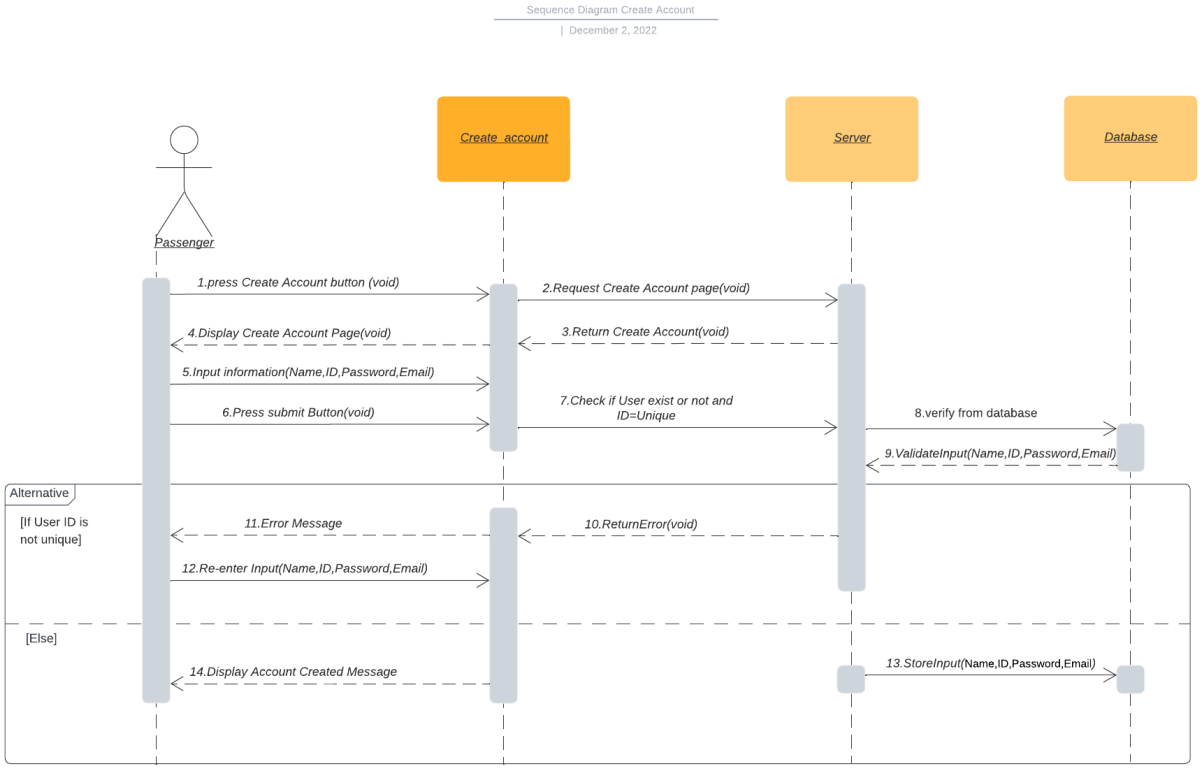
Post Condition:

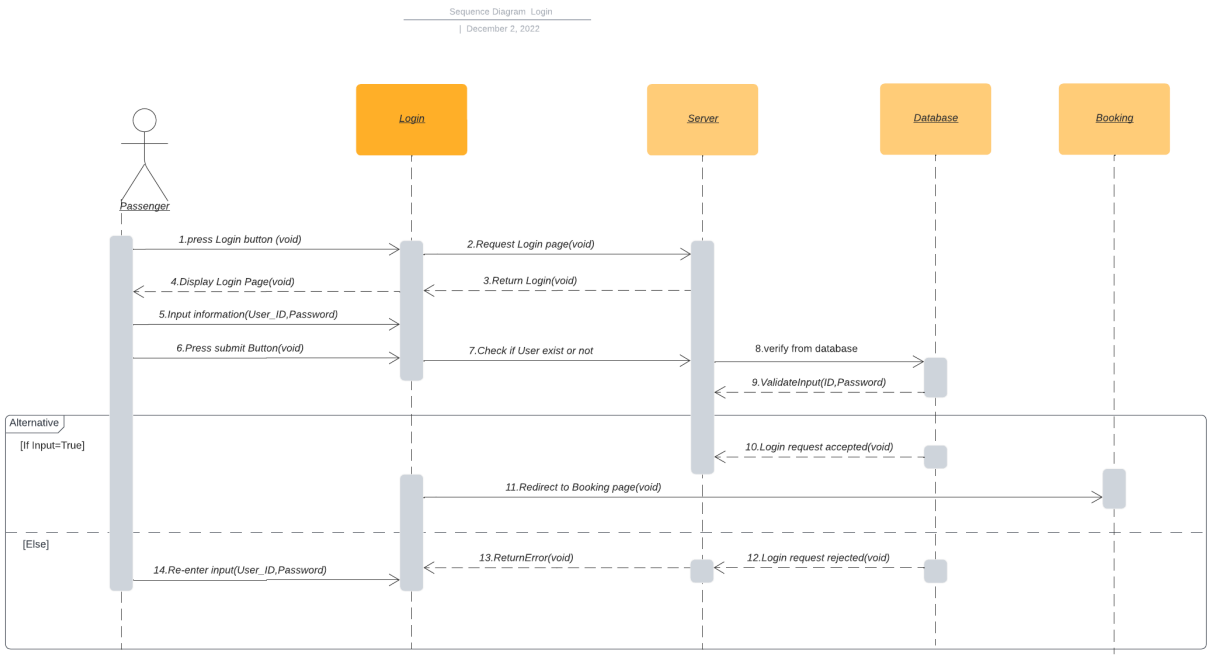
1. **Successful**- Set up the vehicle for that travel & show success message.
2. **Unsuccessful**- Stay in the same page, do not set up the vehicle for the travel & show error message.
3. **Exception**- Stay in the same page if possible.

Class Diagram:



Sequence Diagram:





Sequence Diagram_Booking

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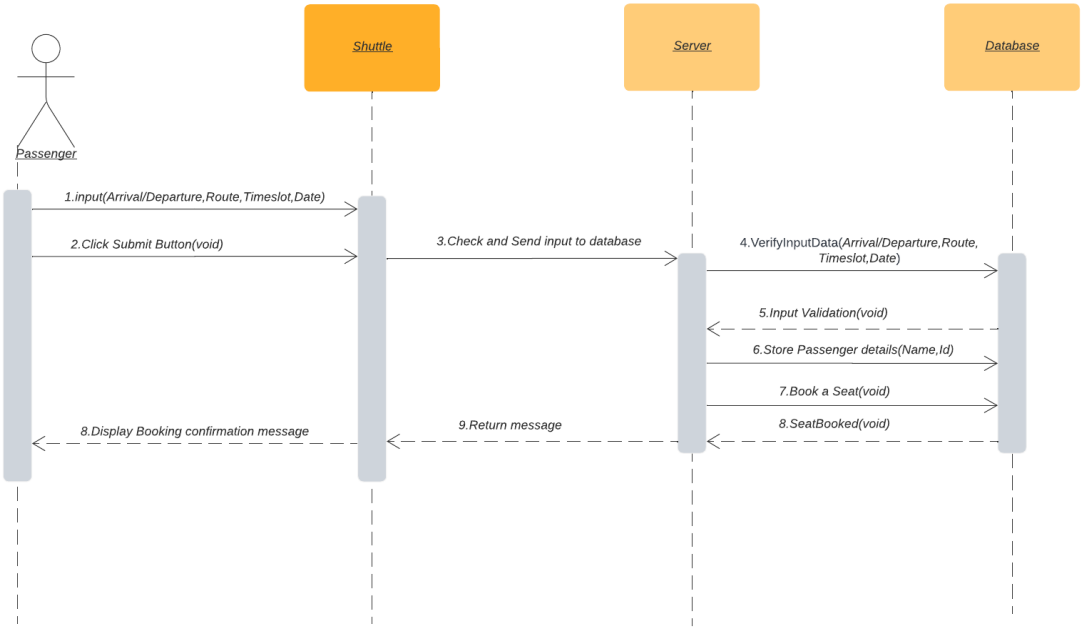

Sequence Diagram_Check Past Travels

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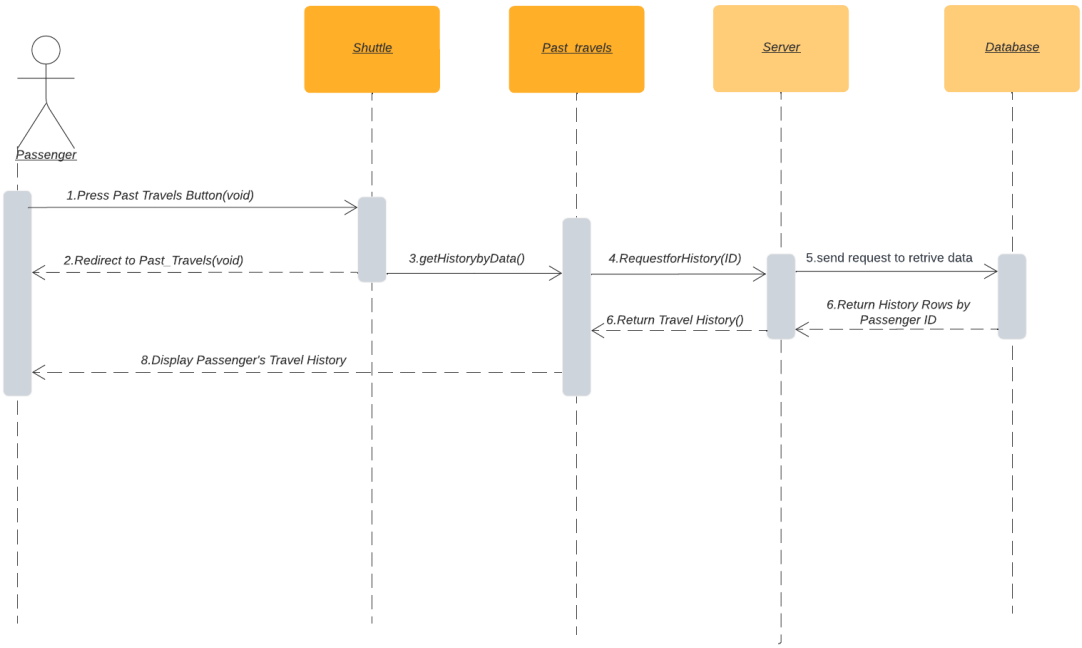

Sequence Diagram Show Number of Passenger

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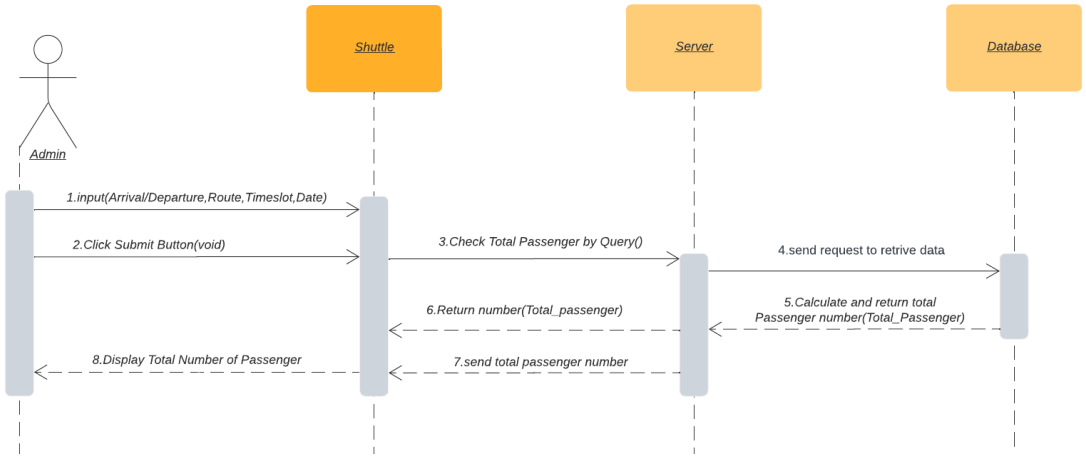

Sequence Diagram Add Vehicle

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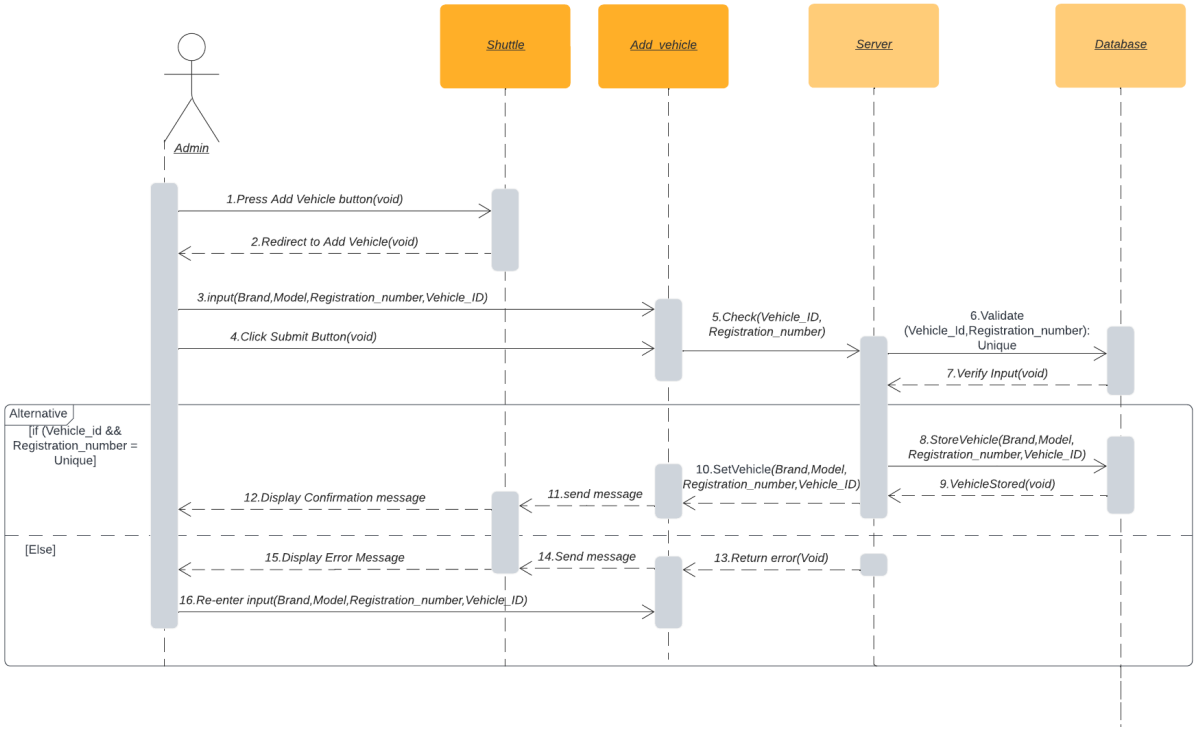
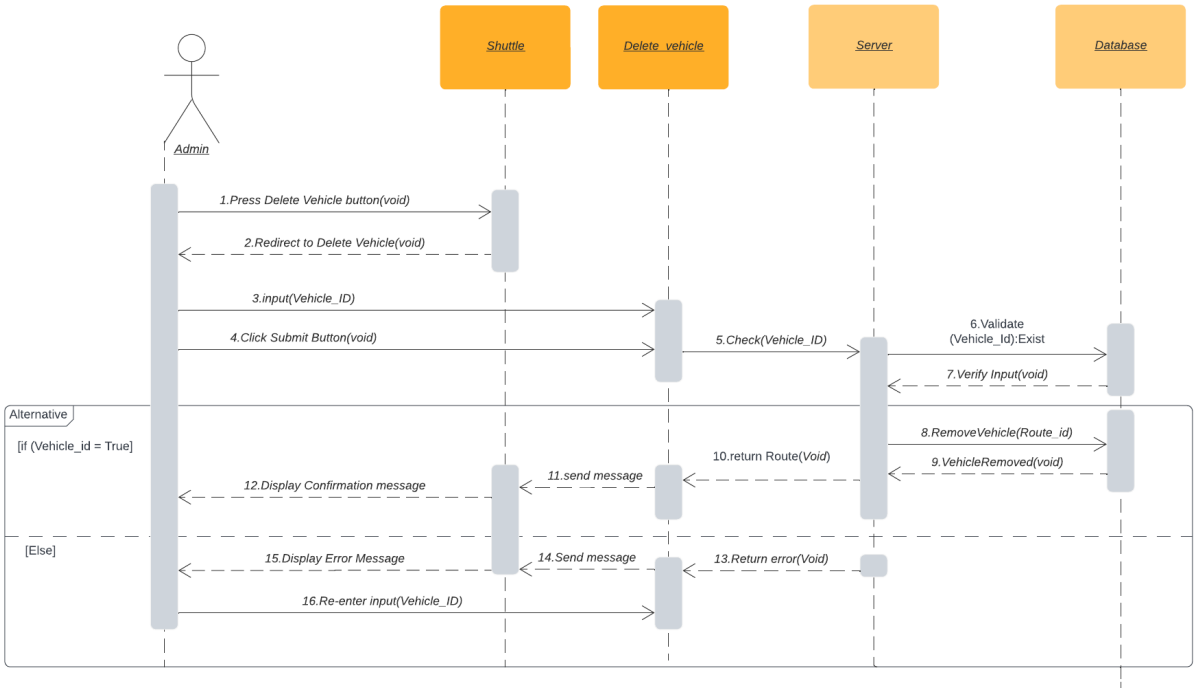


Sequence Diagram Delete Vehicle

| December 2, 2022



Sequence Diagram Adding a Route

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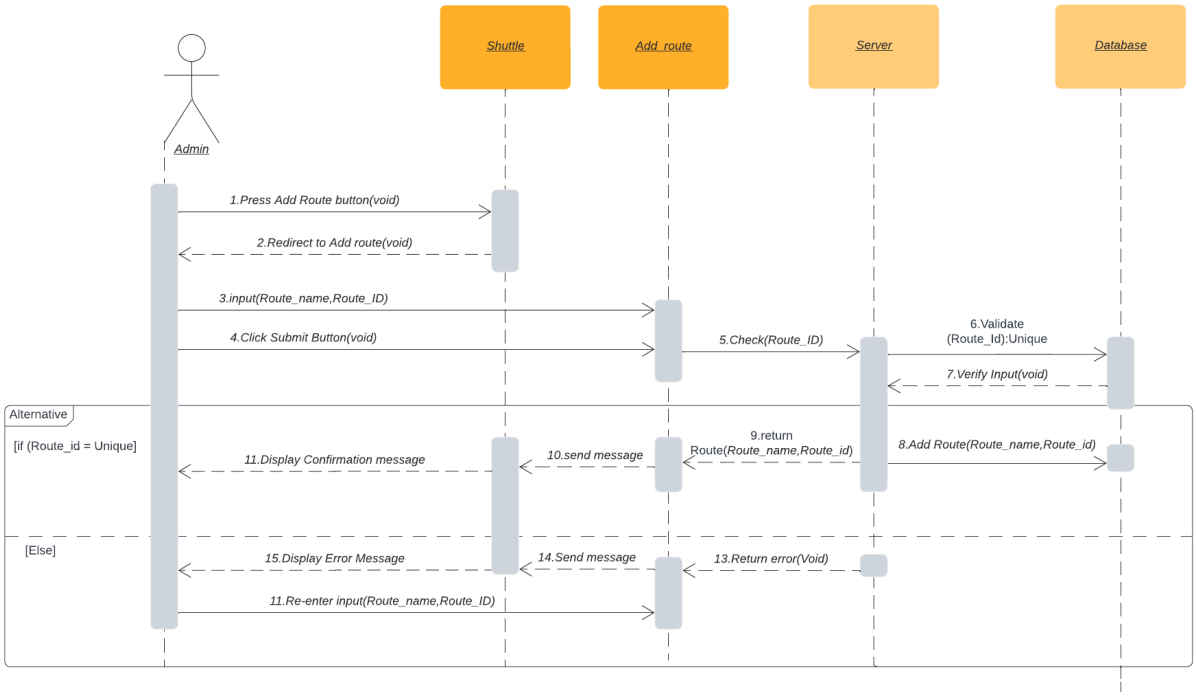
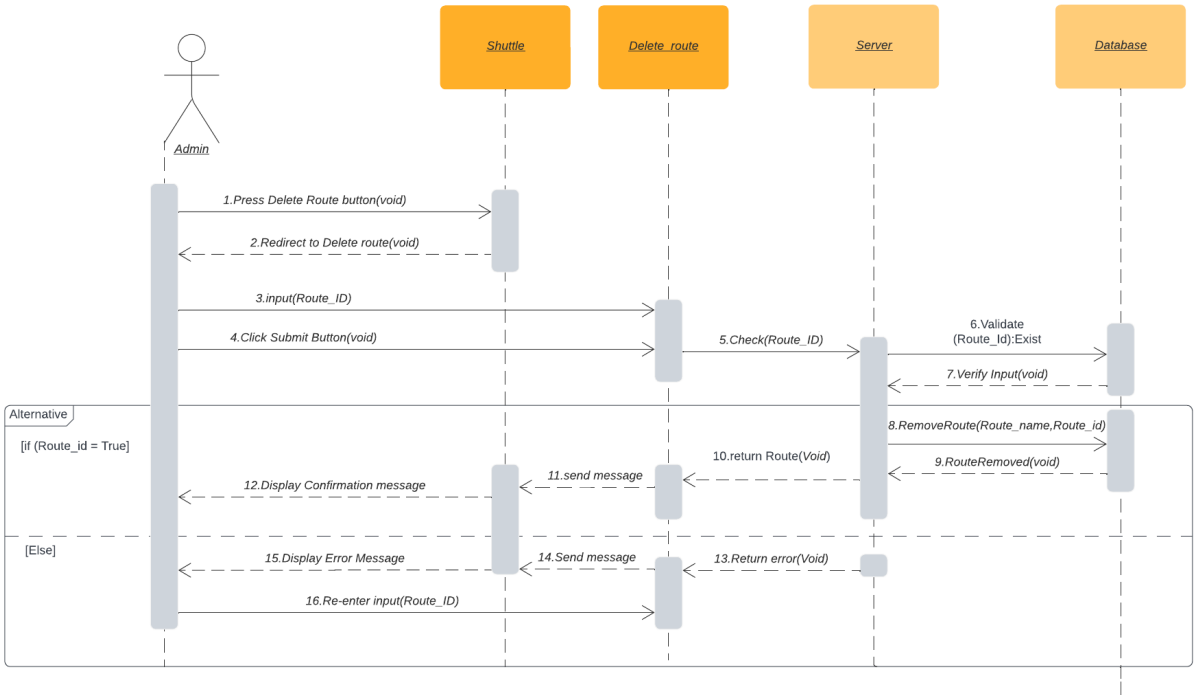
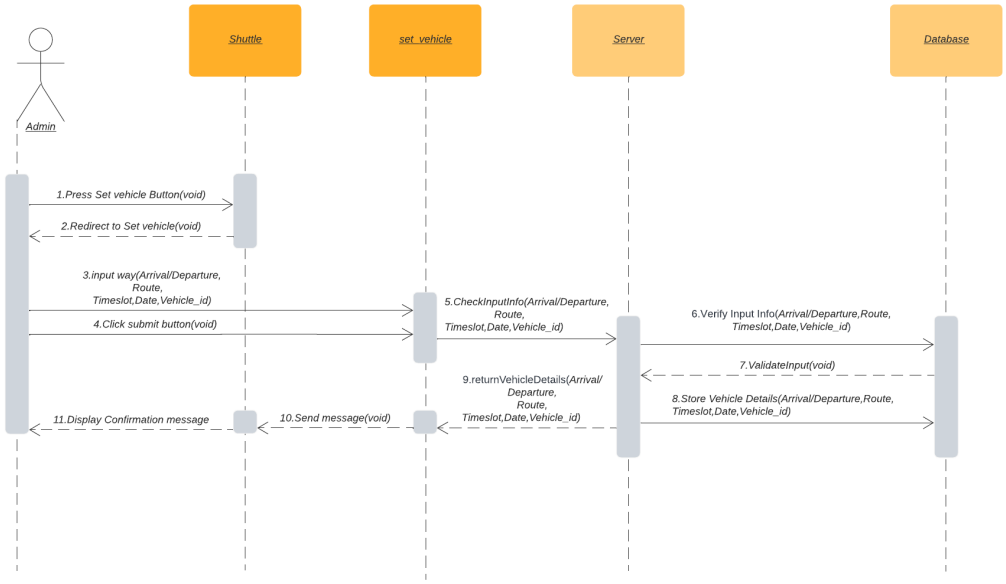


Sequence Diagram Delete a Route

| December 2, 2022



Sequence Diagram Setting Vehicle For a Travel

| December 2, 2022