Practical 6

User's view Analysis

Aim: Perform the user's view analysis for the suggested system by drawing Use case Diagram.

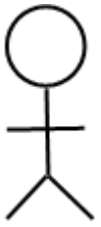
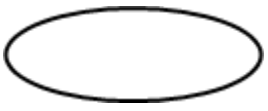
6. User View Analysis

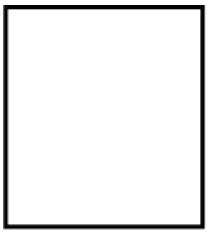
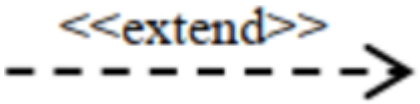
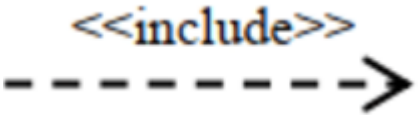
User's view analysis is the process of understanding the interactions of different users with the system. It helps in identifying the functionalities required by different users and ensures that the system meets their needs effectively.

6.1 Purpose of Use-Case:

The Use case diagram is used to gather the requirements of a system. It is used to get an outside view of a system. It Identifies the external and internal factors influencing the system. It is also used to show the interaction among the requirements.

6.2 Notations of Use-Case:

Notation Description	Visual Representation
Actor • Someone interacts with use case (system function). • Named by noun. • Actor plays a role in the business. • Similar to the concept of user, but a user can play different roles.	
Use Case • System function(process-automated or manual) • Named by verb+ Noun(or Noun Phrase).	
Communication Link • The participation of an actor in a use case is shown by connecting an actor to a use-case by a solid link. Actors may be connected to use cases by associations, indicating that the actor and the use-case communicate with one another using messages.	

Boundary of system • The system boundary is potentially the entire system as defined in the requirements document. For large and complex systems, each module may be the system boundary.	
Extends • Example: Indicates that an **"Invalid-Password"** use case may include the behavior specified by base use case **"Login Account"**. • Depict with a directed arrow having a dotted line. The tip of arrow head points to the base use case and the child use case is connected at the base of the arrow. The stereotype "<<extends>>" identifies as an extend relationship.	
Include • When a use case is depicted as using the functionality of another use case, the relationship between the use cases is named as include or uses relationship. • A use case includes the functionality described in another use case as a part of its business process flow. The stereotype"<<include>>"identifies the relationship as an include relationship.	
Generalization • A generalization relationship is a parent-child relationship between use cases.	

6.3 User's View Analysis for Bus Rental Management System

User's view analysis in a **Bus Management System** involves understanding how various users—such as passengers, drivers, conductors, and administrators—interact with the system. This process helps identify the specific functionalities each user group requires, such as ticket booking for passengers, route management for drivers, fare collection for conductors, and scheduling or reporting tools for administrators. By analyzing these interactions, the system can be designed to meet the needs of all users effectively and ensure smooth operation across all levels.

Actors in the System:
An actor is an entity that interacts with the system. The Bus Management System has the following actors:

1. Customer

- Searches for available Bus.
- Books a Bus for rent.
- Cancels a booking.
- Makes payments.
- Views history.

2. Bus Owner

- Adds Bus to the system.
- Updates Bus availability and pricing.
- Removes Bus that are no longer available.
- Views transactions.

3. Admin

- Manages users (customers and Bus owners).
- Approves or rejects Bus listings.
- Generates reports on bookings, payments, and system usage.

Use Cases

A use case represents a specific function of the system that is performed by an actor. The main use cases of the Bus Rental Management System are:

For Customers:

1. **Search Bus** – Search for available rental Bus.
2. **Book Bus** – Rent a Bus for a specified duration.
3. **Cancel Booking** – Cancel a Bus before the scheduled time.
4. **Make Payment** – Pay for Bus via different payment methods.
5. **View History** – Check previous and ongoing Bus rentals.

For Bus Owners:

6. **Add Bus** – List a new Bus for rent.
7. **Update Bus Details** – Modify Bus details such as availability, price, and specifications.
8. **Remove Bus** – Remove a Bus listing when it's unavailable.
9. **View Transactions** – Check the history of rentals and payments.

For Admins:

10. **Manage Users** – Approve, update, or deactivate customer and Bus owner accounts.
11. **Approve Bus Listings** – Verify and approve Bus listings from owners.

12. **Generate Reports** – Create reports on rentals, payments, and user activity.
13. **Monitor System Usage** – Track system activity and logs.

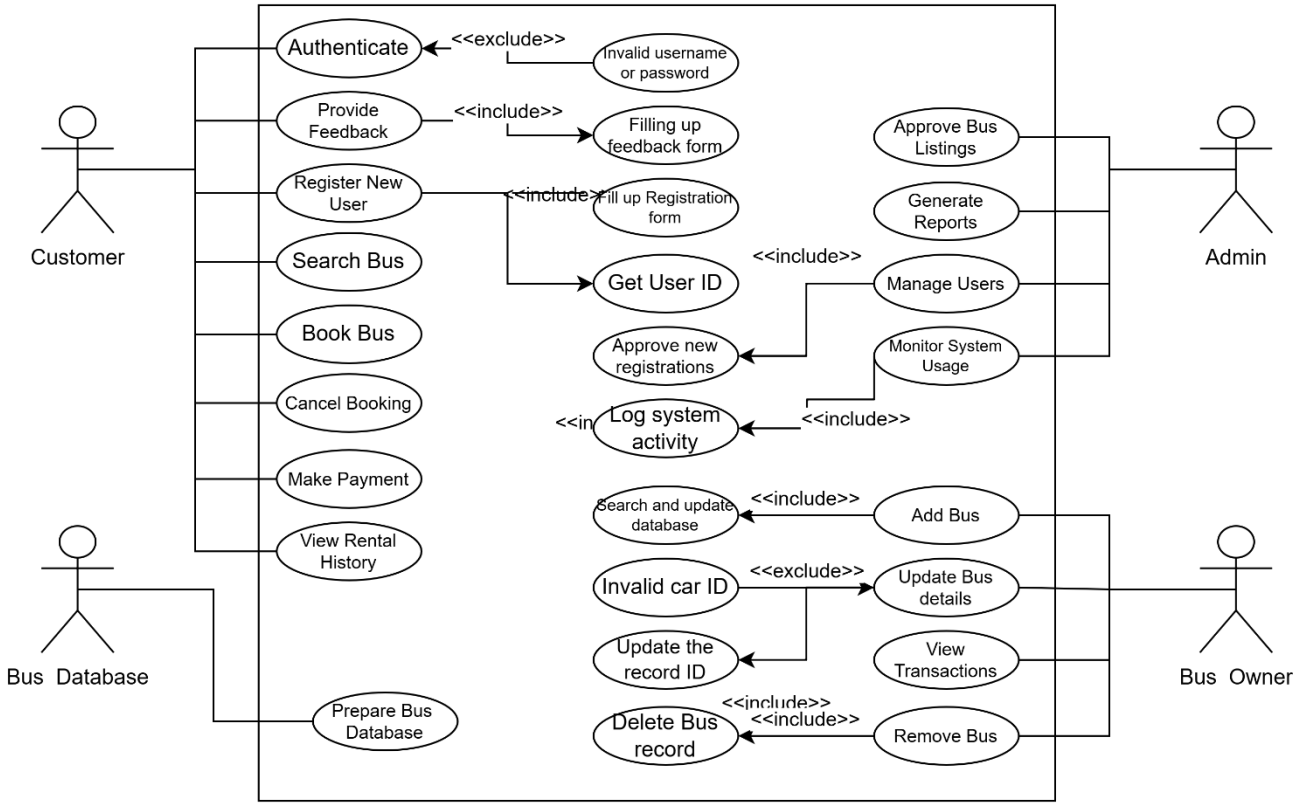


Figure 1: use case diagram