

Online Railway Reservation System



Low Level Design (LLD)

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Railway Reservation System LLD

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TABLE OF CONTENTS

1.	Document Purpose	4
2.	Intended Audience	4
3.	Project Background & Objective	
	3.1. Problem with Offline Railway Ticket Booking	5
	3.2. Solution to the above Issue	5
	3.3. Project Objective	5
4.	Design Pattern	6
5.	Solution Diagram	7
6.	Function of Project	8
	1. Book Reservations	
	2. Cancel Reservation	
	3. Add/Update Train Details	
	4. Generate Report	
	5. Verify login	
	6. View Reservation Details	
	7. View Train Timetable	
7.	UML Diagrams	
	7.1. Sequence Diagram	9 & 10
	7.2. Use Case Diagram	11
	7.3. Activity Diagram	12
	7.4. Class Diagram	13
	7.5. Database Diagram	14

Railway Reservation System LLD

1. Document Purpose

This document describes the Online Railway Reservation System.

2. Intended Audience

This document is intended as a reference for the following roles and stakeholders who are interested in the Railway Reservation System technical architecture.

Role	Nature of Engagement in the Online Railway Reservation System Architecture
Product Owners/SME	Key stakeholder to ensure that the architecture is aligned with business goals.
Business Analysts	Business analysts are one of the stakeholders who are informed with the key architectural decisions.
Enterprise Architects	To enforce User Management Platform Architecture is aligned to business goals and architecture, architectural guidelines.
Solution Architects	To ensure solution design and architecture is aligned to business requirements, architectural guidelines.
Developers	Use Technical Architecture Document as the guiding document for detail design and implementation approach to align with User Management Microservice
End User	An End User can check the train timings ,train fares and other train details.

Railway Reservation System LLD

3. Project Background & Objective(s)

3.1. Problem with Offline Railway Ticket Booking

The current system for railway ticket booking is to go to railway station and stand in queue for a long time to get the tickets which is very difficult for the user.

- It is very time-consuming
- User must go to the railway station and search which all trains are available.
- It is less user-friendly.
- And for printing tickets more papers are wasted.

3.2. Solution to the above issue

In the proposed system user will not be required to go to the railway station. Users can book the ticket anytime and from anywhere according to their comfort. There will be an admin who will be updating the train details. The motive of this system is to:

- To make things easier and user friendly and flexible.

3.3. Project Objectives

- Online Railway Reservation System will perform various operations like reservation, and cancellation of ticket details.
- The user must first register to the web application. After registering they can book and cancel tickets. Users can search the trains without logging but for reservations, users must log in to the site.

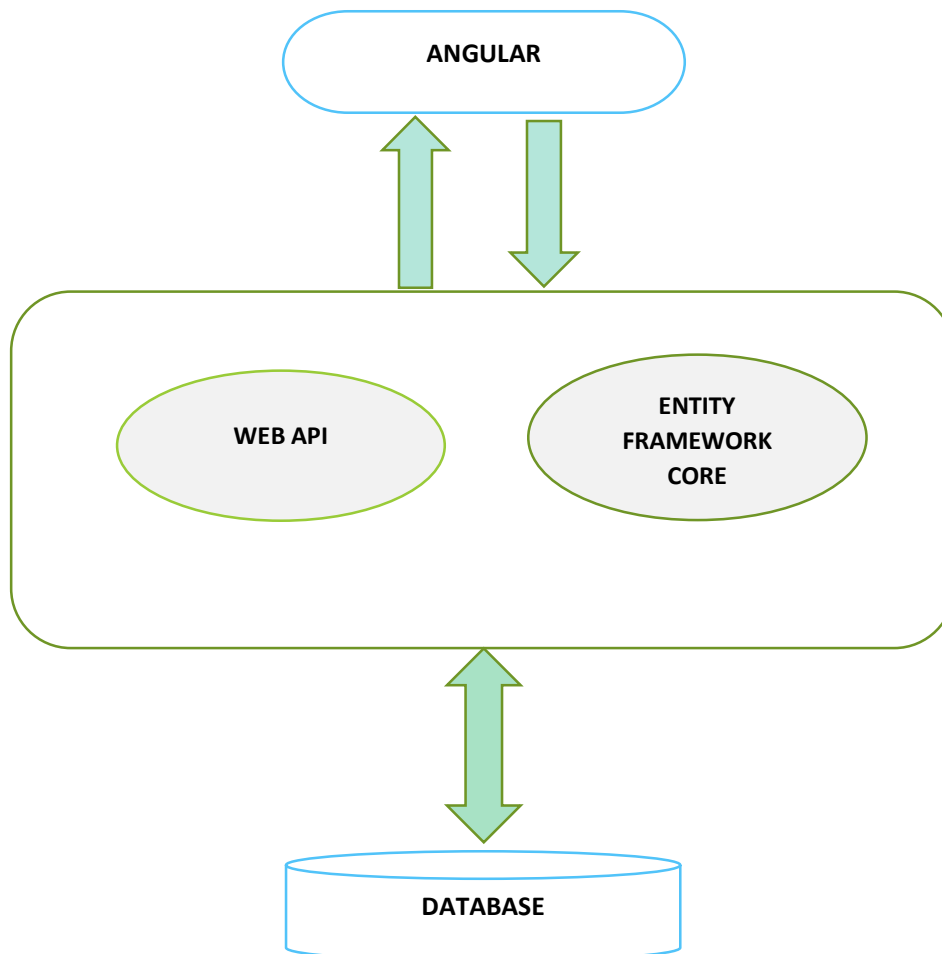
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4. Design Pattern

No	Name	Description
1	Angular	For creating a user interface(front-end)
2	ASP.Net Web API	Using Https requests, we will use respective actions to trigger various operations.
3	Database	For storing and maintaining booking and user and train details

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5. Solution Diagram



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6. Functions of Project:

1. Book Reservations: A User can book a ticket from anywhere. User should Search for the trains between two stations and select a train. Then fill up the Reservation form and add the Passengers details, then make the payment. One user can book a maximum of six seats at a time. If the seats are not available that is informed to the User or else the User will receive the ticket with the PNR Number.

2. Cancel Reservation: The user can Cancel the reservation at any time after the reservation. So check the PNR, if it is there then Cancel the Reservation and send the cancellation ticket to the User, else Show the user that the ticket does not exist.

3. Add/Update Train Details: Only Admin can Add or Update the Train Number, Train Name, Seats, Classes, and all the train details.

4. Generate Report: Provision for the generation of different reports should be given in the system. The system should be able to generate Booking details, all train details, etc.

5. Verify login: For security reasons all the users need to register to avail reservation facility, after registration User will have their user id and a password. Only if the user id and password are correct is the user allowed entry to the system for reservation.

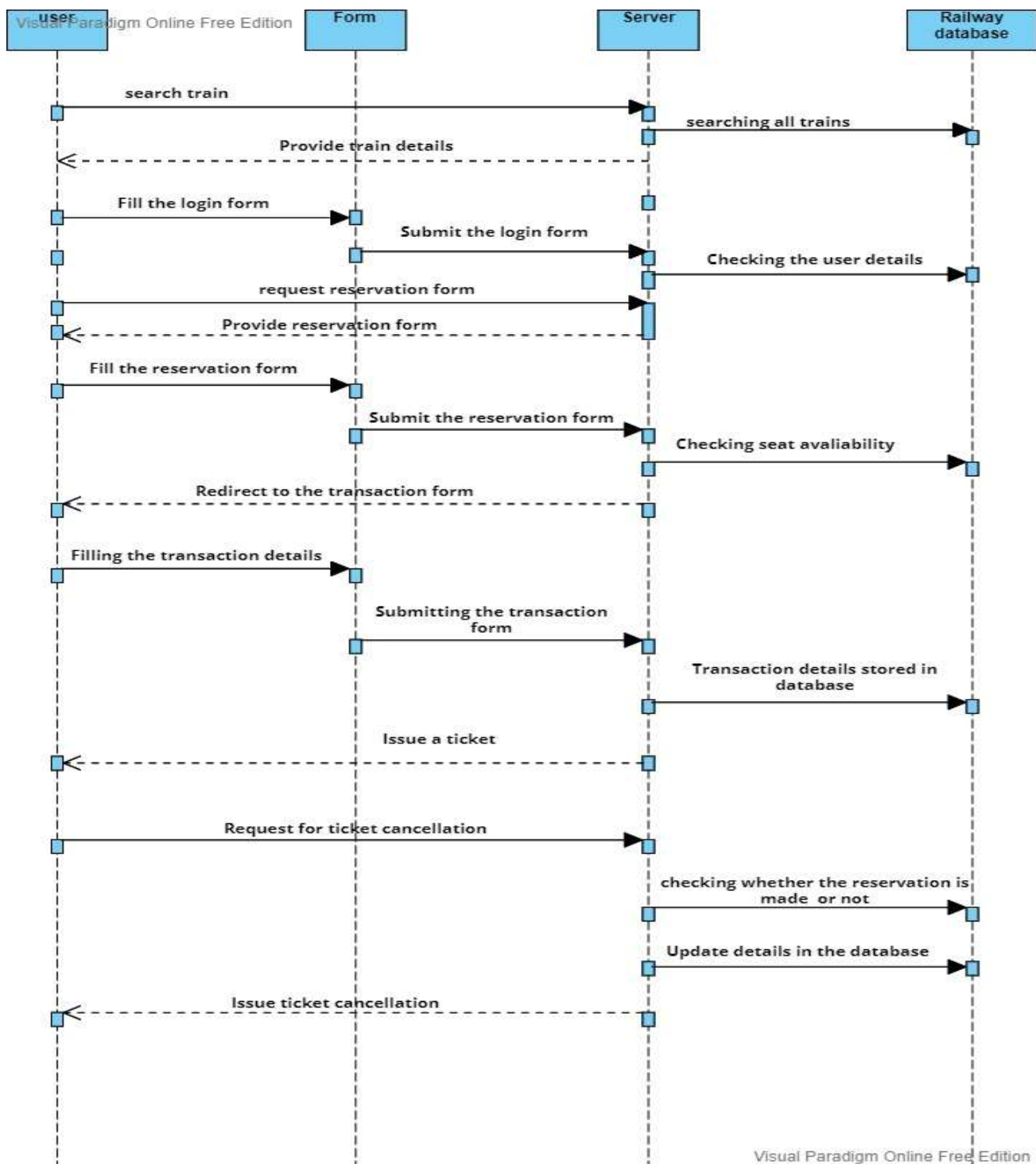
6. View Reservation Details: All the users should be able to see the reservation details that User has done.

7. View Train Timetable: Provision should be given to see information related to the train schedules for the search between two stations. The user should be able to see the train name, train number, boarding and destination stations, duration of the journey, etc.

7. UML Diagrams

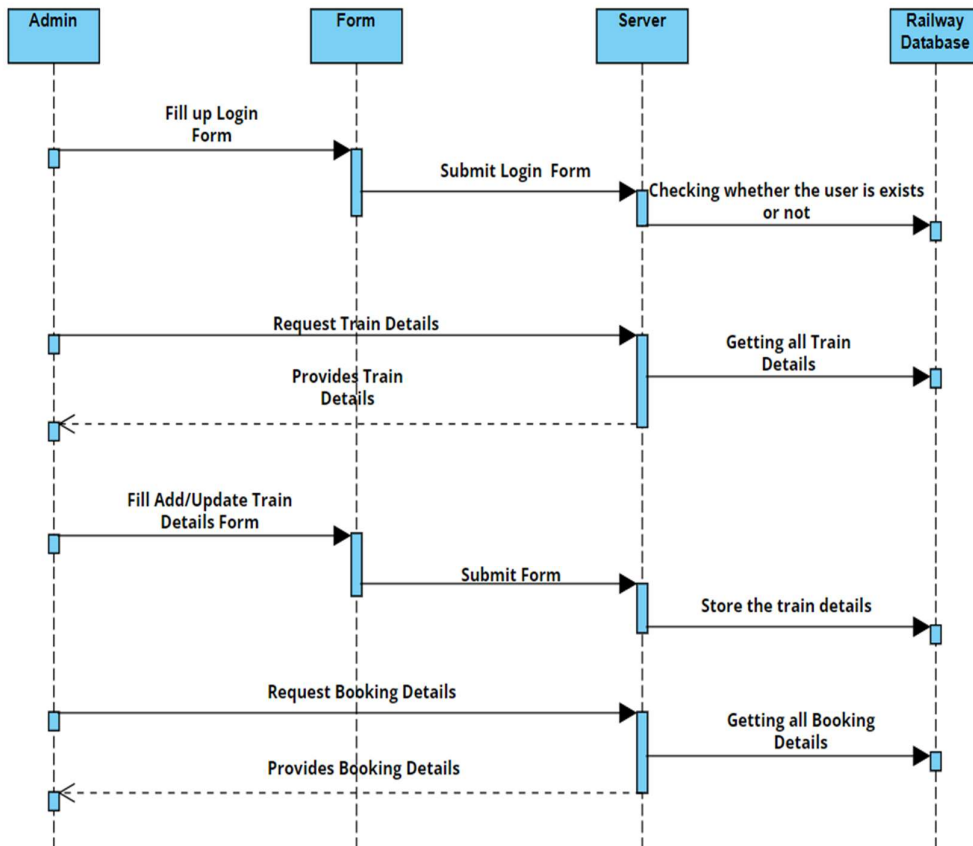
7.1. SEQUENCE DIAGRAM:

7.1.1 User Sequence Diagram



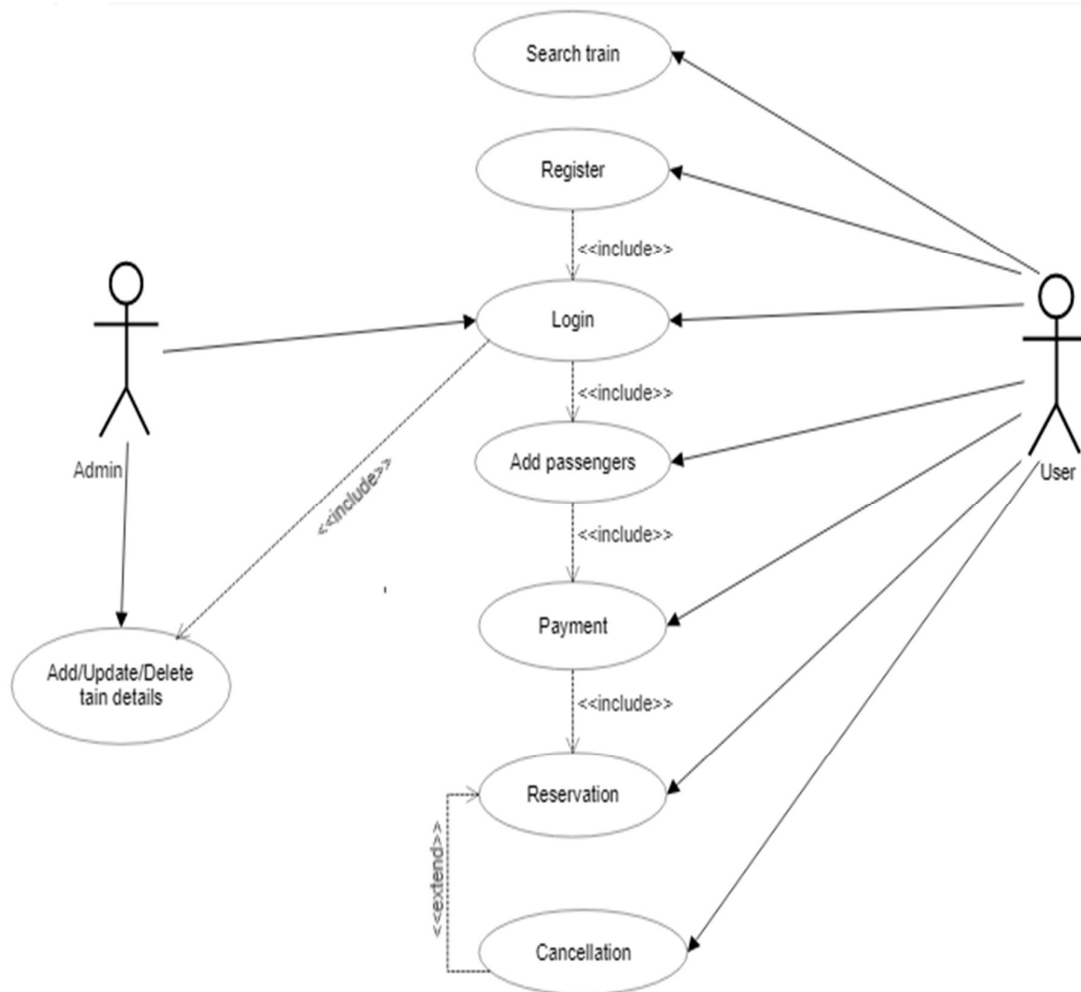
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7.1.2. Admin Sequence Diagram



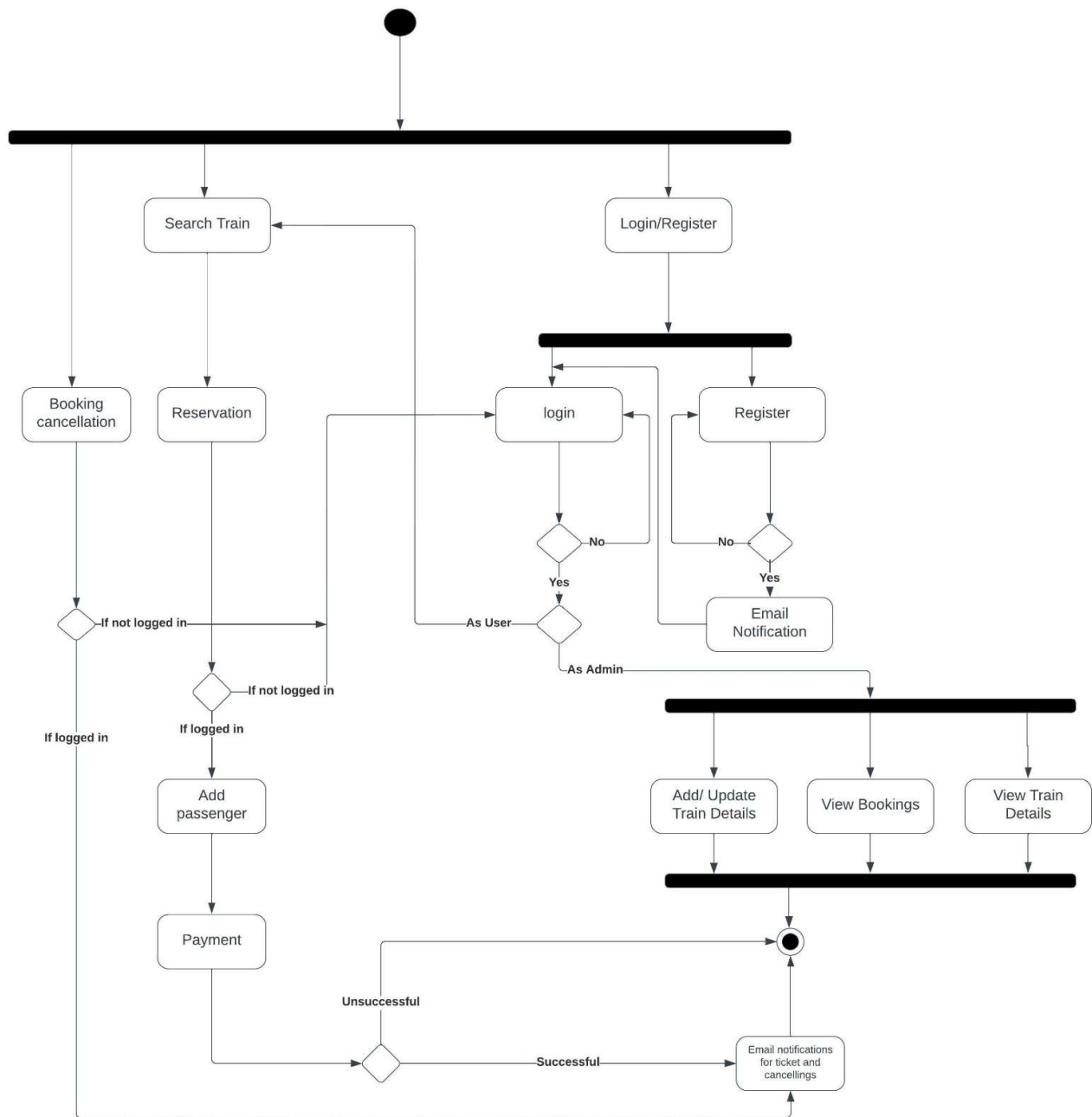
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7.2. USECASE DIAGRAM:



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7.3. Activity Diagram:



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7.4. Class Diagram



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7.5 Database Diagram

