# VIT-AP UNIVERSITY

**School of Computer Science & Engineering**
**VIT-AP UNIVERSITY, INAVOLU, AMARAVATI**

## A PROJECT ON

# "E-TICKET BOOKING SYSTEM"

**For the fulfilment of the course**
**Under Guidance of Prof. Hussain Syed**

## DONE BY

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# ACKNOWLEDGEMENT:

“It is not possible for our team to prepare a project report without the assistance & encouragement of people. This one is certainly no exception.”

On this very outset of this report, we would like to extend our sincere & heartfelt obligation towards all the people who have helped us in this endeavour.

We are extremely grateful to all those who have responded to the us by sparing their valuable time and having trust in us. Without their cooperation this research would have been impossible.

We respect and thank our professor **Hussain Syed**, for providing us an opportunity to do the project work and was giving us all support and guidance, which made us complete the project. As our teacher and mentor, He taught us more than what we expected and we would like to give him the credit.

We owe our gratitude to parents and family members for giving us their valuable inputs when required. We are thankful and fortunate enough to get constant encouragement, support and guidance from them.

Our sincere thanks to all those who have helped us directly and indirectly for the success of this project and apologies for our inability to incorporate each and everyone’s name

# 1. INTRODUCTION

The "E-Ticket Booking System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No prior knowledge is needed for the user to use this system. Thus, by this all it proves it is user-friendly.

Metro Rail Ticket Booking System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Routes, Metro, Fare, Stations, Booking Counter. Every Metro Rail Ticket Booking System has different Metro needs. Therefore, we have designed railway booking system that will adapt to your existing system.

Also, for those busy executives who are always on the go, our systems come with remote access features, which will allow you to them to buy rail pass and use it anytime, at all times. These systems will ultimately allow you to better utilise your time.

## 1.1 PURPOSE

The purpose of this document is to describe the General train ticket booking system for daily passengers which enables passengers to book General tickets online which is easier than standing in long queues in front of Reservation counters in railway stations. And the passengers can also apply for Rail pass for specific amount of time and they can use without booking tickets daily and the passenger can renew once the subscription of the Rail pass is completed.

It explains the different functional as well as non-functional requirements of the system, the interfaces of the system, what the system will do or how the system will communicate with the external users, the constraints under which it will operate. This SRS document will provide a well-defined understanding of what is expected by the client.

## 1.2 PROBLEM STATEMENT:

The problem occurred before having online system includes:

- ✓ When there is no computerized system for recharge purposes the users need to travel to the stations and also sometimes even need to stand in large queues for recharge purposes.
- ✓ Most updates are unnoticeable
    - When online systems are not implemented any changes in ticket fair, timings etc. when updated, the details of these things are only available at the stations.
- ✓ File lost
- ✓ When online system is not implemented the complaints are reported in files. The files are always lost due to some human errors.

Thus, we have tried to solve these problems by creating a online reservation system which provides easy accessibility.

## PROBLEM DEFINITION FOR THE USER:

| Element | Definition |
|---|---|
| **The problem is….** | User faces a lack of choices when he or she wants to transfer goods from one place to another considering cost and time. |
| **Affects….** | Companies, Employees, Users. |
| **And results in….** | Delay in door step pickup & delivery will be happening with respect to particular delivery and also result in more delivery costs. |
| **Benefits of a solution….** | Time efficient (user need not go out).<br>Weightage restrictions are excluded. |

## PROBLEM DEFINITION FOR THE STAKEHOLDERS:

| Element | Definition |
|---|---|
| **The problem is….** | Many local transportation companies are not able to deliver the goods in time due to the restrictions by the respective state governments. |
| **Affects….** | Local companies, its employees and its share holders. |
| **And results in….** | Unacceptable business performance and lack of substantive opportunities for growth in revenue and profitability. |
| **Benefits of a solution….** | Involving a new feature and new services will leads to increase loyalty as well as high revenue & profits. |

# PROBLEM DEFINITION FOR PRODUCT OWNER:

| Element | Definition |
|---|---|
| **The problem is….** | Less trafficking leads to the collapse of the company. |
| **Affects….** | Stakeholders, its employees. |
| **And results in….** | Less income, delay in payments and ultimately affects the market value of the company. |
| **Benefits of a solution….** | This feature can include differentiation (time, cost), increase market value and also it leads to comfort and convenience from both **User** & **Company** point of view. |

# PROBLEM DEFINITION FOR THE DISTRIBUTORS:

| Element | Definition |
|---|---|
| **The problem is….** | Leads to more expensive costs to get the product delivered and may also lead to delay in deliveries. |
| **Affects….** | Distributor employees, Users, Distributor branch. |
| **And results in….** | High costs, limited functionality, less revenue & less profits. |
| **Benefits of a solution….** | Increase in flexibility and usability.<br>Expensive charge decreases (taxes).<br>Customer satisfaction. |

## 1.3 OBJECTIVE

The main objective of the Project is to help make software employees and common man's work easier and simpler without any efforts of standing in lines to buy a ticket. The project is totally built at administrative and user end and thus only the administrator and user is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Metro, Routes, Stations, Tickets. It tracks all the details about the Tickets, Fare, Booking Counter.

### Functionalities:

- It tracks all the information of Routes, Stations, Fare etc.
- Manage the information of Routes.
- Shows the information and description of the Metro, Tickets.
- To increase efficiency of managing the Metro, Routes.
- It deals with monitoring the information and transactions of Fare.
- Manage the information of Metro rail timings.
- Editing, adding and updating of Records is improved which results in proper resource management of Metro data.
- Manage the information of Fare.
- Integration of all records of Booking Counter.
- E-Pass card activation.

## 1.4 SCOPE OF THE PROJECT

It helps to improve all functions of the current system related to Ticket Booking System.

- Our project aims at Railway/Metro process automation, i.e., we have tried to computerize various processes of Metro Rail Ticket Booking System.
- To assist the staff in capturing the effort spent on their respective working area.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system generates types of information that can be used for various purposes.
- It satisfies the user requirement
- Easy to understand by the user and operator
- Easy to operate
- Provides a good user interface
- Can be expandable in future if required.
- In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
- In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.

**1.5 INTENDED AUDIENCE:** Railway users, daily passengers & software employees.

**1.6 INTENDED USE** **:** Ticket booking and rail pass application.

# 2. SYSTEM ANALYSIS

## 2.1 EXISTING SYSTEM

- Passengers wait in a long queue in front of reservation counter for general class tickets.
- There is no pass for daily passengers.
- There is no online booking system for purchasing for general class tickets.
- Information cannot be collected, processed and communicated more quickly and efficiently.
- Current working systems doesn't ensure that right information reaches the right person at right time.

## 2.2 PROPOSED SYSTEM

The proposed system is designed to eliminate the disadvantages of the existing system as well as for tracing the problems in the existing system.

- Online booking of General class tickets.
- Passengers Rail pass.
- Increased efficiency and reliability.
- Provide accurate information to the user for taking necessarydecisions.
- Accuracy - The information will be correct, accurate and unambiguous.
- Efficiency - Systems ensure that right information reaches the right person at the right time.
- Reliability - Since systems are free from boredom and tiredness, they work constantly on data to produce morereliable outputs.
- The options used can be easily accessed, used andrealized.

# 2 SYSTEM REQUIREMENT SPECIFICATION

## 2.3.1 SYSTEM OBJECTIVES

**Improvement in Control and performance:** The system is developed to cope up with current issues and problems of the metro rail. The system helps to recharge online, make a complaint online, display metro timetable, fairs and route maps.

**Saves time:** User is able to recharge online, see details of metro time table, fairs & route maps and even the user can book online there by saving his valuable time.

**Easy to Use:** A person with just an internet connection and a pc can do things such as complaint, recharge and view metro details very easily.

## 2.3.2 NON-FUNCTIONAL REQUIREMENTS

### EFFICIENCY REQUIREMENT

When a metro rail management system will be implemented then the **user can recharge, complaint and view metro information quickly & easily.**

### RELIABILITY REQUIREMENT

The system should accurately perform recharge, store complaints**, show the details of metro such as plans, fair, route maps.**

### USABILITY REQUIREMENT

The system is designed for a user-friendly environment so that **user and admin can perform various tasks easily and in an effective way.**

### IMPLEMENTATION REQUIREMENT

In implementing whole system, it **uses html in front end with jsp as server-side scripting language** which will be used for **database connectivity** and the backend i.e. the database part is developed

### 2.3.3 FUNCTIONAL REQUIREMENTS

#### METRO CARD

**Description of Feature**

This feature allows the user to recharge their metro card online, there by saving their valuable time. Users need to login with their card number& password and can recharge their tickets online. It also allows them to viewtheir balance and journey history.

**Functional Requirements**

- User id is provided when they register.
- The system must be able to show the users balance and journeyhistory.
- The user must be able to logout after they had finished rechargingor after viewing the balance or journey history.

#### FAIR AND ROUTEMAP

**Description of Feature**

This feature allows the users to view the fair and route map. Users are required to enter the source and destination station, when they enter the data then the system will display fair details and the route map.

**Functional Requirements**

- System must allow the users to enter the source and destination stations.
- System must be able to retrieve information from the database.

## ADMIN

### Description of Feature

This feature allows the admin to view and reply to complaints. Admin can add stations, routes, train, trip. Admin can also add and update fair details, and even add a new admin. Actually, the admin is a panel consisting of a group of authorized persons.

### Functional Requirements

- The system must allow admin to add train, stations, routes, fair, metro timetable and even add a new admin.
- The system must also allow admin to reply to the complaints sendby the user.
- The system should be designed in such a way that only authorizedpeople should be allowed to access some particular modules.
- The records should be modified by only administrators and no one else.

## CONTACT & SUGGESTION

### Description of Feature

This feature allows the admin to reply to user messages and helps them to according to their problem with the best and easy solution possible and if the user gives we try to look into and if useful will be implemented as soon as possible

### Functional Requirements

- The user must login to contact or suggest us.

## 2.3.4 SOFTWARE AND HARDWARE REQUIREMENTS

### SOFTWARE REQUIREMENTS

- **Operating system** - Windows 7 is used as the operating system as it is stable and supports more features and is more user friendly
- **Database MYSQL** - MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.
- **Development tools and Programming language** - HTML is used to write the whole code and develop webpages with CSS, java script for styling work and php for sever side scripting.

### HARDWARE REQUIREMENTS

- **INTEL CORE I3 2$^{ND}$ GENERATION** is used as a processor because it is fast than other processors an provide reliable and stable and we can run our pc for long time. By using this processor, we can keep on developing our project without any worries.
- **RAM 1 GB** is used as it will provide fast reading and writing capabilities and will in turn support in processing

## 2.3.5 INTERFACE REQUIREMENTS:

- Easy to navigate & Less graphics
- Display error messages and relevant dialogue boxes
- Provide high security such that no to be modified by irrelevant users
- It must provide all options to all users.

## 2.4 SYSTEM TOOLS

The various system tools that will be used in developing both the frontend and the back end of the project are

### 2.3.6.1FRONT END:

JSP, HTML, CSS, JAVA SCRIPTS are utilized to implement the frontend.

**Java Server Pages (JSP)**

Different pages in the applications are designed using jsp. A Java Server Pages component is a type of Java servlet that is designed to fulfil the role of a user interface for a Java web application. Web developers write JSPs as text files that combine HTML or XHTML code, XML elements, and embedded JSP actions and commands. Using JSP, one can collect input from users through web page.

**HTML (Hyper Text Markup Language)**

HTML is a syntax used to format a text document on the web.

**CSS (Cascading Style Sheets)**

CSS is a style sheet language used for describing the look and formatting of a document written in a markup language.

**Java Script**

JS is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

## 2.3.6.2 BACK END

The back end is implemented using MySQL which is used to design the databases.

**MySQL**

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language.

**XAMPP SERVER**

XAMPP helps a local host or server to test its website and clients via computers and laptops before releasing it to the main server.

It is a platform that furnishes a suitable environment to test and verify the working of projects based on Apache, Perl, MySQL database, and PHP through the system of the host itself.

## PHP

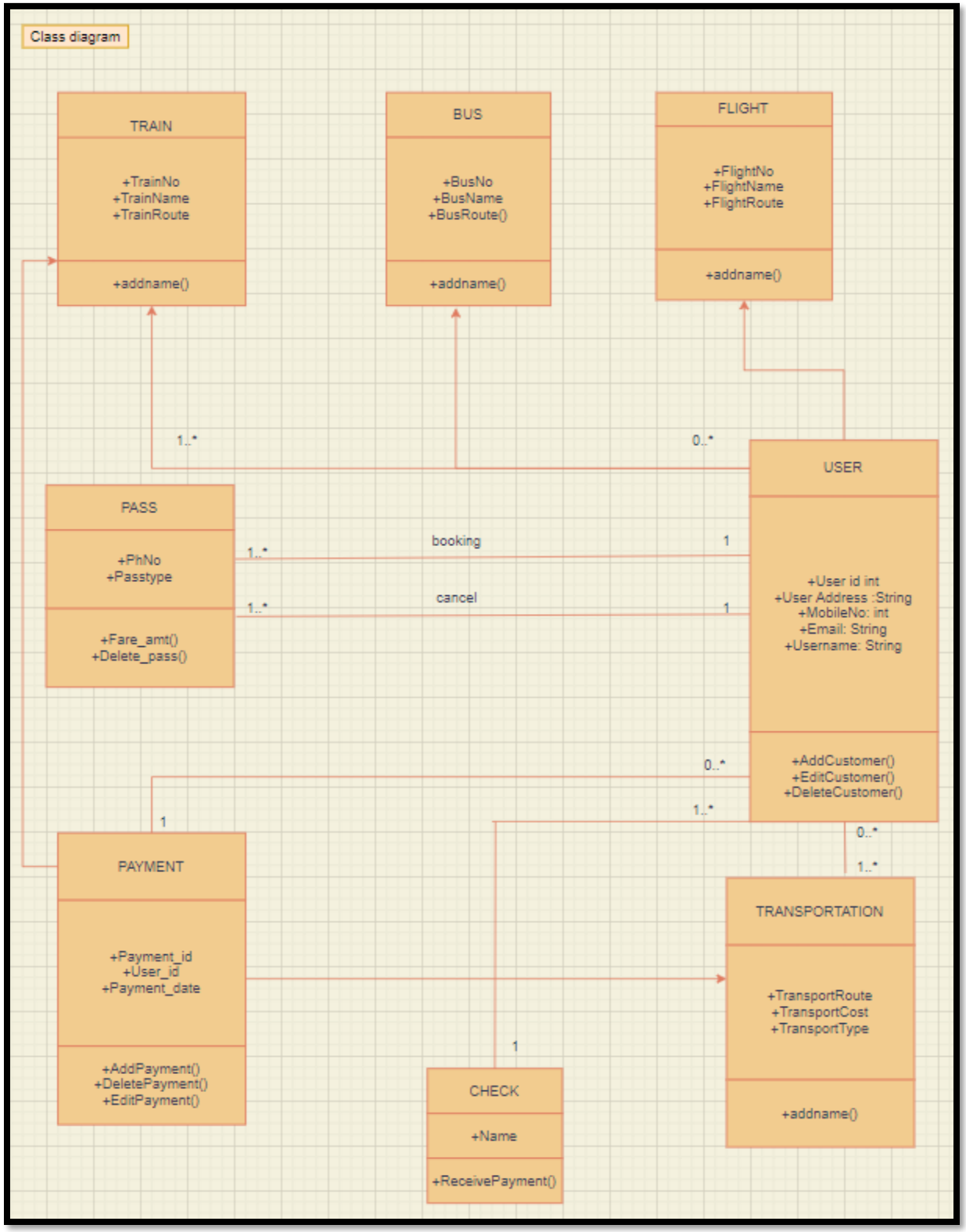
PHP (Hypertext Preprocessor) is known as a general-purpose scripting language that can be used to develop dynamic and interactive websites. It was among the first server-side languages that could be embedded into HTML, making it easier to add functionality to web pages without needing to call external files for data.

## FRAMEWORKS

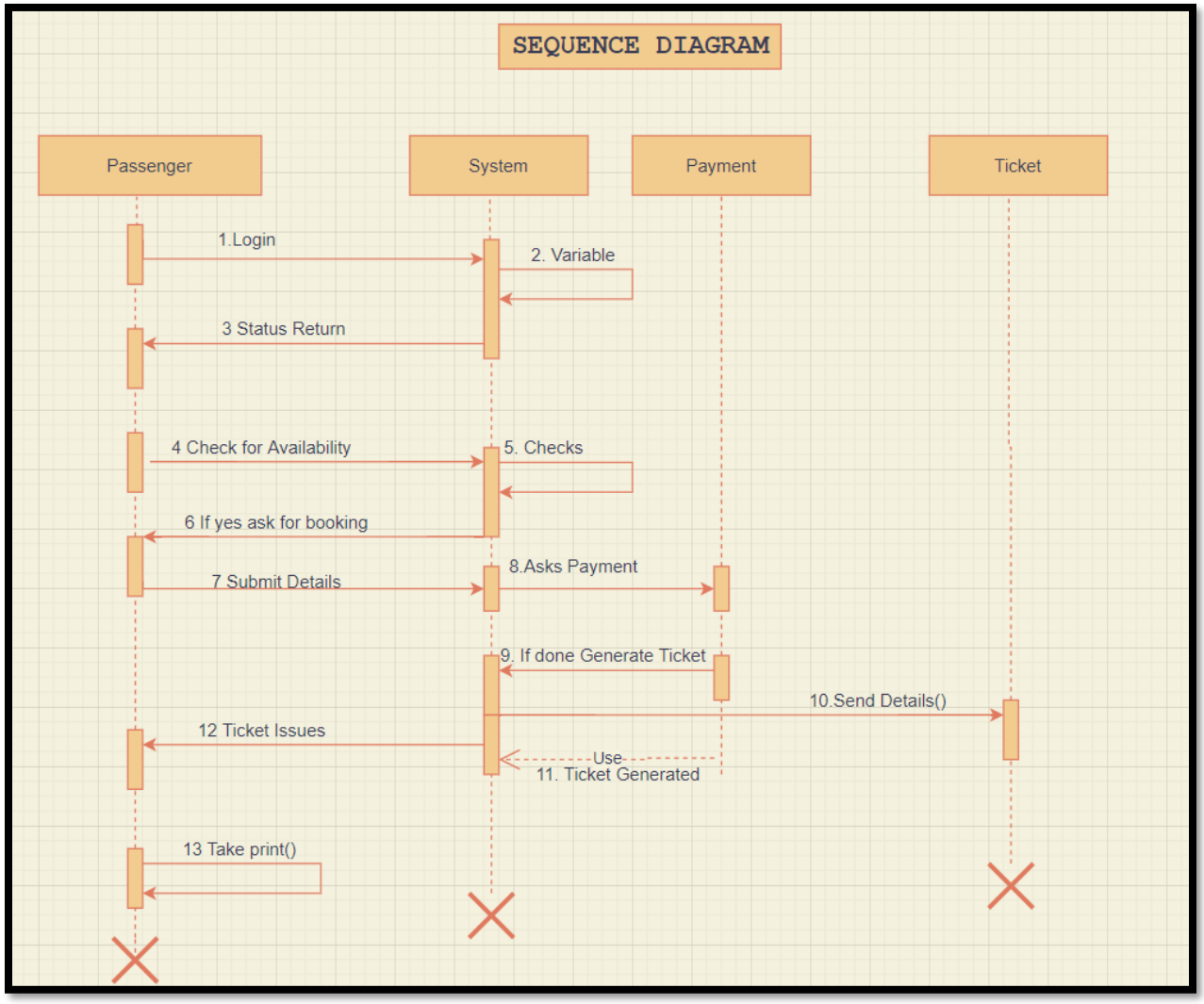
**Server-side**: The architecture of a server-side web framework enables the creation of landings, simple pages, and forms of different kinds. They can render output data and enhance security at the time of web attacks.

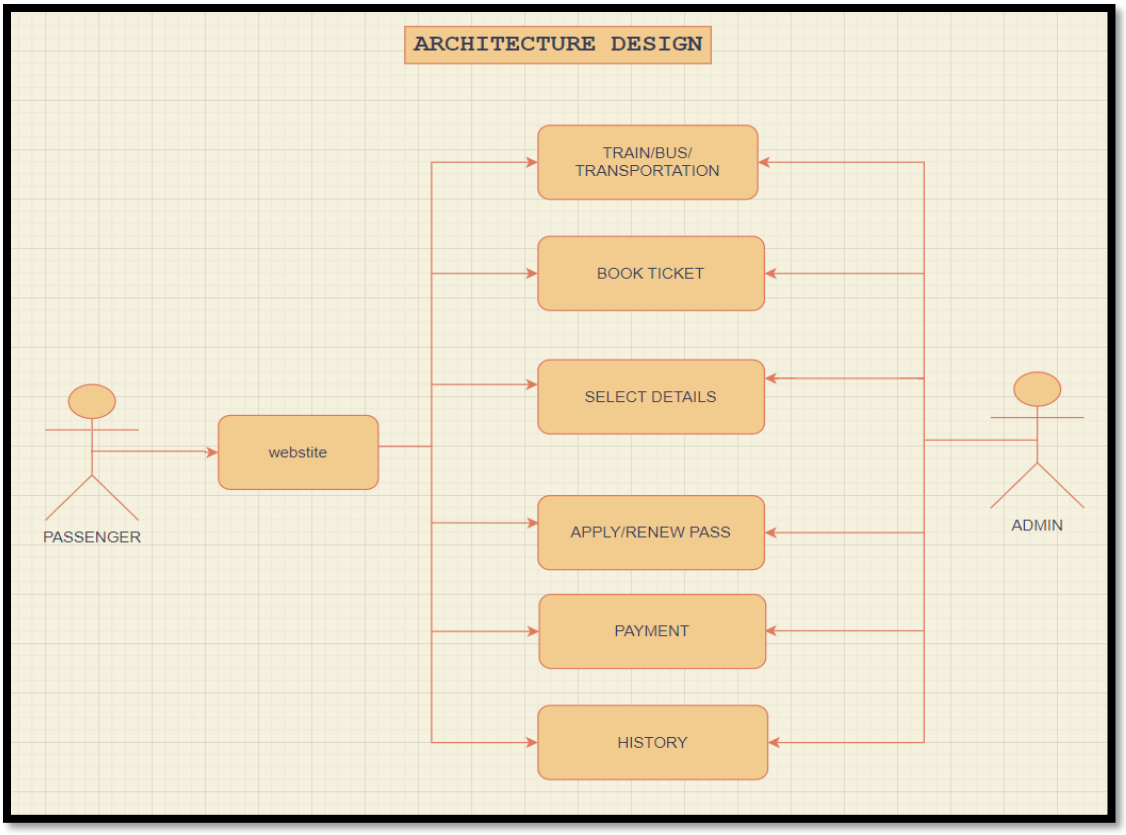
**Client-side**: With a client-side framework, you can easily enhance and execute a new user interface. It considers the work that takes place in the browser and has nothing to do with business logic.

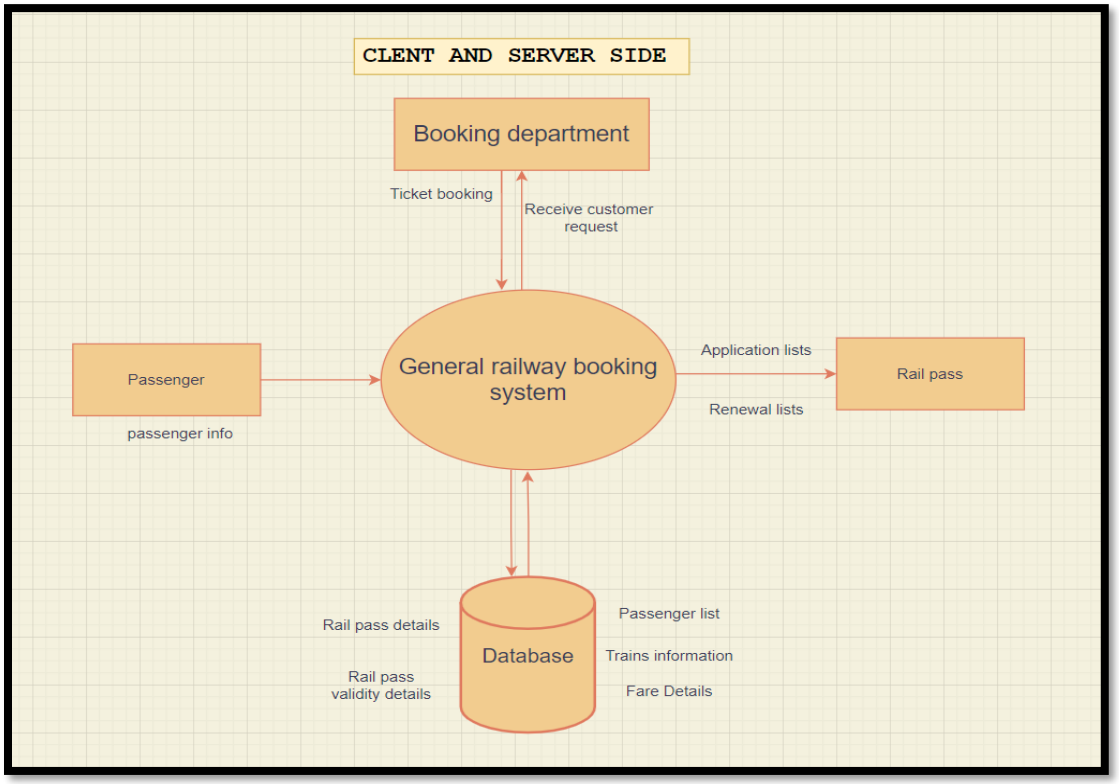
## UMLS:


Class diagram
TRAIN
+TrainNo
+TrainName
+TrainRoute
+addname()
BUS
+BusNo
+BusName
+BusRoute()
+addname()
FLIGHT
+FlightNo
+FlightName
+FlightRoute
+addname()
1..*
0..*
USER
+User id int
+User Address :String
+MobileNo: int
+Email: String
+Username: String
+AddCustomer()
+EditCustomer()
+DeleteCustomer()
PASS
+PhNo
+Passtype
+Fare_amt()
+Delete_pass()
booking
cancel
1..*
1
0..*
1..*
1
0..*
1..*
PAYMENT
+Payment_id
+User_id
+Payment_date
+AddPayment()
+DeletePayment()
+EditPayment()
TRANSPORTATION
+TransportRoute
+TransportCost
+TransportType
+addname()
1
CHECK
+Name
+ReceivePayment()

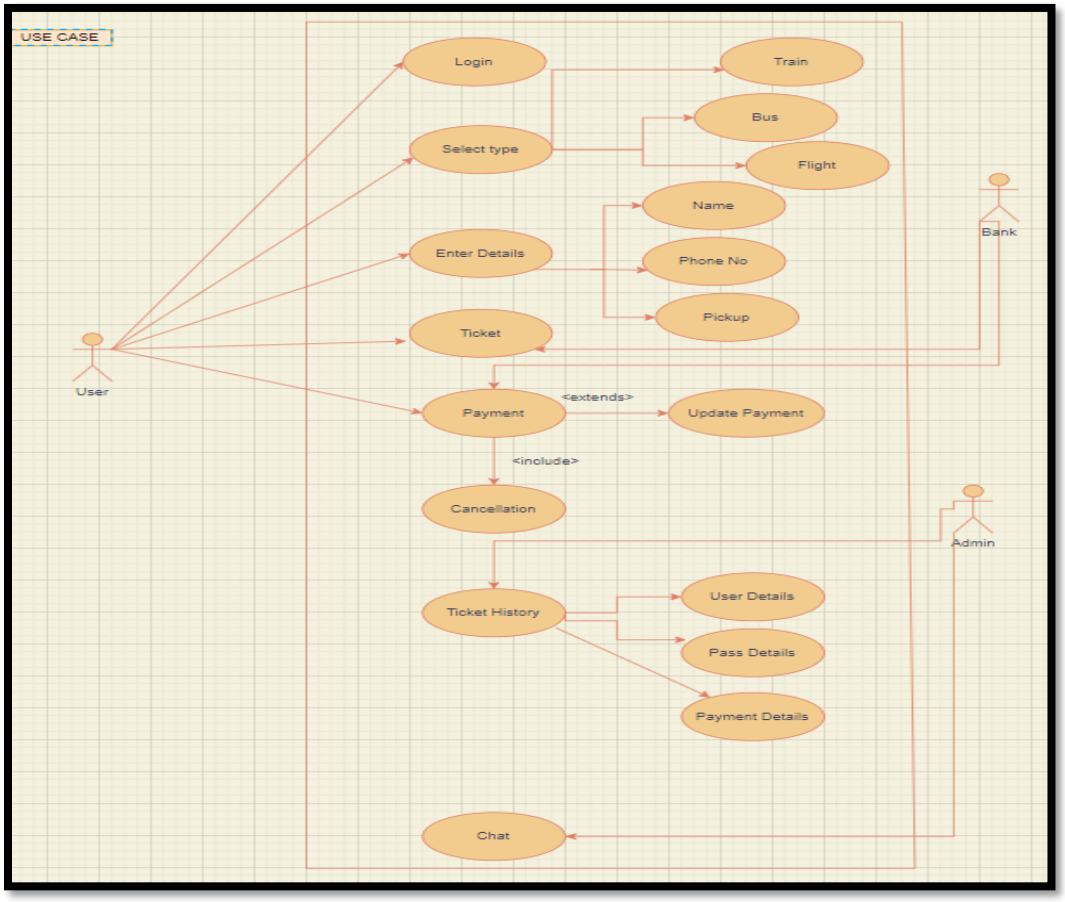
## SEQUENCE DIAGRAM:

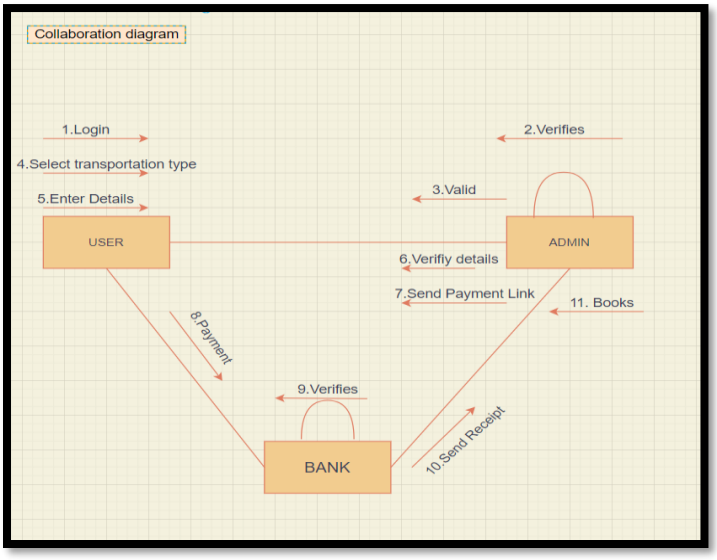



ARCHITECTURE DESIGN
TRAIN/BUS/
TRANSPORTATION
BOOK TICKET
SELECT DETAILS
APPLY/RENEW PASS
PAYMENT
HISTORY
webstite
PASSENGER
ADMIN

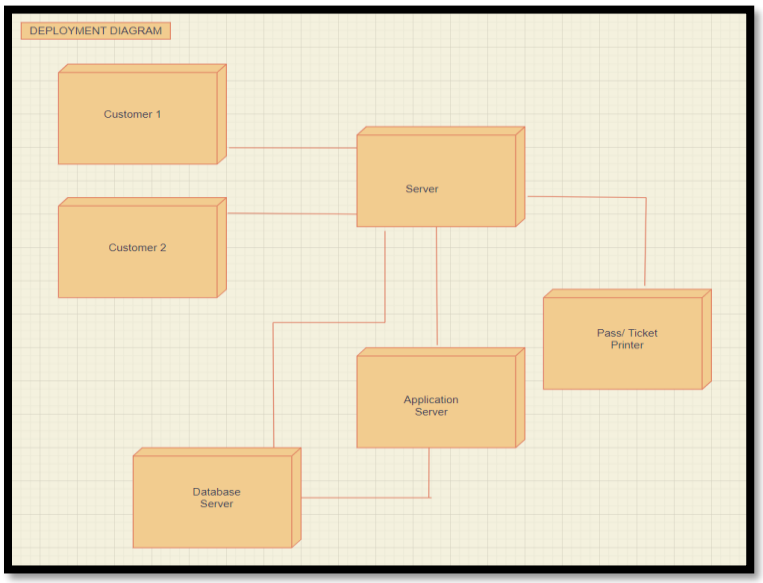

CLENT AND SERVER SIDE
Booking department
Ticket booking
Receive customer
request
Passenger
passenger info
General railway booking
system
Application lists
Renewal lists
Rail pass
Rail pass details
Rail pass
validity details
Database
Passenger list
Trains information
Fare Details

## USE CASE DIAGRAM:

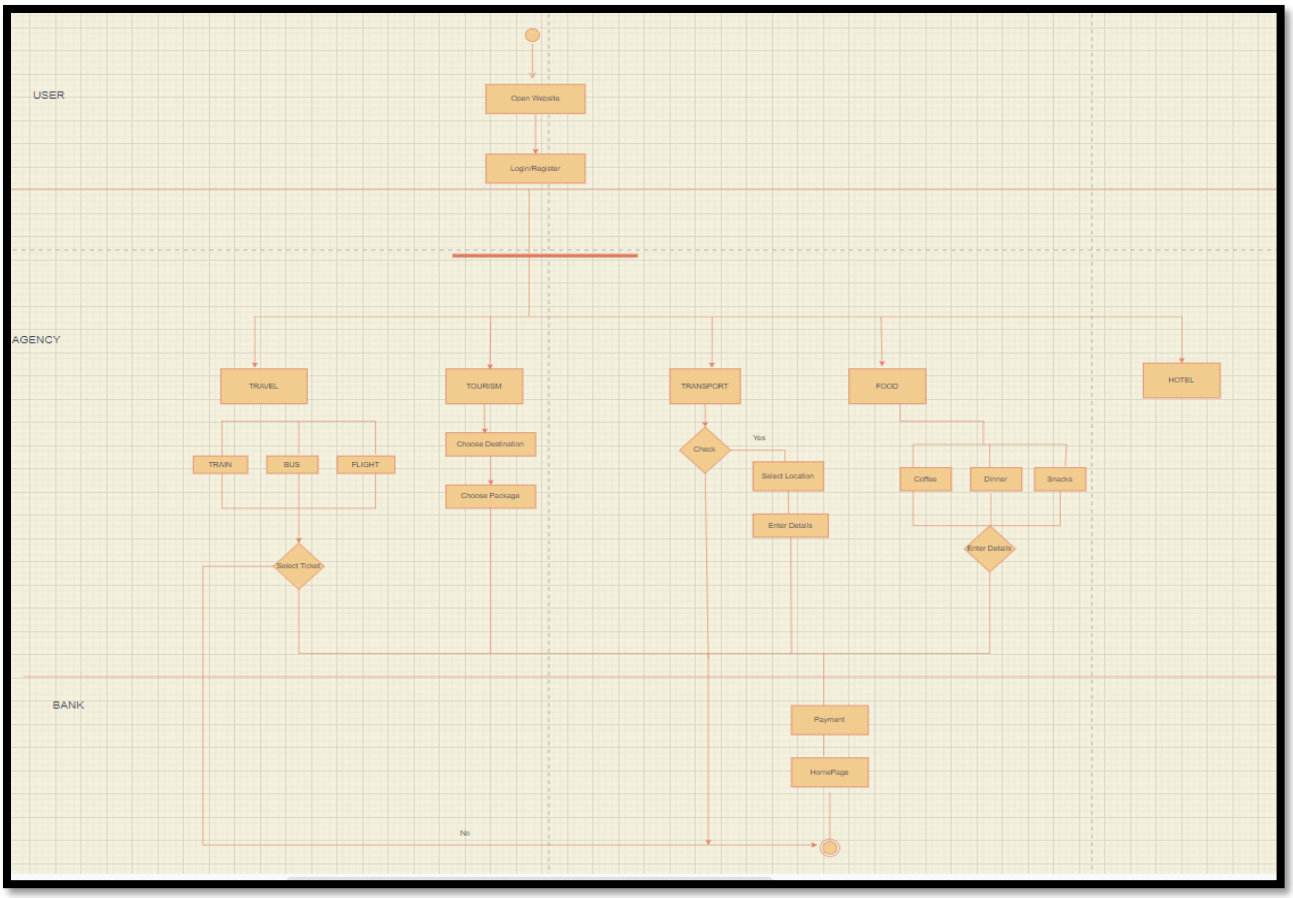


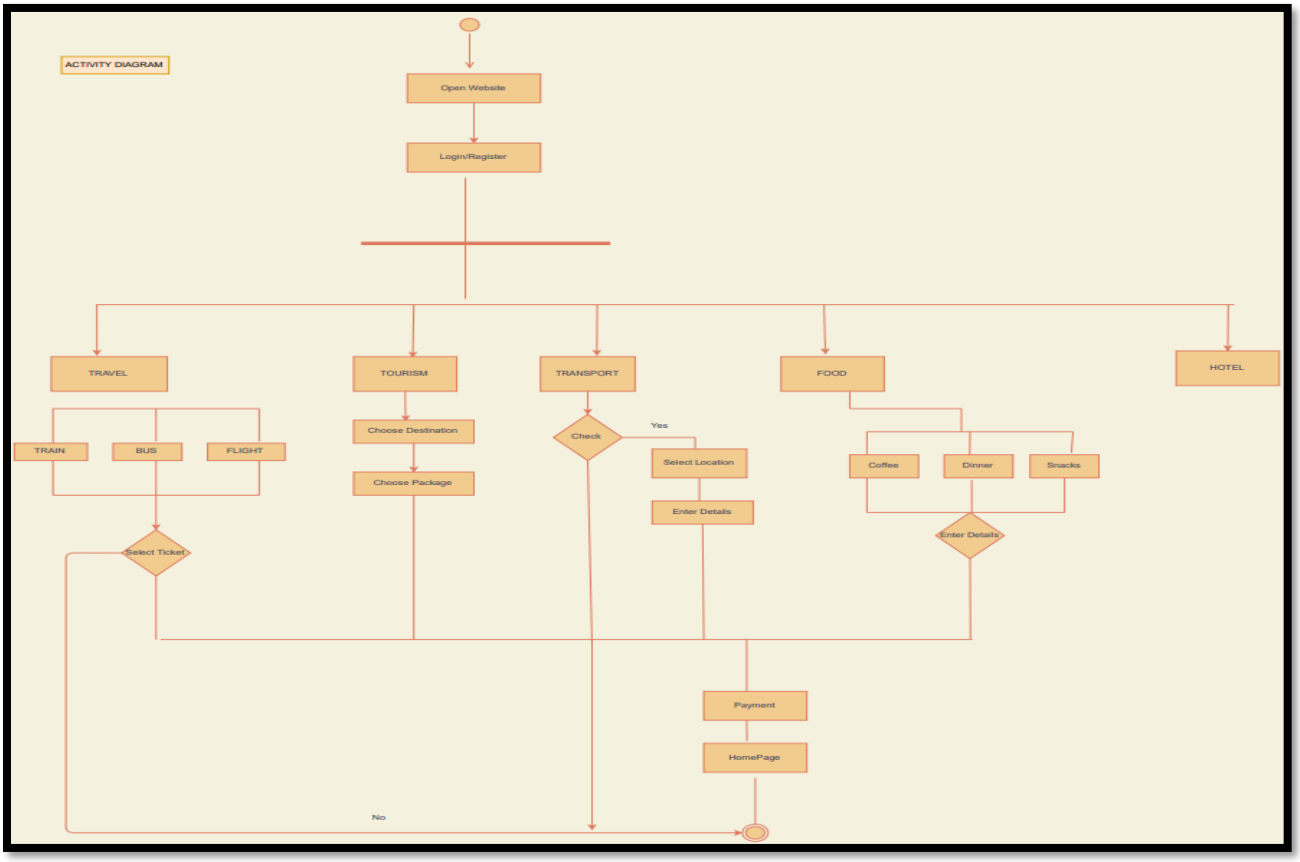
## DEPLOYMENT DIAGRAM:




## STORY BOARDING:



## ACTIVITY DIAGRAM:




## LIMITATIONS:

- There were time constraints where we had to change lot of plans according to the situation.
- We faced difficulties in creating the database for this project.
- We didn't get the proper responses as many of them were not aware of IRCTC features.

## FUTURE SCOPE:

- We can create a dark and lite theme option
- We can add new features like bus and train
- We can update the restaurant feature with addition of new restaurants

## CONLUSION:

Every organization, whether big or small, has challenges to overcome and managing the information of Routes, Metro, Fare, Stations, Booking Counter. Every Metro Rail Ticket Booking System has different Metro needs. Therefore, we have designed railway booking system that will adapt to your existing system.

# REFERENCES:

**IRCTC WEBSITE LINK:**

- https://www.irctc.co.in/nget/train-search

**SOURCE CODE LINK:**

- **https://drive.google.com/drive/folders/1wGxc0nVvk5CvgvSa9Iy66_tyehTmQTI3?usp=sharing**