“RAILWAY RESERVATION SYSTEM”

PROJECT REPORT

18CSC202J/ 18AIC203J - OBJECT ORIENTED DESIGN AND PROGRAMMING LABORATORY

(2018 Regulation)

II Year/ III Semester

Academic Year: 2022 -2023

By

DATLA SRINIVASA VARMA (RA2111030010231)

Under the guidance of

Mrs.G.Saranya

Assistant Professor

Department of Computational Intelligence

FACULTY OF ENGINEERING AND TECHNOLOGY

SCHOOL OF COMPUTING

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Kattankulathur, Kanchipuram

NOVEMBER 2022

AIM : To design an object oriented model for online course registration system using StarUML

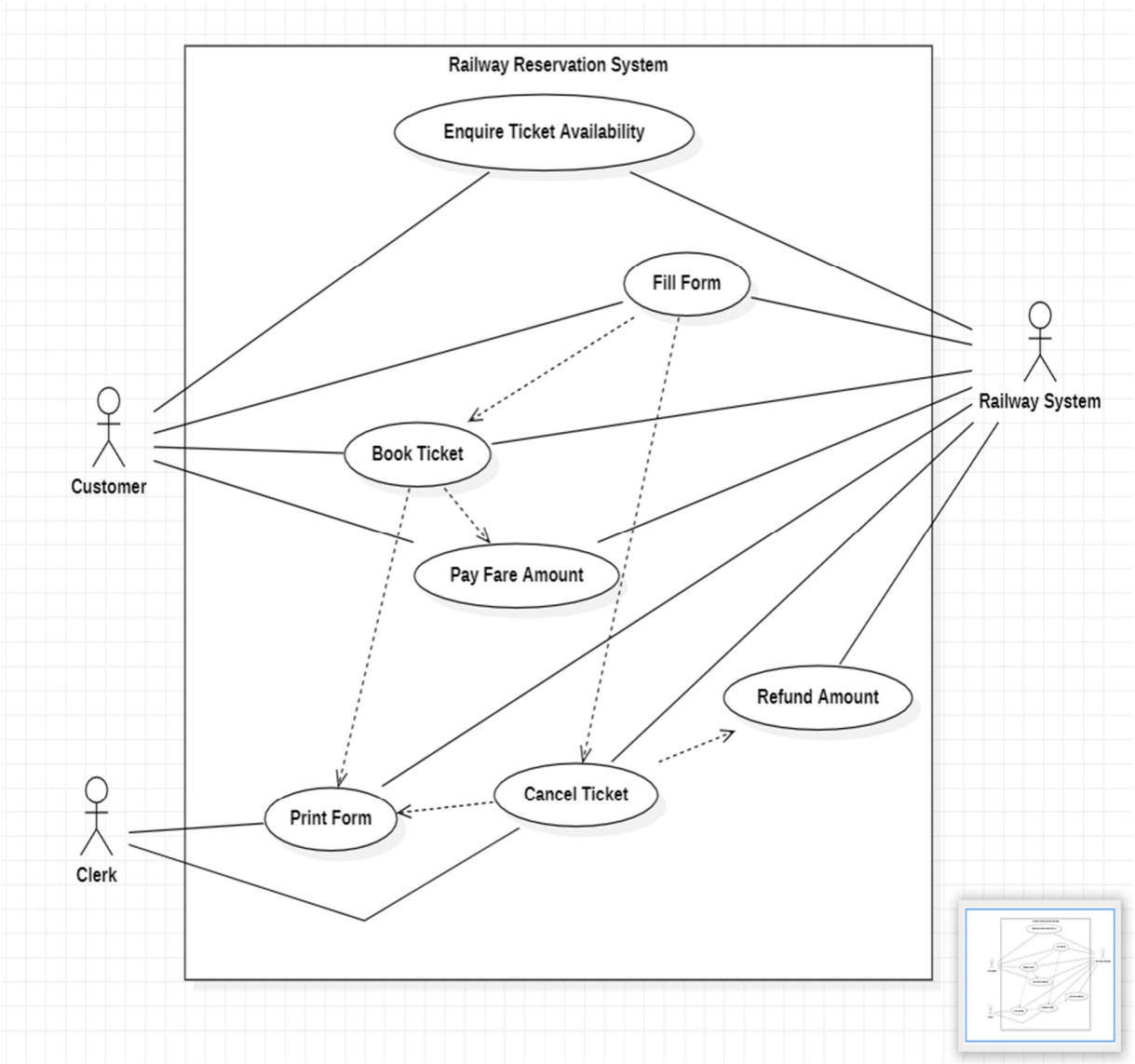
PROBLEM DESCRIPTION

The railway reservation system facilitates the passengers to enquiry about the trains available on the basis of source and destination, booking and cancellation of tickets, enquiry about the status of the booked ticket, etc. The aim of the case study is to design and develop a database maintaining records of different trains, train status and passengers.This project contains an introduction to the railways reservation system. It is the computerized system of reserving the seats of train seats in advance. It is mainly used for a long route. Online reservation has made the process for the reservation of seats very much easier than ever before.

In our country India, there are a number of counters for the reservation of the seats and one can easily make reservations and get tickets. Railway reservation systems, as described above, can lead to error free, secure, reliable and fast management systems. It can assist the user to concentrate on their other activities rather than concentrating on the record keeping. Thus it will help organizations better utilize resources. Administrator of the project, with the help of a password, can enter new train records, display all train records, modify train records and delete train records. The record of a train includes its number, name, source, destination, and days on which it is available, whereas record of train status includes dates for which tickets can be booked, total number of seats available, and number of seats already booked.

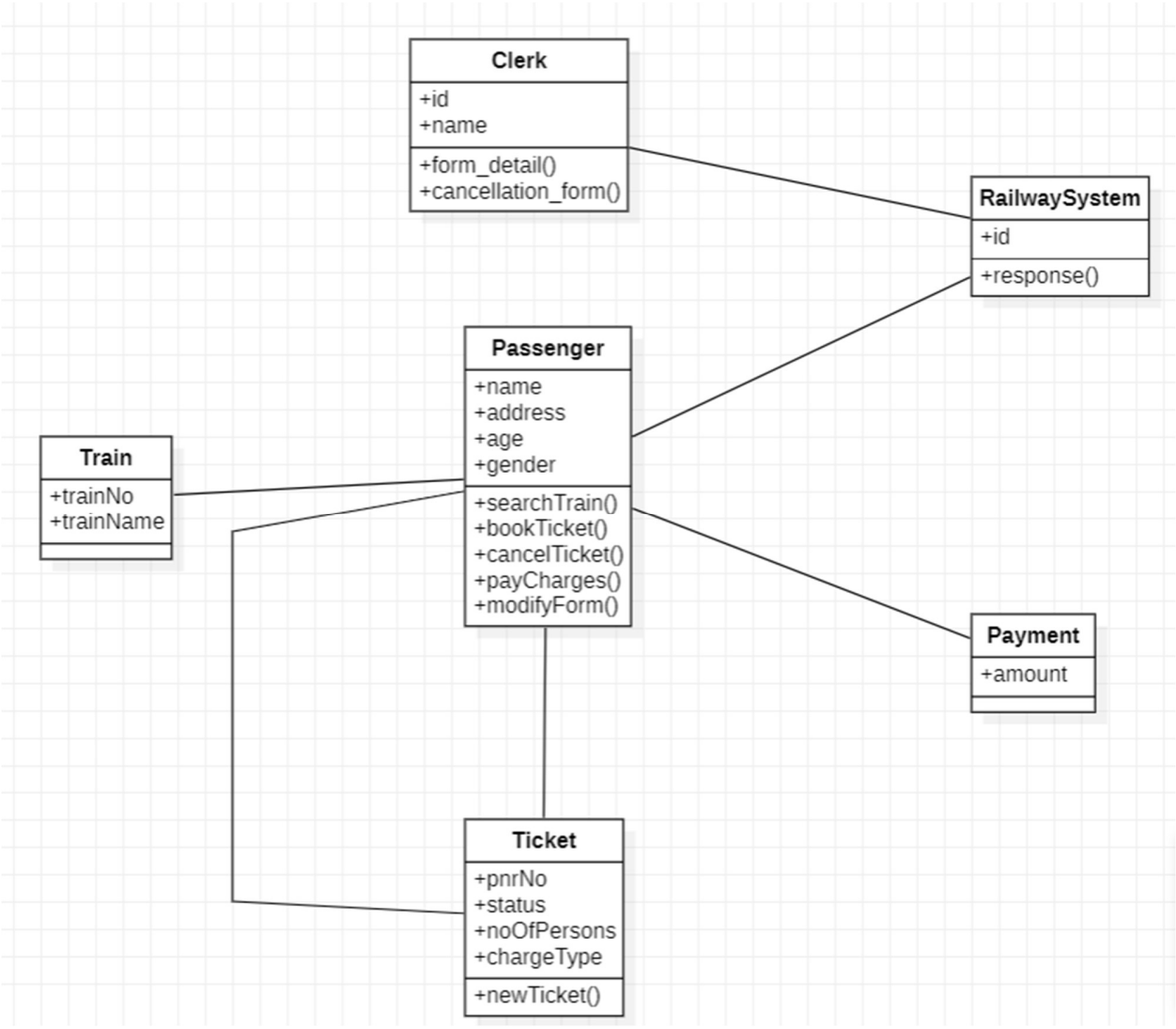
Use case diagram

This Use Case Diagram is a graphic depiction of the interactions among the elements of the Railway Reservation System. It represents the methodology used in system analysis to identify, clarify, and organize system requirements of the Railway Reservation System. The main actors of the Railway Reservation System in this Use Case Diagram are:Customer, Railway System, Clerk, Major elements of the UML use case diagram of the Railway Reservation System are shown in the picture below.



Class diagram

Railway Reservation System Class Diagram describes the structure of a Railway Reservation System class, their attributes, operations (or methods). and the relationships among objects. The main classes of the Railway Reservation System are Train, Ticket,Railway system, Passenger, Payment, Clerk



Code generator :

```
#ifndef _CLERK_H
#define _CLERK_H
class Clerk {
public:
   void id;
   void name;
void form_detail();
void cancellation_form();
};
#endif

#ifndef _PASSENGER_H
#define _PASSENGER_H
class Passenger {
public:
   void name;
   void address;
   void age;
   void gender;
void searchTrain();
void bookTicket();
void cancelTicket();
void payCharges();
void modifyForm();
};
#endif

#ifndef _PAYMENT_H
#define _PAYMENT_H
class Payment {
public:
   void amount;
};
#endif
```

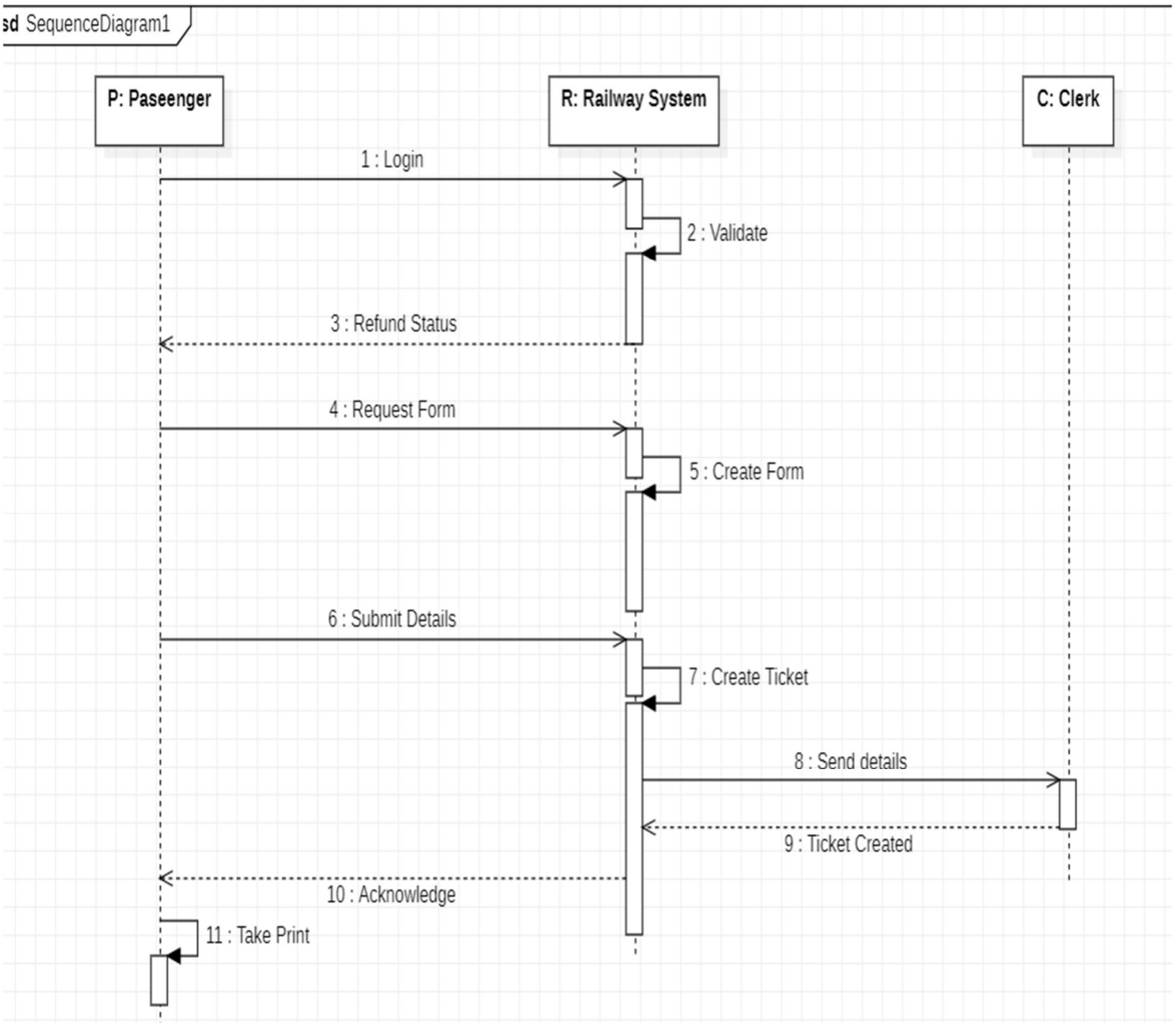
```
#ifndef _RAILWAYSYSTEM_H
#define _RAILWAYSYSTEM_H
class RailwaySystem {
public:
   void id;
void response();
};
#endif


#ifndef _TICKET_H
#define _TICKET_H
class Ticket {
public:
   void pnrNo;
   void status;
   void noOfpersons;
   void chargeType;
void newTicket();
};
#endif

#ifndef _TRAIN_H
#define _TRAIN_H
class Train {
public:
   void trainNo;
   void trainName;
};
#endif
```

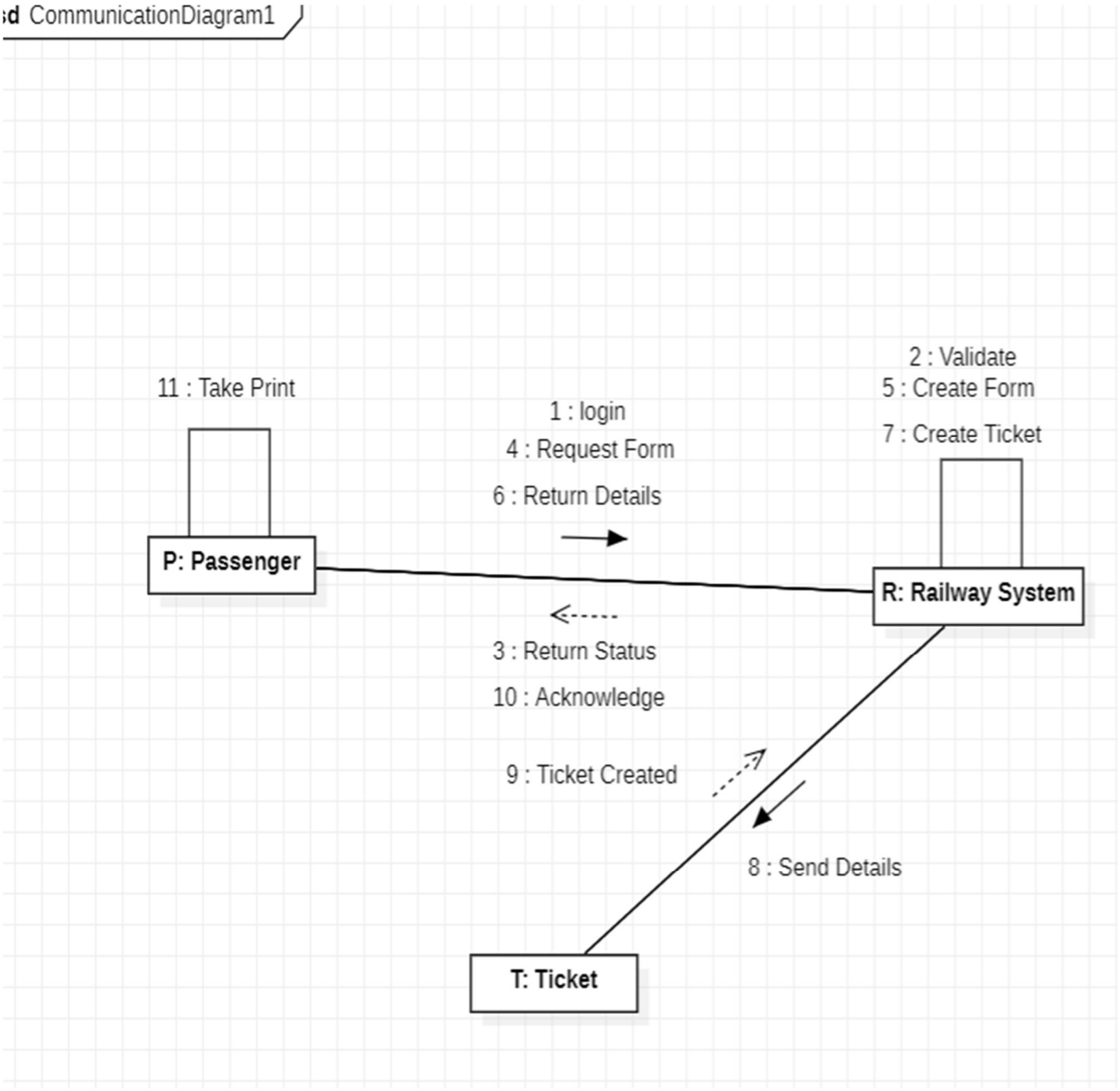
Sequence diagram

This is the Login Sequence Diagram of Railway Reservation System, where admin will be able to login in their account using their credentials. After login users can manage all the operations on Passenger, Railway System, Clerk. The diagram below helps demonstrate how the login page works in a Railway Reservation System.



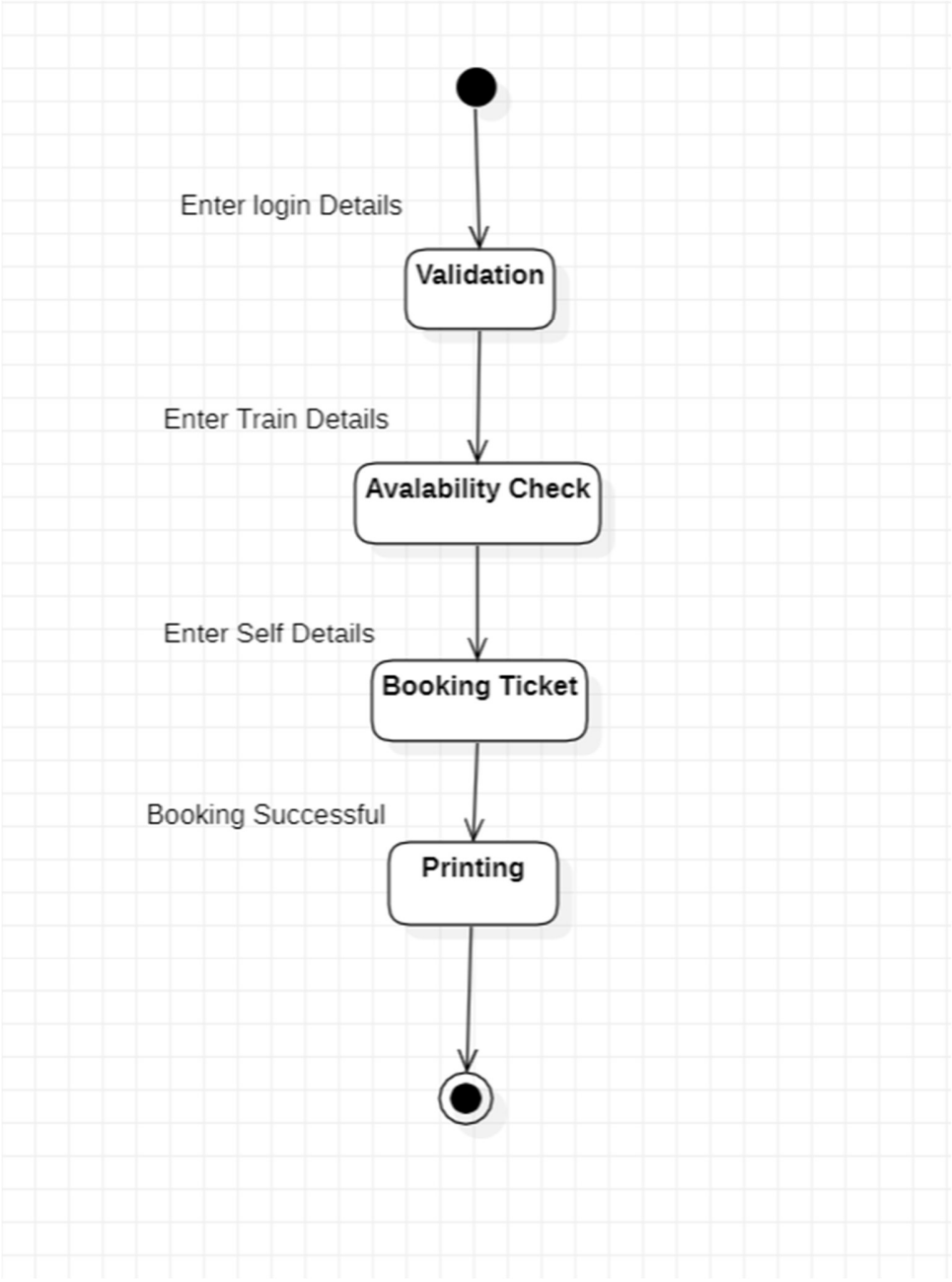
Communication diagram

Like sequence diagrams, Communication diagrams are also called interaction diagrams. Collaboration diagrams convey the same information as sequence diagrams but focus on the object roles instead of the times that messages are sent. Here the actions between various classes are represented by a number format for the case of identification.



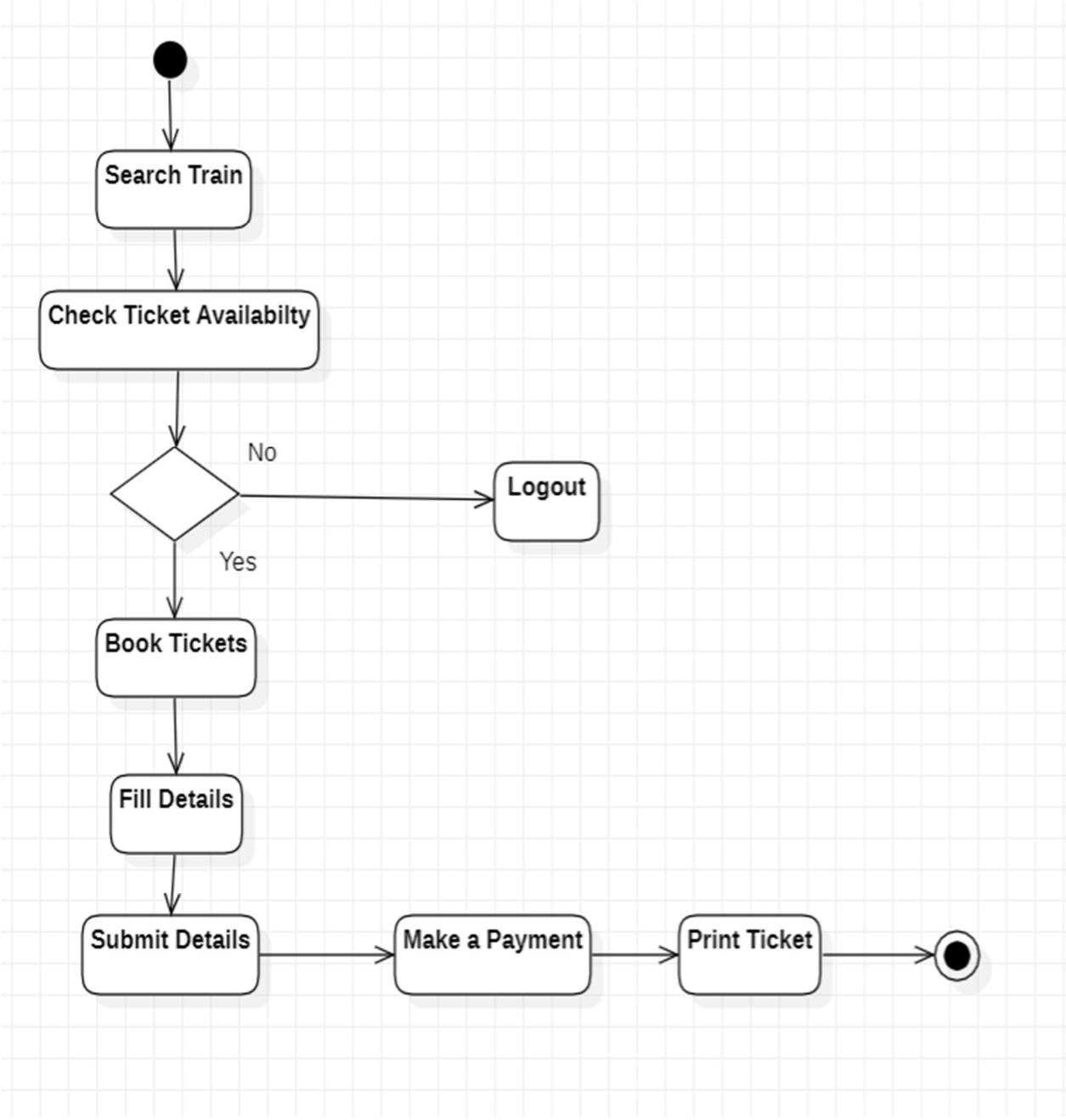
State chart diagram

State chart diagrams are also called state machine diagrams. The state chart diagram contains the states in the rectangular boxes and the states are indicated by the dot enclosed. The state chart diagram describes the behaviour of the system. The state chart diagram involves four stages such as Validation, Availability Check, Booking Ticket, Printing



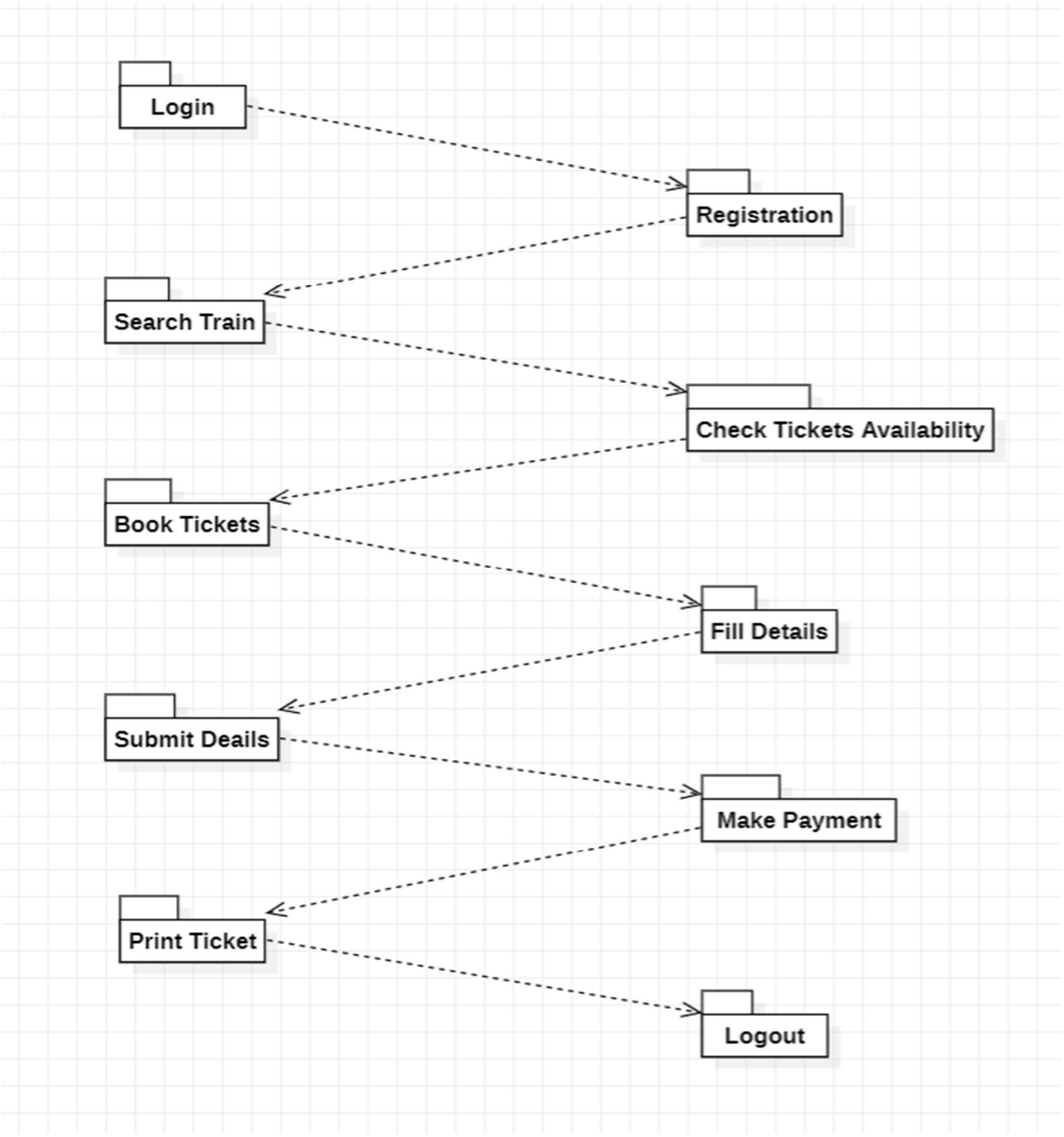
Activity diagram

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. Here in the activity diagram the customer and admin login to the system and perform some main activity which is the main key element to the system.



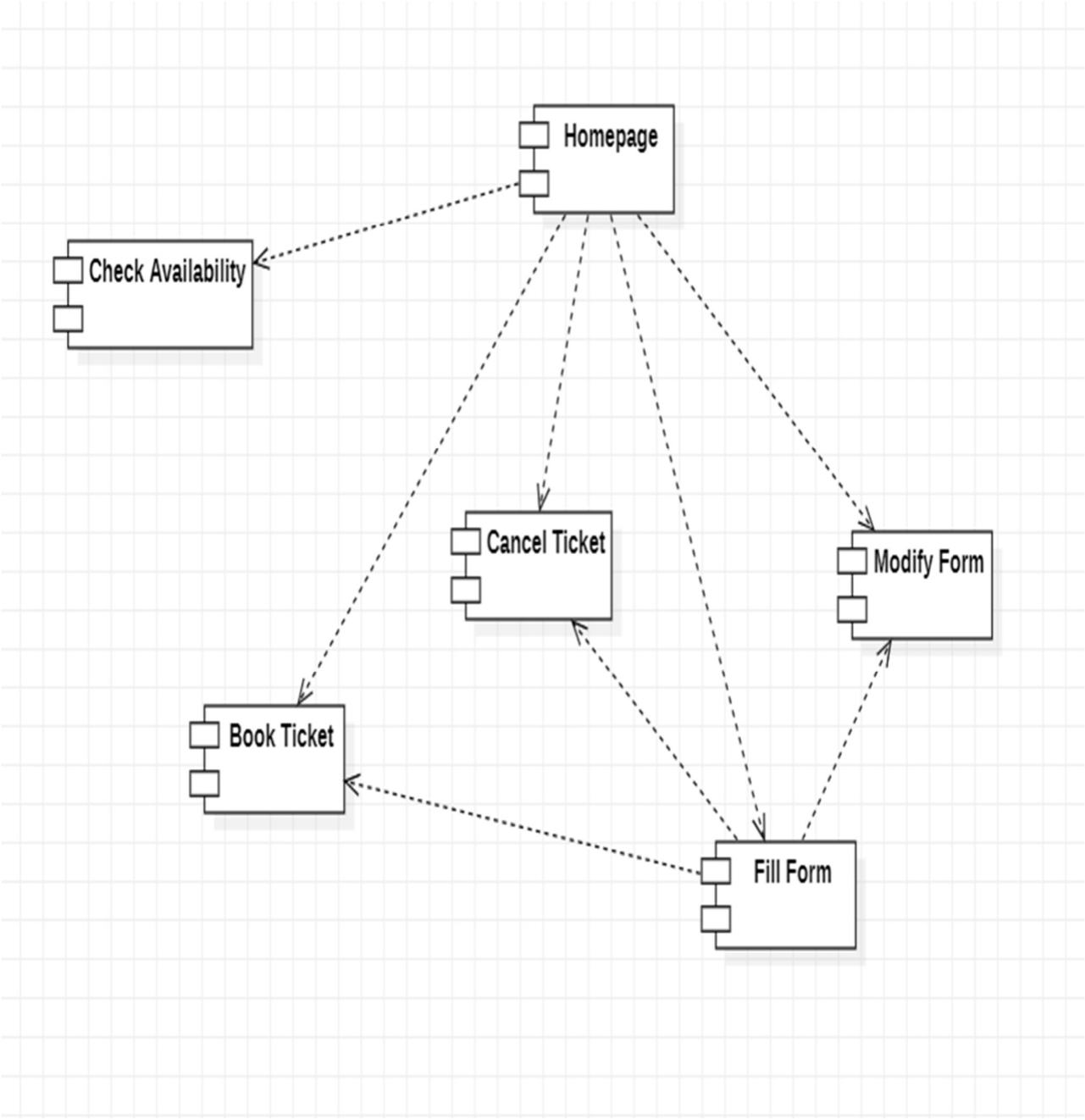
Package diagram

Package diagrams are structural diagrams used to show the organization and arrangement of various model elements in the form of packages. A package is a grouping of related UML elements, such as diagrams, documents, classes, or even other packages.



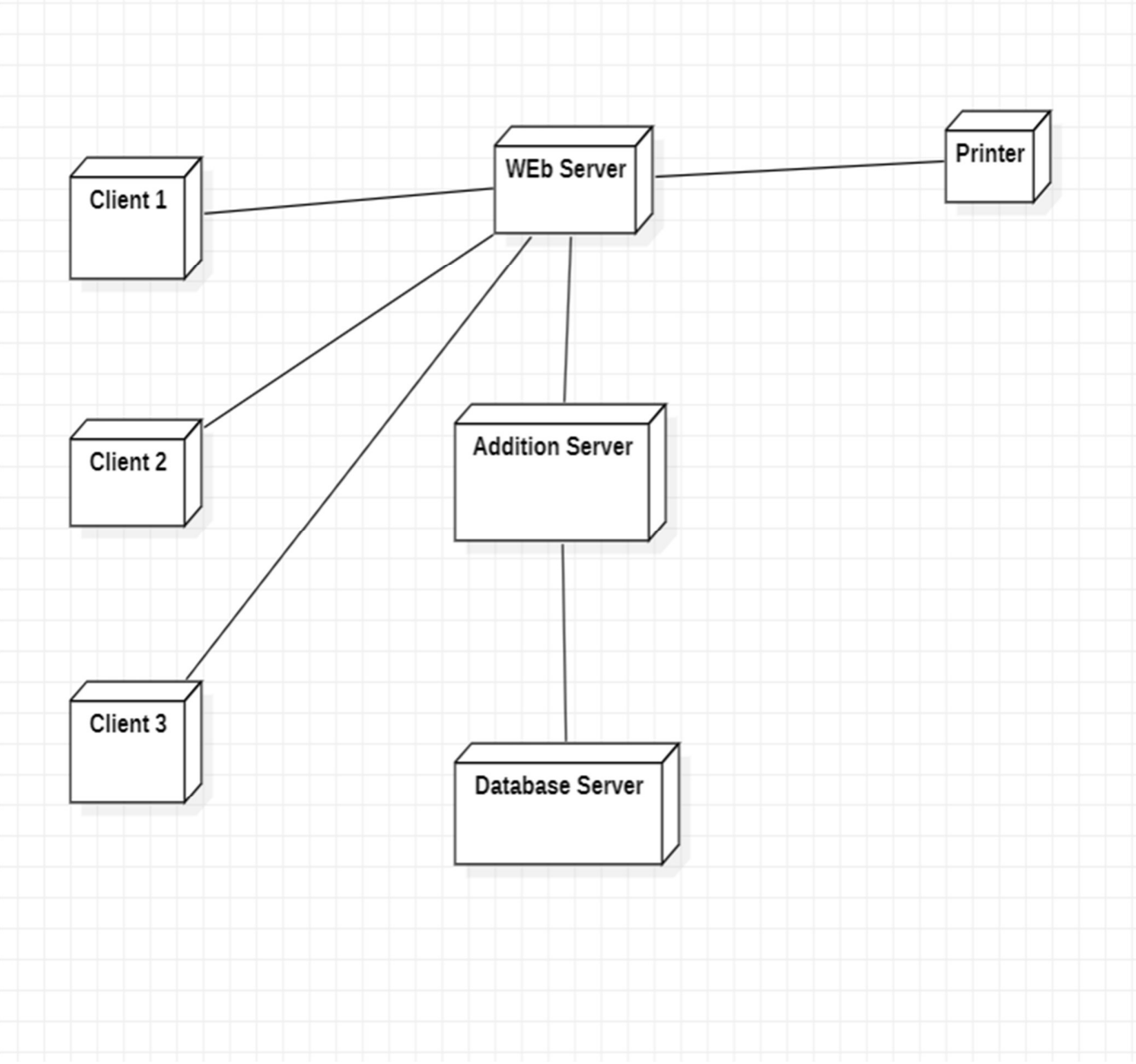
Component diagram

Component diagram shows the dependencies and interactions between software components. Component diagram carries the most important living actors of the system i.e, Home Page, Check Availability, Modify Form, Fill Form, Book Ticket, Cancel Ticket.



Deployment diagram

Deployment diagram is a structure diagram which shows architecture of the system as deployment of software artifacts to deployment target. It is the graph of nodes connected by communication association. It is represented by a Seven dimensional box. The device node is a Railway Reservation system and the execution environment nodes are Web Server, Addition Server, Database Server, Printer, Client 1, Client 2, Client 3



Conclusion

The Railway Reservation System in C++ was created with the help of the C++ programming language, and users of this little system can access both train schedules and reservation information.Users must first establish a railway ticket reservation system project in C++ from the Admin mode. Once a user has been created, you can reuse them; their separate files will be saved.

References

www.Geeksforgeeks.org

www.coursera.org

T4tutorials.com

Portfolio

https://dv1152.wixsite.com/my-site