Online Ticketing System

Mini Project

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Software Requirements Specification

for

Online Ticketing System

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1. Introduction

1.1 Purpose

If the entire process of reservation is done in a manual manner then it would take several months for reservation to reach the applicant. Considering the fact that the number of passengers is increasing every year, an Automated System becomes essential to meet the demand. So this system uses several programming and database techniques to elucidate the work involved in this process. As this is a matter of National Security, the system has been carefully verified and validated in order to satisfy it.

1.2 Intended Audience and Reading Suggestions

- *Any person who is willing to book tickets.*

1.3 Project Scope

The System provides an online interface to the user where they can fill in their personal details and submit the necessary documents (maybe by scanning). The authority concerned with the issue of railway can use this system to reduce his workload and process the application in a speedy manner. Provide a communication platform between the passenger and the administrator. Passengers will come to know their status of application and the date in which they must subject themselves for manual document verification.

1.4 References

IEEE Software Requirement Specification format.

2. Overall Description

2.1 Product Perspective

This system tries to make the interface as simple as possible and at the same time not risk the security of data stored in. This minimizes the time duration in which the user receives the ticket.

2.2 Product Features

The Online Smart Ticketing software is a way to help a passenger to book a ride through the easiest way from his home to his desired destination and at the desired time with a variety in bus types and ticket prices. Also, users can know the estimated time for the trip and the arrival of the bus. In addition, software uses an algorithm to generate unique ticket. When the bus arrives to the

passenger, the passenger must scan the ticket, with this the ticket issuance is fully automated and removes the human cost for the same.

2.3 User Classes and Characteristics

Passenger - They are the people who desire to obtain the ticket and submit the information to the database

2.4 Operating Environment

- *Vs code*
- *Mac os*
- *Windows 10*
- *Code Blocks*

2.5 Design and Implementation Constraints

• The passengers require a computer to submit their information.
• Although the security is given high importance, there is always a chance of intrusion in the web world which requires constant monitoring.
• The user has to be careful while submitting the information. Much care is required.

2.6 Assumptions and Dependencies

• The Passengers must have basic knowledge of computers and English Language.
• The passengers may be required to scan the documents and send.

3. System Features

3.1 REQUEST FOR SEAT AVAILABILITY

- The passenger can view the train available in the database for deciding which
- train ticket he wishes to reserve. The passenger can search the train information based on
- journey date, train type and reservation type. The passenger can view the details of flights
- such as, train number, source station, destination station, arrival time, departure time, fare
- and the number of seats available.

3.2 MAKE RESERVATION

- The user is allowed to reserve a ticket on train as he/she requires on the particular
- date and time. The user has to provide details such as name, train number, date of travel,
- source station, destination station, proof name and money transaction details.

3.3 PRINT TICKET

- The user after booking a ticket can print a copy of the ticket reserved. The user has to provide the details about ticket number for searching in the database and passenger
- name for confirming passenger identity.

4. External Interface Requirements

4.1 User Interfaces

- *Simple and understandable user interface.*
- *Drivers will use a related but different user interface.*
- *The user interface should be self-explanatory.*

4.2 Hardware Interfaces

- *Code runs on the terminal*

4.3 Software Interfaces

- *User enters his choices in the terminal.*

4.4 Communications Interfaces

- *Command Prompt*

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- *Response to queries should not exceed 10 seconds.*
- *Ticket processing doesn't take more than 5 seconds.*
- *The system must support up to 200 concurrent users.*
- *If the system went down it won't take more than 2 minutes to be up again.*
- *Response should be fast.*

5.2 Security Requirements

- *Payments should be secure and data should be kept anonymous.*
- *Unauthorized access to the server must be prevented.*
- *Unsuccessful login attempts must be logged and an alert must be generated.*

5.3 Software Quality Attributes

- *Software is expected to run 365*24.*
- *Super flexible.*

6. Other Requirements

- *Service Executives should address the issue of the user all the time.*
- *Customer Service should handle the Cancellation charge, Insufficient balance, etc issues.*

Appendix A: Glossary

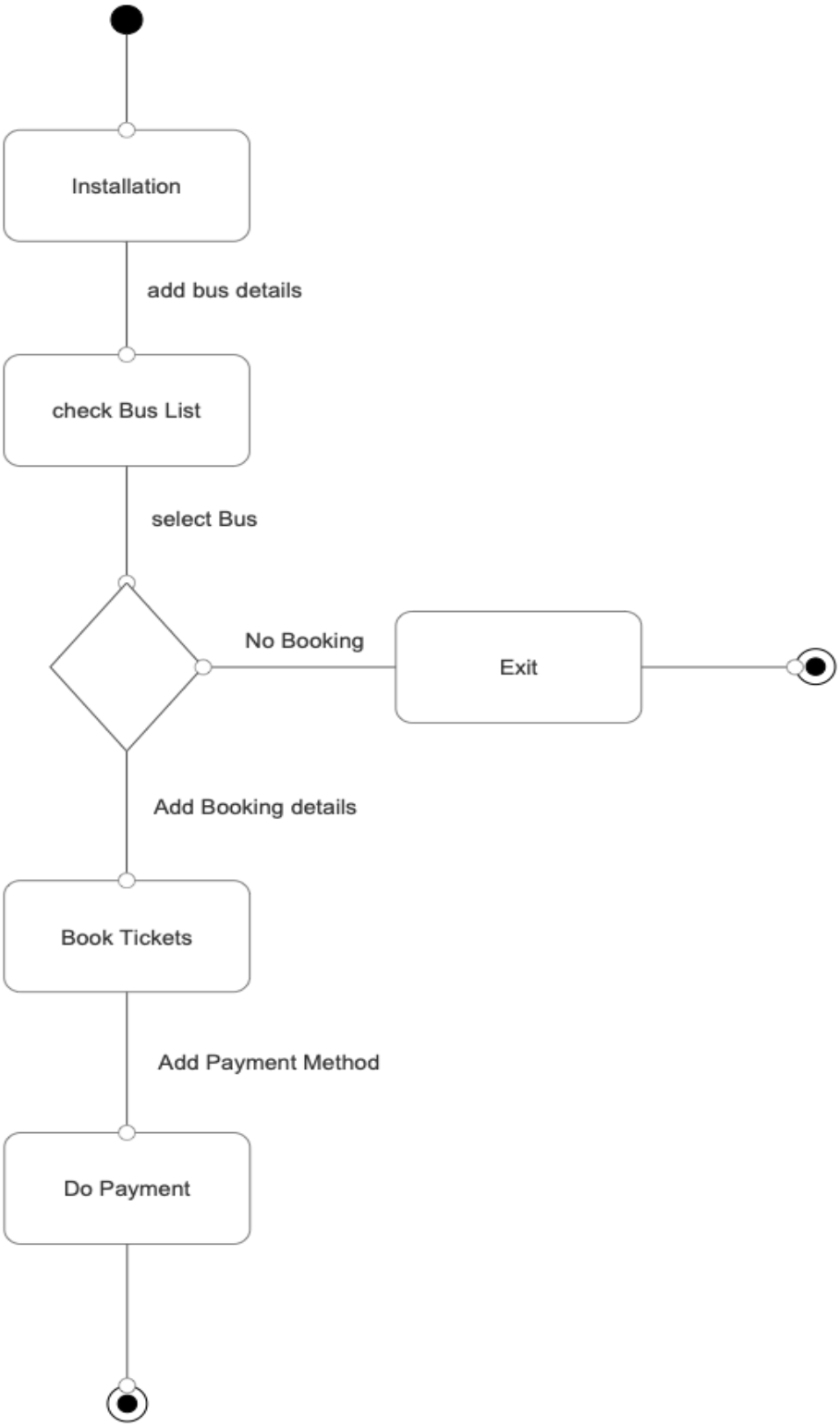
FAQ: Frequently Asked Questions.

IS: Information Systems

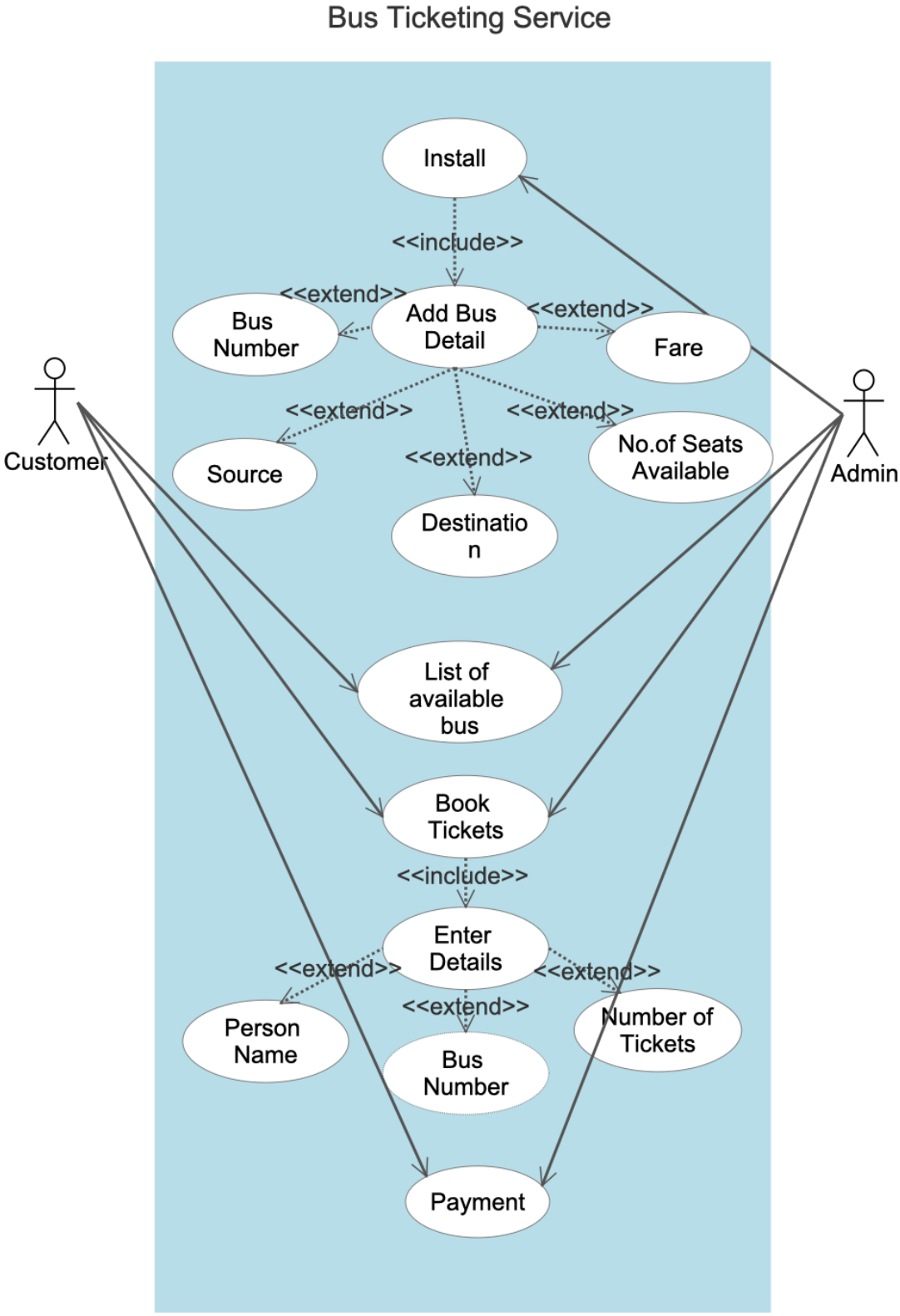
IT: Information Technology

Appendix B: Analysis Models

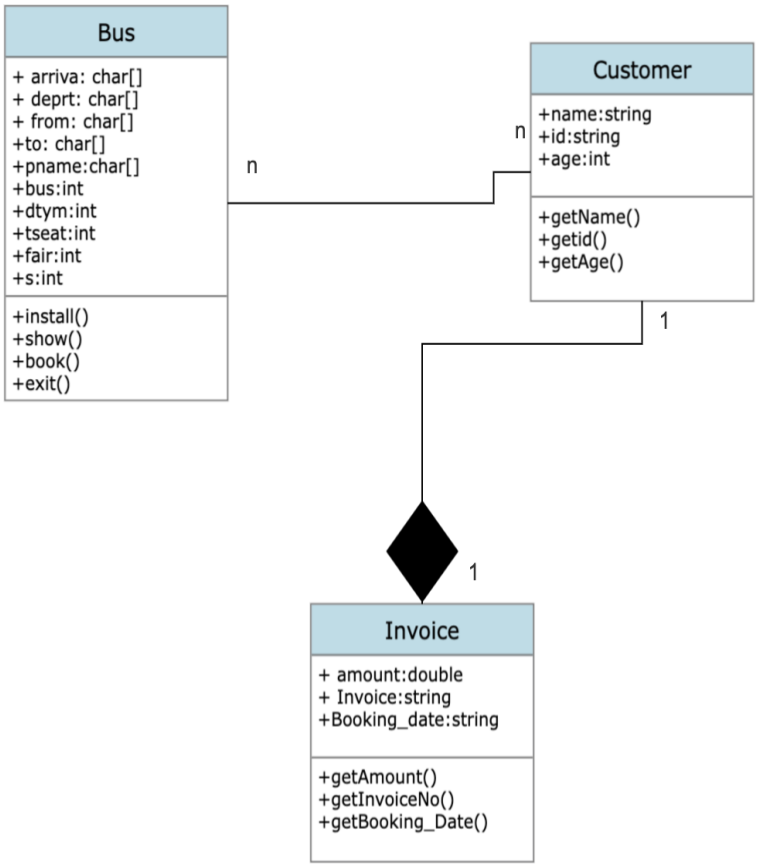
1. State diagram



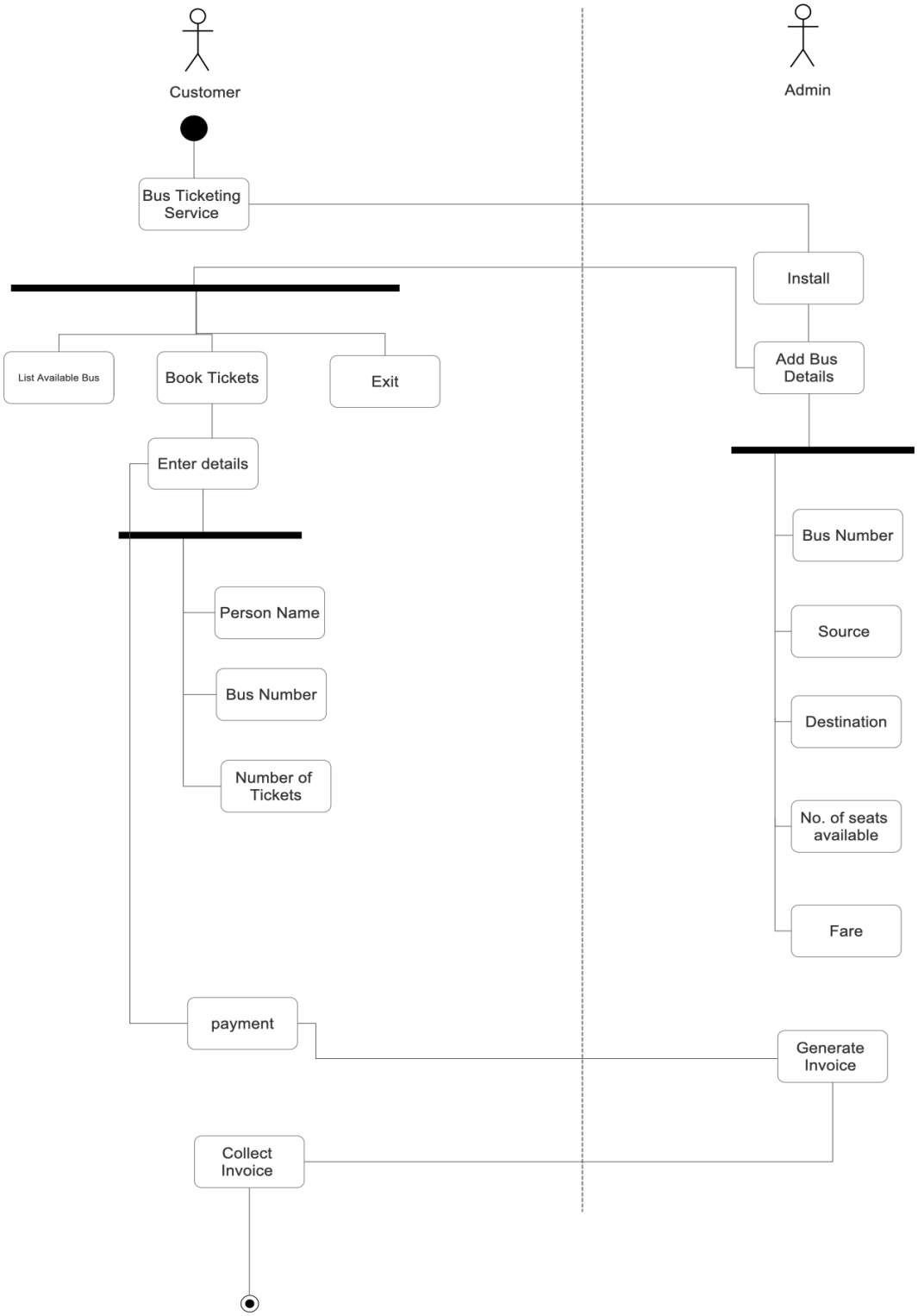
2. Use Case Diagram



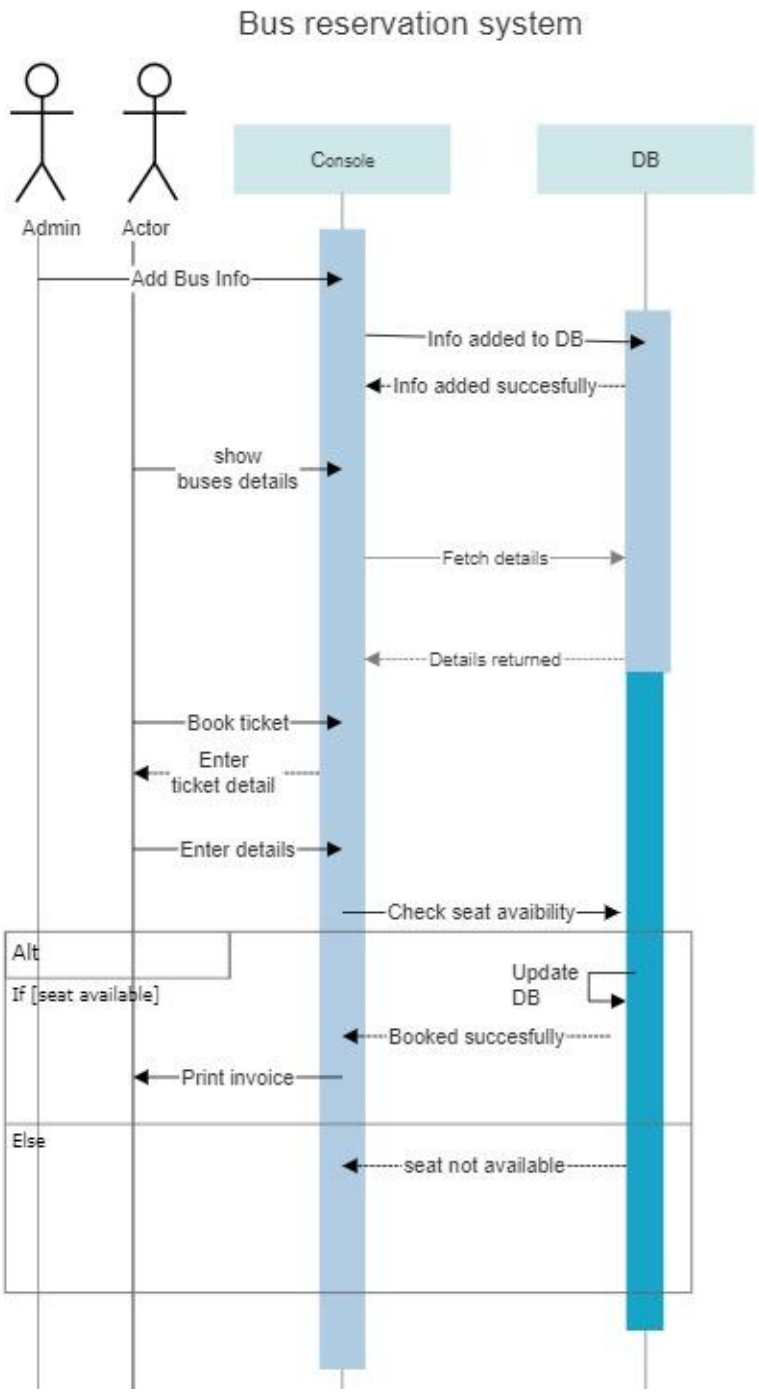
3. Class diagram



4. Activity Diagram



5. Sequence Diagram



User Story

I need an Online Smart Ticketing software which should be able to help a passenger to book a ride from source and destination. It should give the user flexibility to see get the number of tickets and then provide them with the total cost. The other user

Refactoring and optimization of code

```
class bus{


char arriva[9],deprt[9],from[9],to[9],pname[99];

int busn,dtym,tseat,fair,s;


public:

        void install();

        void show();

        void book();

        void exit();



}b[8];


class Customer{

private:

   String name;

   String id;

   int age;

public:

   Customer(string name, string id, int age)
```

```
    {
        this.name=name;
        this.id=id;
        this.age=age;
    }

    string getName()
    {
        return name;
    }

    string getid()
    {
        return id;
    }

    string getAge()
    {
        return age;
    }
};

class Invoice{
private:
    double amount;
    string InvoiceNo;
```

```
    string Booking_date;

public:
    Invoice(double amount, string Invoice, string Booking_date)
    {
        this.amount=amount;
        this.InvoiceNo=InvoiceNo;
        this.Booking_date=Booking_date
    }

    double getAmount()
    {
        return amount;
    }
    string getInvoiceNo()
    {
        return InvoiceNo;
    }
    string getBooking_Date()
    {
        return Booking_date;
    }

};
```

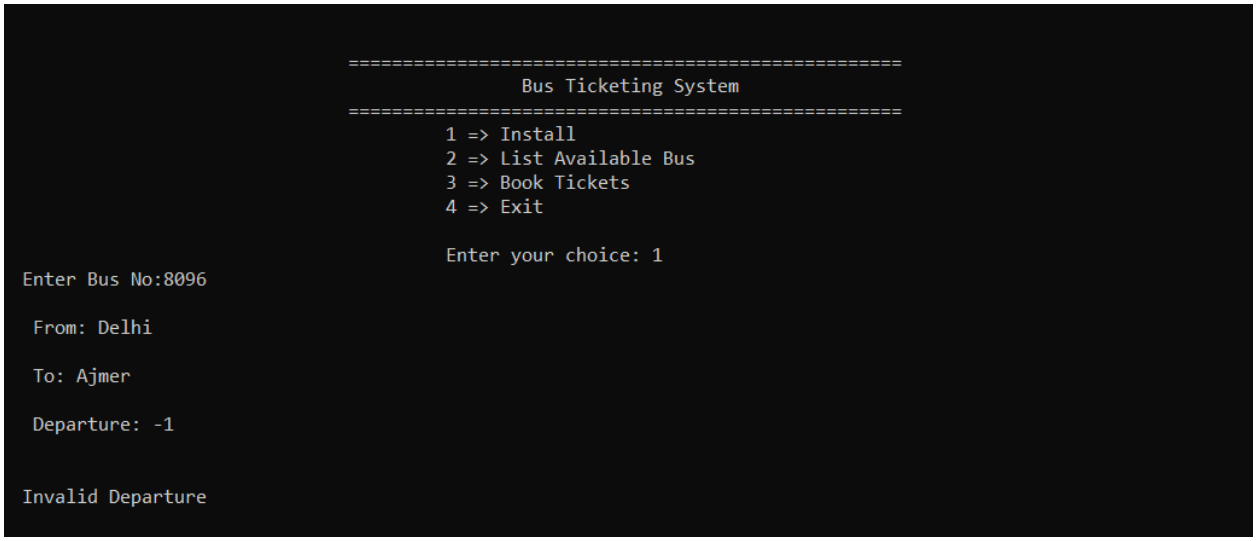
Test Case

Test Case (Departure Input)	Test Case Result
-1	Invalid
0	Valid
12	Valid
24	Valid
25	Invalid

Assume Max No Seat in bus is 50.

Test Case (No of Seat Input)	Test Case Result
0	invalid
1	Valid
25	Valid
50	Valid
51	Invalid

Departure Time test cases



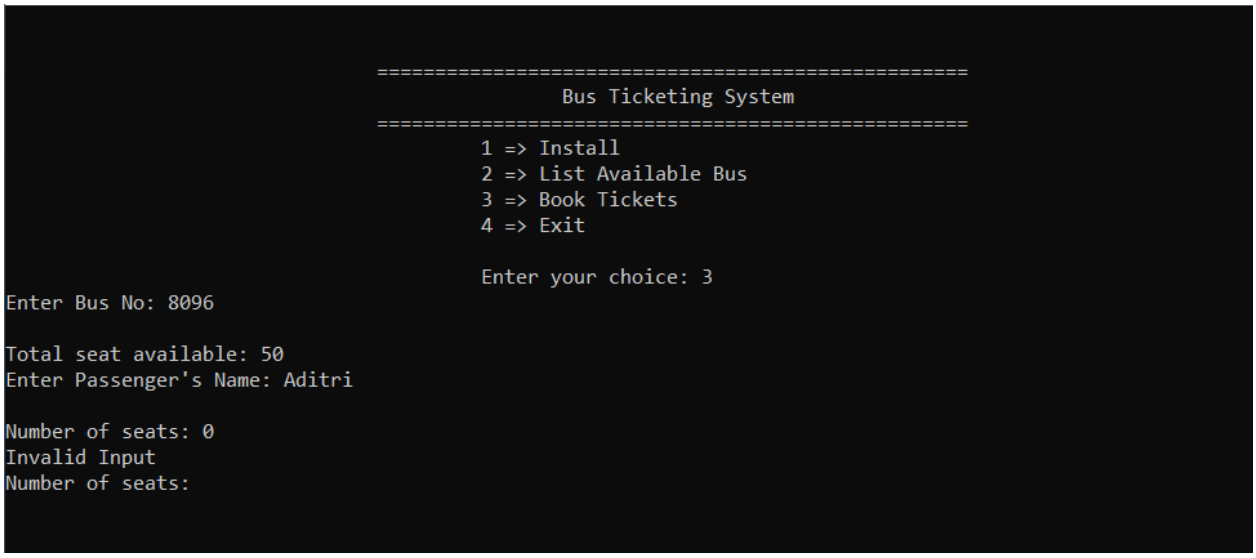
```
                              ================================================
                                            Bus Ticketing System
                              ================================================
                                      1 => Install
                                      2 => List Available Bus
                                      3 => Book Tickets
                                      4 => Exit

                                      Enter your choice: 1
 Enter Bus No:8016

  From: Delhi

  To: Ajmer

  Departure: 0


Total seats: 47

Bus Information Added!!
Press any key to continue . . .
```

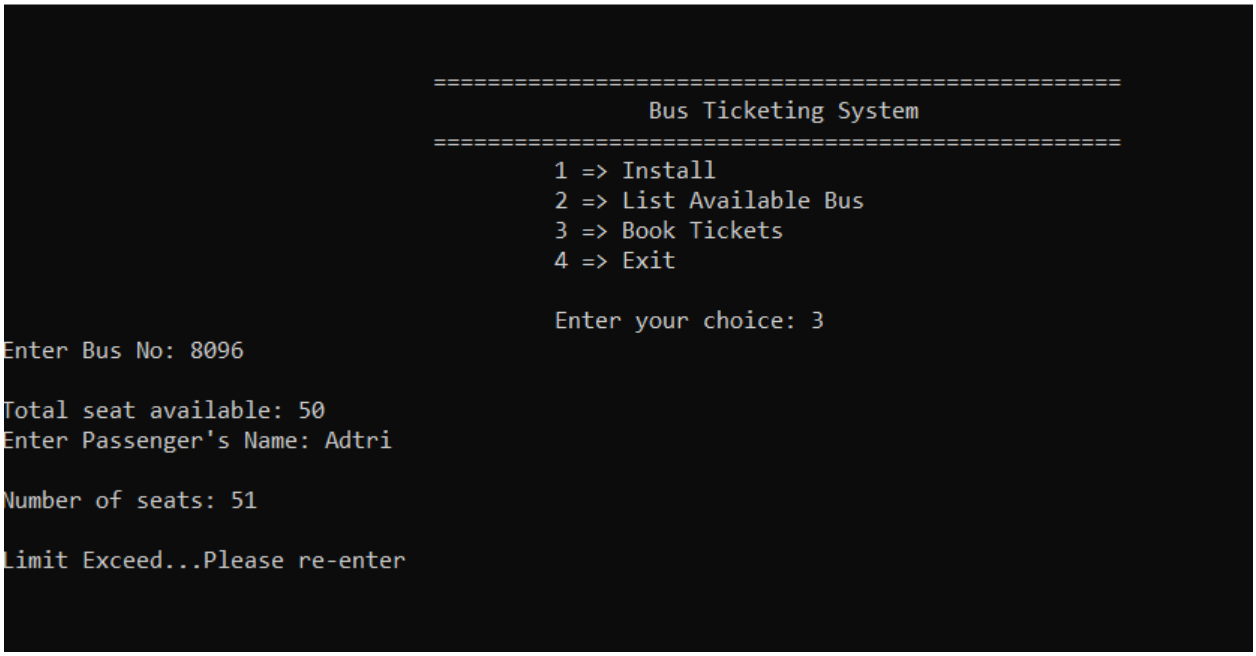
```
                             ================================================
                                           Bus Ticketing System
                             ================================================
                                     1 => Install
                                     2 => List Available Bus
                                     3 => Book Tickets
                                     4 => Exit

                                     Enter your choice: 1
  Enter Bus No:8096

   From: Delhi

   To: Ajmer

   Departure: 12


 Total seats: 47

Bus Information Added!!
Press any key to continue . . .
```

```
                              ==================================================
                                              Bus Ticketing System
                              ==================================================
                                       1 => Install
                                       2 => List Available Bus
                                       3 => Book Tickets
                                       4 => Exit

                                       Enter your choice: 1
 Enter Bus No:8096

  From: Delhi.

  To: Ajmer

  Departure: 24


 Total seats: 47

Bus Information Added!!
Press any key to continue . . .
```

```
                             ==================================================
                                             Bus Ticketing System
                             ==================================================
                                      1 => Install
                                      2 => List Available Bus
                                      3 => Book Tickets
                                      4 => Exit

                                      Enter your choice: 1
 Enter Bus No:8096

  From: Delhi

  To: Ajmer

  Departure: 25


 Invalid Departure
```

No of seat Test cases





```
                              ================================================
                                              Bus Ticketing System
                              ================================================
                                      1 => Install
                                      2 => List Available Bus
                                      3 => Book Tickets
                                      4 => Exit

                                      Enter your choice: 3
Enter Bus No: 8096

Total seat available: 50
Enter Passenger's Name: Aditri

Number of seats: 25

Your purchase is completed
                    Bus No: 8096
                      From: Delhi to Ajmer
                 Departure: 12 O'clock
                Total seat: 25
      Total Fair(with 7%vat): 12750.000
                   Thank You

Press any key to continue . . .
```

```
                              ================================================
                                              Bus Ticketing System
                              ================================================
                                      1 => Install
                                      2 => List Available Bus
                                      3 => Book Tickets
                                      4 => Exit

                                      Enter your choice: 3
Enter Bus No: 8096

Total seat available: 50
Enter Passenger's Name: Aditri

Number of seats: 1

Your purchase is completed
                    Bus No: 8096
                      From: Delhi to Ajmer
                 Departure: 12 O'clock
                Total seat: 1
      Total Fair(with 7%vat):  510.000
                   Thank You

Press any key to continue . . .
```

```
                              ================================================
                                              Bus Ticketing System
                              ================================================
                                      1 => Install
                                      2 => List Available Bus
                                      3 => Book Tickets
                                      4 => Exit

                                      Enter your choice: 3
Enter Bus No: 8096

Total seat available: 50
Enter Passenger's Name: Aditri

Number of seats: 50

Your purchase is completed
                    Bus No: 8096
                      From: Delhi to Ajmer
                 Departure: 12 O'clock
                Total seat: 50
     Total Fair(with 7%vat): 25500.000
                   Thank You

Press any key to continue . . .
```