American International University-Bangladesh (AIUB)

Department of Computer Science and Engineering
Faculty of Science &Technology (FST)
Summer 2021
CSC 00191- Object Oriented Analysis and Design (OOAD)
Section: I

Project Title: Bus Transport Management System

Submitted by:

Name	ID
1. Salima Farha	20-42497-1
2. Showrov Islam	20-42824-1
3. Md. Juniadul Islam	20-41950-1
4.Hamim Hossain	20-42493-1

Submitted to:
MD. ANWARUL KABIR
Sr. Assistant Professor

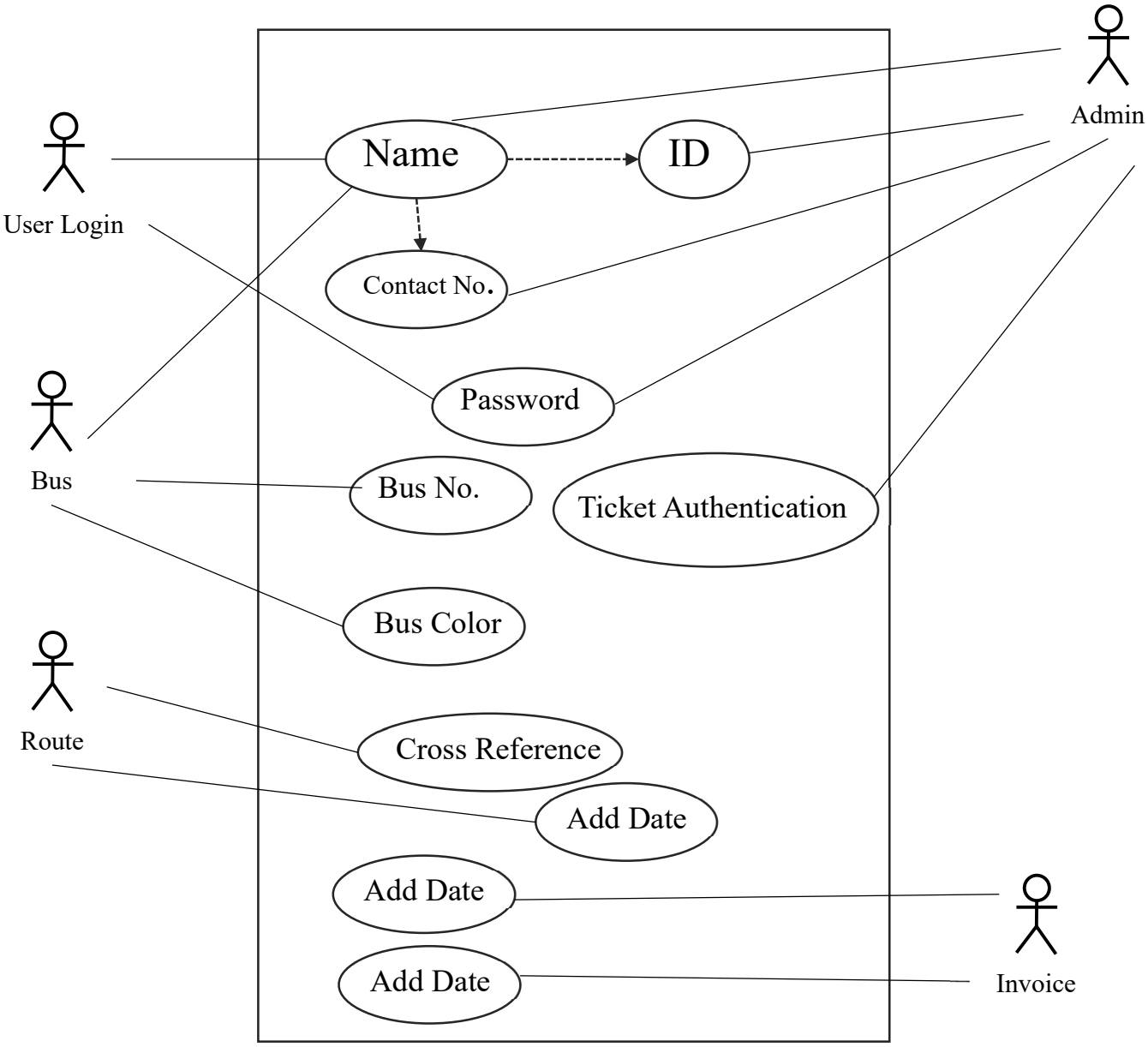
Brief Description

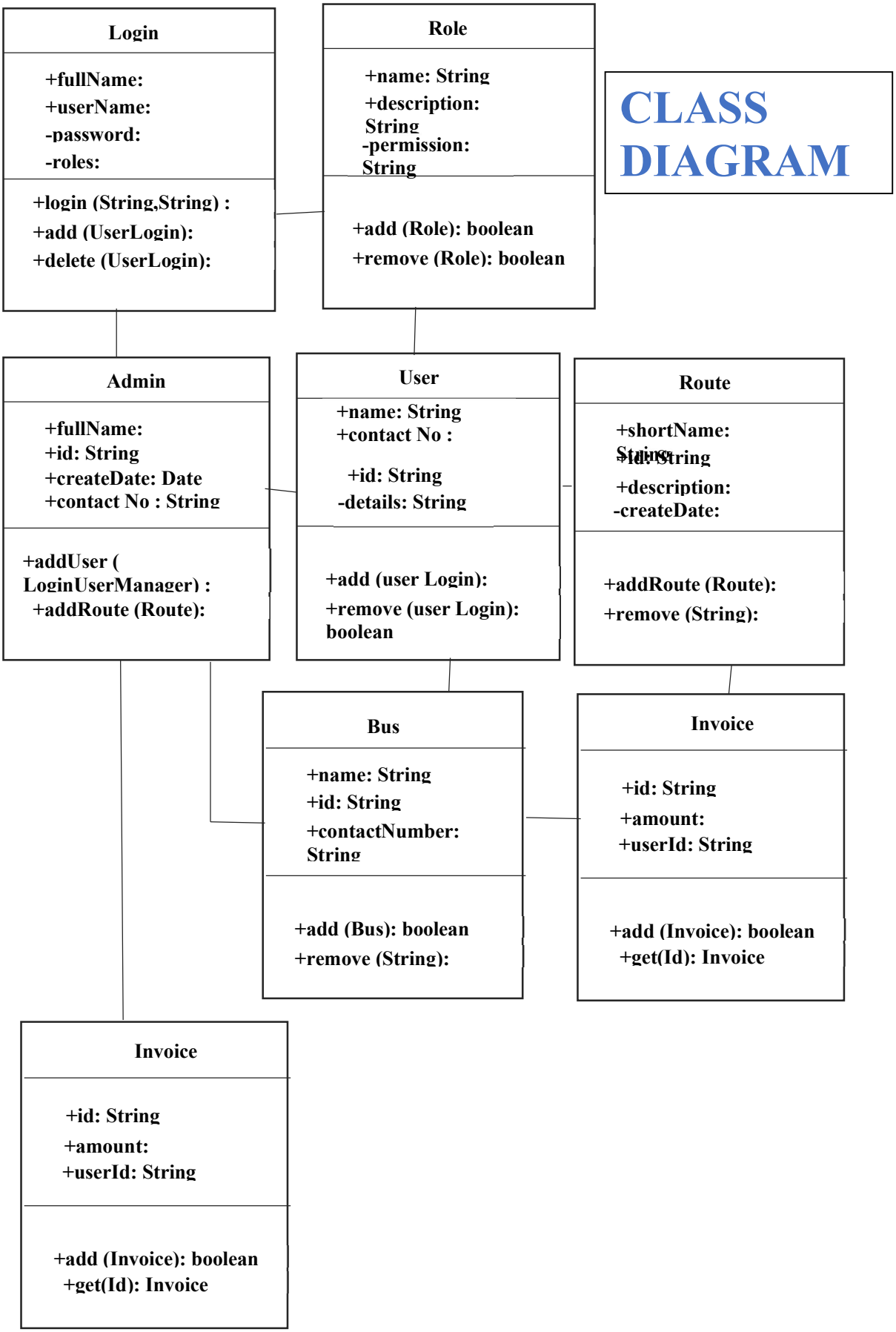
In a Bus Transport Management System, there are different classes such as UserLogin, UserRole, user, admin, Bus, Route, and Invoice. UserLogin is the first page which is shown in the system. User login has User Name, user ID, Contact No. user password which is cross references with the user class. Every ticket is authenticated by Admin. Admin has Admin, name, Admin ID, Admin Password, Contact No. etc. Every Bus has a Bus ID, Bus Name, Bus No., and Bus Color. Root cross-references, Bus ID with Bus class and add it to a route and also add the date in which the bus is assigned. After a successful purchase, an invoice is printed which contains ID, Amount, and userID.

Benefits of this system

One of the greatest benefits that a Bus Management System provides is reducing freight spend. This system is able to provide savings by analytics and optimization. This system is fully control no by Admin. Admin is aware by the whole system. He can record information and make a proper schedule. He also can track bus any time by using this system. A bus management system provides suggestions of how to reduce expenses and uses data that provides valuable information. In this bus management system, a customer can login first page as an user. For this process user need to submit their name, id and password. After completing the login process user can buy ticket from this system and this ticket is authenticated by the admin. By this management system user can able to select bus and can know the entire information about the selected bus like sit number, color, real time location and bus id. This provides information as to the amount of time a route takes and this can then create an efficient route schedule. Also, this provides information as to which drivers and routes are most efficient. This whole system will do a lot to reduce the suffering of the customer

USE CASE DIAGRAM




Login
+fullName:
+userName:
-password:
-roles:
+login (String,String) :
+add (UserLogin):
+delete (UserLogin):
Role
+name: String
+description: String
-permission: String
+add (Role): boolean
+remove (Role): boolean
CLASS DIAGRAM
Admin
+fullName:
+id: String
+createDate: Date
+contact No : String
+addUser (LoginUserManager) :
+addRoute (Route):
User
+name: String
+contact No :
+id: String
-details: String
+add (user Login):
+remove (user Login): boolean
Route
+shortName: String
+id: String
+description:
-createDate:
+addRoute (Route):
+remove (String):
Bus
+name: String
+id: String
+contactNumber: String
+add (Bus): boolean
+remove (String):
Invoice
+id: String
+amount:
+userId: String
+add (Invoice): boolean
+get(Id): Invoice
Invoice
+id: String
+amount:
+userId: String
+add (Invoice): boolean
+get(Id): Invoice

Name of the class: User
Attributes

Name	Data Type	Visibility	Remarks
userID	Integer	Private	Assigned by system
userName	String	Private	Maximum 35 characters long
userPassword	String	Private	Contains Capital letter, Small letter, Number & Special character
userContact	String	Private	Contains numbers only
Notice	String	Private	Static

Operations

Name	Arguments	Visibility	Return Datatype	Remarks
getUserID		Public	Integer	
setUserName	Name (Data Type: String)	Public	String	
setUserPassword	Password (Data Type: String)	Public	String	
setUserContact	Contact (Data Type: String)	Public	String	
setNotice	Note (Data Type: String)	Public	String	

Name of the class: Admin
Attributes

Name	Data Type	Visibility	Remarks
adminID	Integer	Private	Assigned by system
adminName	String	Private	Maximum 35 characters long
adminPassword	String	Private	Contains Capital letter, Small letter, Number & Special character
adminContact	String	Private	Contains numbers only
Notice	String	Private	Static

Operations

Name	Arguments	Visibility	Return Datatype	Remarks
getAdminID		Public	Integer	
setAdminName	Name (Data Type: String)	Public	String	
setAdminPassword	Password (Data Type: String)	Public	String	
setAdminContact	Contact (Data Type: String)	Public	String	
setNotice	Note (Data Type: String)	Public	String	

DETAIL DESIGN (NAME, ATTRIBUTES, OPERATIONS) OF 3 CLASSES

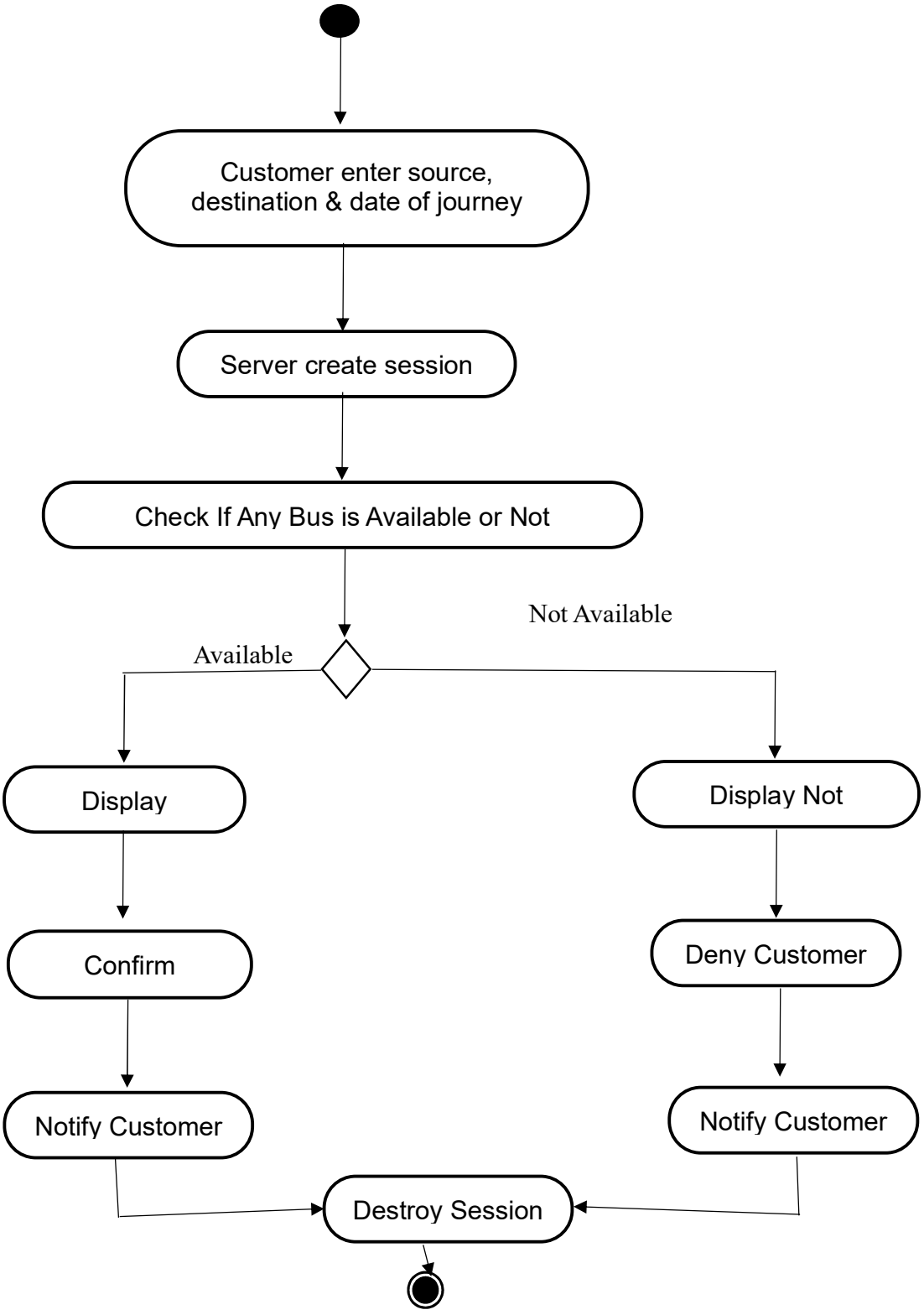
Name of the class: Bus
Attributes

Name	Data Type	Visibility	Remarks
busID	Integer	Private	Assigned by system
busName	String	Private	Maximum 35 characters long
busNumber	Integer	Private	Contains numbers only
busColor	String	Private	
Notice	String	Private	Static

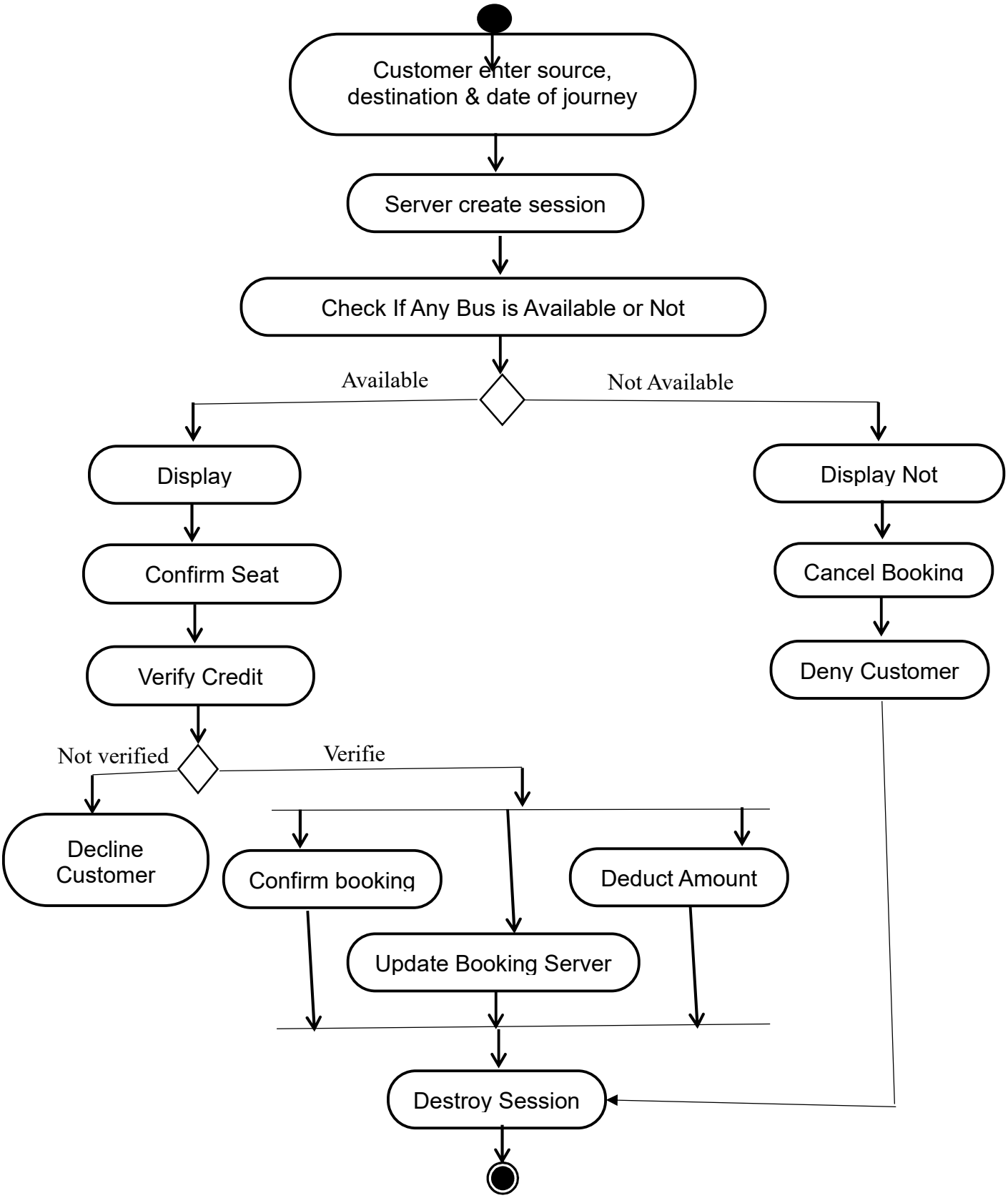
Operations

Name	Arguments	Visibility	Return Datatype	Remarks
getBusID		Public	Integer	
setBusName	Name (Data Type: String)	Public	String	
setBusNumber	Password (Data Type: Integer)	Public	Integer	
setBusColor	Contact (Data Type: String)	Public	String	
setNotice	Note (Data Type: String)	Public	String	

Activity Diagram Object 1



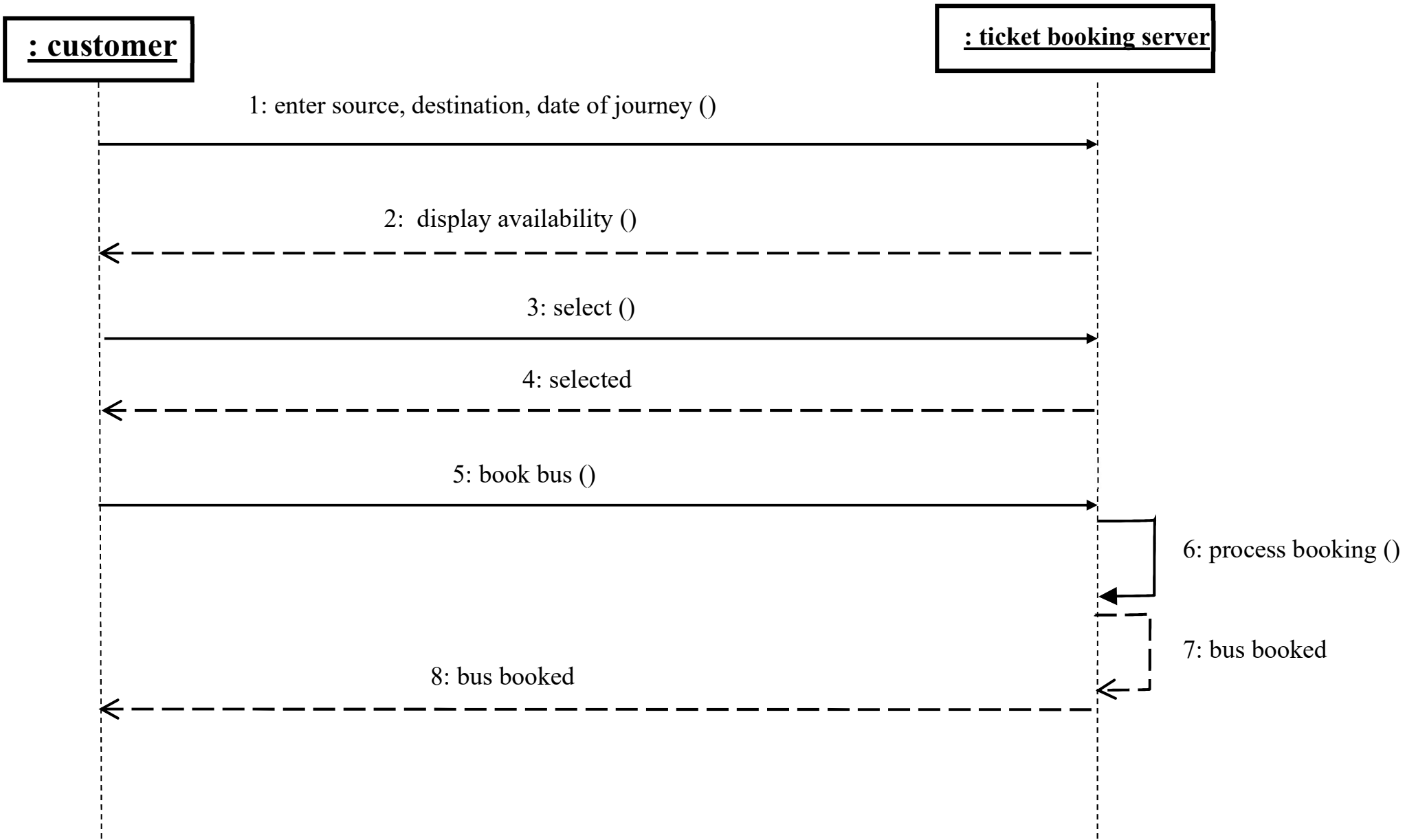
Activity Diagram Object 2



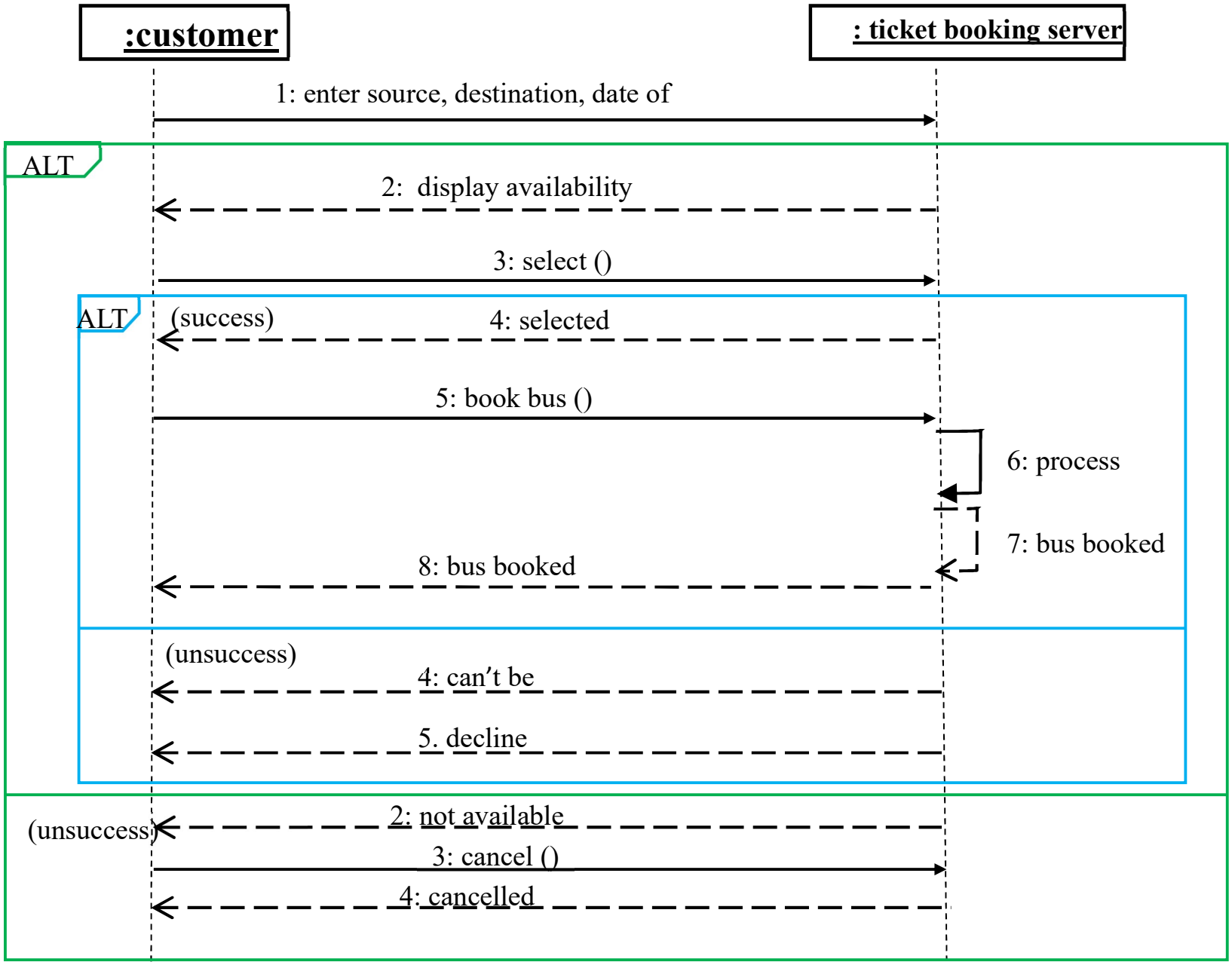
Case Study

In a system, customer enters source, destination and date of journey. Then the system search in the server that is there any bus available or not. After displaying the availability, the customer selects the desired bus. After selecting, customer confirms the booking then the bus is booked.

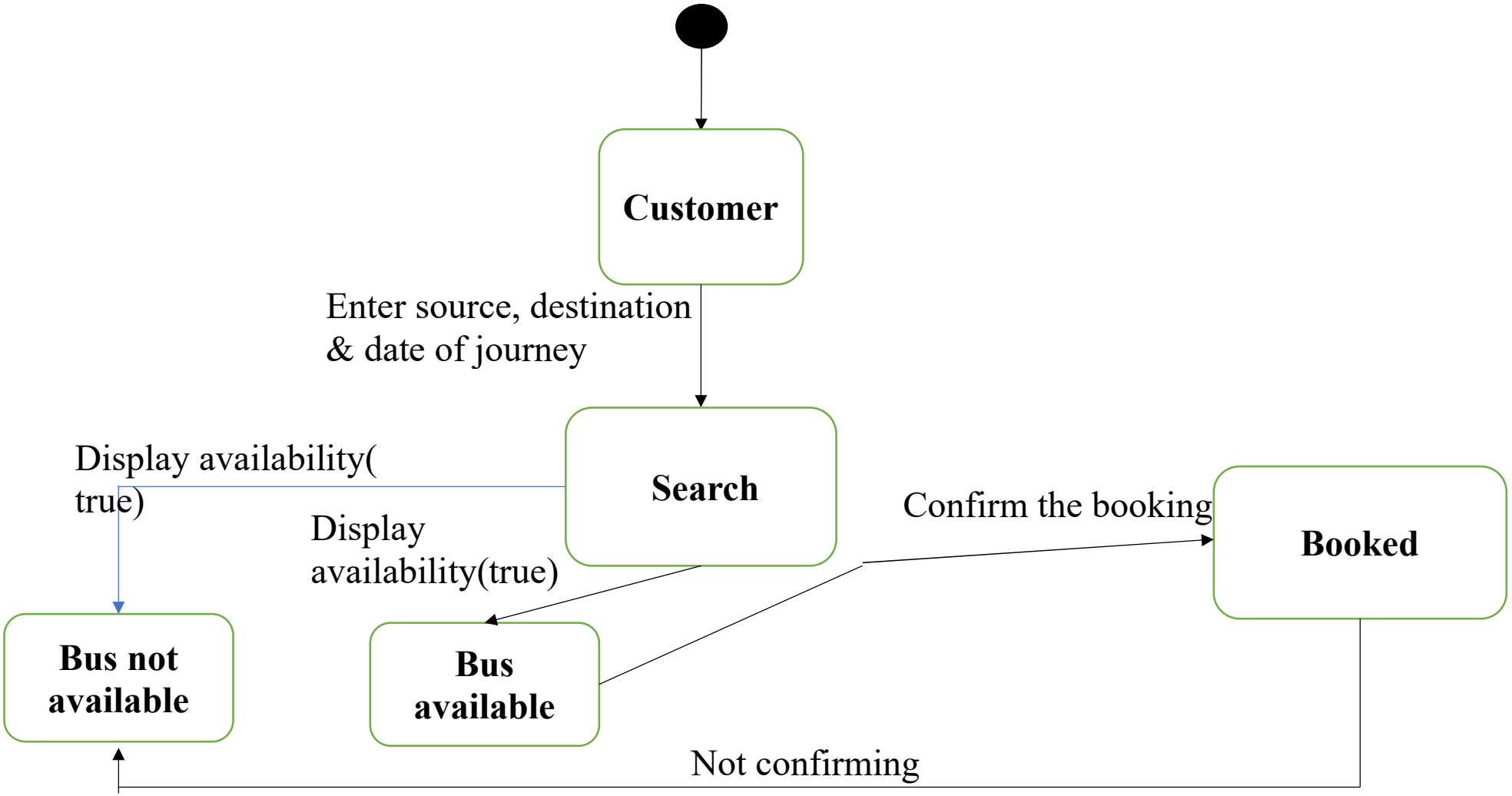
Sequence Diagram



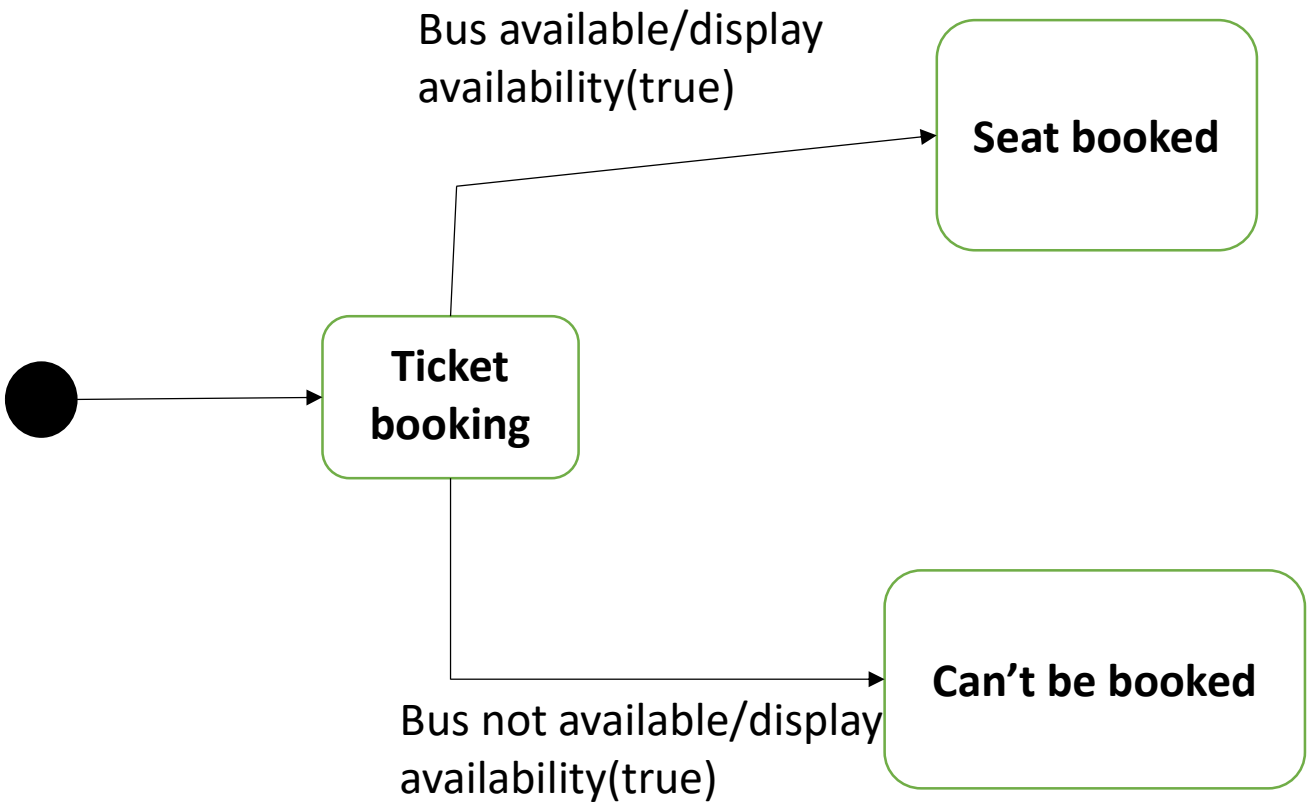
Sequence Diagram 2.0



State chart Diagram Object 1



State chart Diagram Object 2



Conclusion: The main objective of this course feedback is to establish a Bus Transport Management system that enables us to automate the dynamic administrative process in Bus Transport. The output of this Course feedback helps to maintain the user registration page, bus selection, user payment method, etc. The goal of this course feedback is to establish a strong and effective Bus Transport Management System.