

INTRODUCTION

Introduction and Background

Bus Reservation App with the name Destination is an android application to book bus tickets online. There is no single system which automates all the process. Travel industry is evolving day to day. As the industry evolves the need to digitalize all the transactions becomes need of the hour. This project which is implemented on Android platform helps to manage bus scheduling and bookings. This Bus Reservation App is an easily deployable, integrated end-to-end system starting from searching bus to book them

Existing system

✓Existing system is totally on book and thus a great amount of manual work has to be done. The amount of manual work increases exponentially with increase in services.

✓In existing system, there are various problems like keeping records of items, seats available, prices of per/seat and fixing bill generation on each bill.

✓Finding out details regarding any information is very difficult, as the user has to go through all the books manually.

✓Major problem was lack of security.

Proposed System:

✓We can eliminate the drawbacks by developing an application which will allow customers to register themselves and book tickets, cancel tickets or postpone travel dates with feasibility.

✓This actually is a welcome step for customers as they can access the application from anywhere and will also avoid wastage of time that was caused due to the drawbacks in the previous way of booking tickets manually.

✓The app uses Firebase Real-time database. Records are efficiently maintained by Firebase. Firebase also provides security for the information.

✓Availability of seats can be enquired very easily. Passengers can also cancel their tickets easily.

✓Customers don't need to search on browser for website to book a ticket, they can install an app only once and get it any time.

Purpose

The fundamental aim to carry out this project is to create and design an Android Mobile Application of Online Bus Booking System; in order to transfer all their routine operations into an Application, which will allow serving customers up to their optimum satisfaction.

Objective

The main objective of the application is to automate the existing system of issuing tickets. This can enabled to make available in their mobile phones, so that each customer can book bus tickets at his or her place.

User Types

Admin, Customer, Bus Provider Company.

Customer Activities:

The most common activities carried out by Customer are illustrated bellow.

- ✓The Customer can search for the seat.
- ✓The Customer can sign up/do registration with the system.
- ✓The registered Customer can login to the proposed system.
- ✓The Customer can check for the available seat.
- ✓The Customer can also do payment for the seat on the proposed system.
- ✓The Customer can print receipt on the system as evidence of payment.

Admin Activities:

✓The administrator will verify all the registered Customer, and allow them to login to the system.

✓The administrator give acknowledge to any payment Customer made on the system.

✓The administrator can add or delete vehicle, company, and customer and generate report as well.

Bus Provider Activities:

✓The Bus Provider is the person who owns the Buses hence he need to register with the system to get reservations from the System.

✓The Provider will get notification of new reservations for his bus.

✓He can add or delete vehicle, Bus Route and Drop Places.

REQUIREMENTS ANALYSIS

Scope of the Project

- This software system will be an android application for any people who want to book bus tickets by using their android mobile from anywhere. It will also provide a platform for bus owners to get bookings for their bus online.
- This application can be used by any Travel company to issue the tickets to the customers. Apart from customer will able to check timings and schedule of the buses and book ticket for desired locations.

Characteristics of the App

- Admin can add, delete and update bus details to the system by its own login id.
- The user can simply install the app and can book bus tickets, cancel bookings or postpone the date of travelling.
- The Bus Provider can add buses and get reservations for his buses.

Source of Information

- The details of project were collect with the help of client representative Mr. Jignesh Panchal.
- The client representative described their requirements.
- With email and telephonic communication we get suggestions from Mr. Jignesh Panchal Sir.

System Requirements

Hardware Requirements

- Processor: - Intel i3 processor or above.
- RAM:- 4GB RAM
- At least 60GB Internal Memory

Software Requirements

Operating System: - Windows 7 or Above.

System Development Platform

Front End: -

- IDE: Android Studio 3.3.2.
- Technology: JAVA.

Back End:-

- Firebase

System Deployment Platform

Front End: -

- Android API 14(IceCreamSandwich) or Above.
- Internet speed at least 100MBPS.

Back End: -

- Firebase.

SYSTEM DESIGN

System Design

The objective of the information system design is to provide specification or the system blue print that is the feature of the system, which can then be translated into software for use in the organization.

Flowchart

- A **flowchart** is a type of diagrams that represents an algorithm, workflow or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows. This diagrammatic representation illustrates a solution to a given problem. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.
- Flowchart are used in designing and documenting complex processes or programs. Like other types of diagrams, they help visualize what is going on and thereby help the people to understand a process, and perhaps also find flaws, bottlenecks, and other less-obvious features within it. There are many different types of flowcharts, and each type has its own repertoire of boxes and notational conventions. The two most common types of boxes in a flowchart are:
 - A processing step, usually called activity, and denoted as a rectangular box
 - A decision is usually denoted as a diamond.

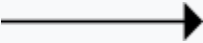




Use Case Diagrams

- **Use case diagrams** are considered for high level requirement analysis of a system. When the requirements of a system are analyzed, the functionalities are captured in use cases.
- We can say that use cases are nothing but the system functionalities written in an organized manner. The second thing which is relevant to use cases are the actors. Actors can be defined as something that interacts with the system.
- Actors can be a human user, some internal applications, or may be some external applications. When we are planning to draw a use case diagram, we should have the following items identified.
 - Functionalities to be represented as use case
 - Actors
 - Relationships among the use cases and actors.

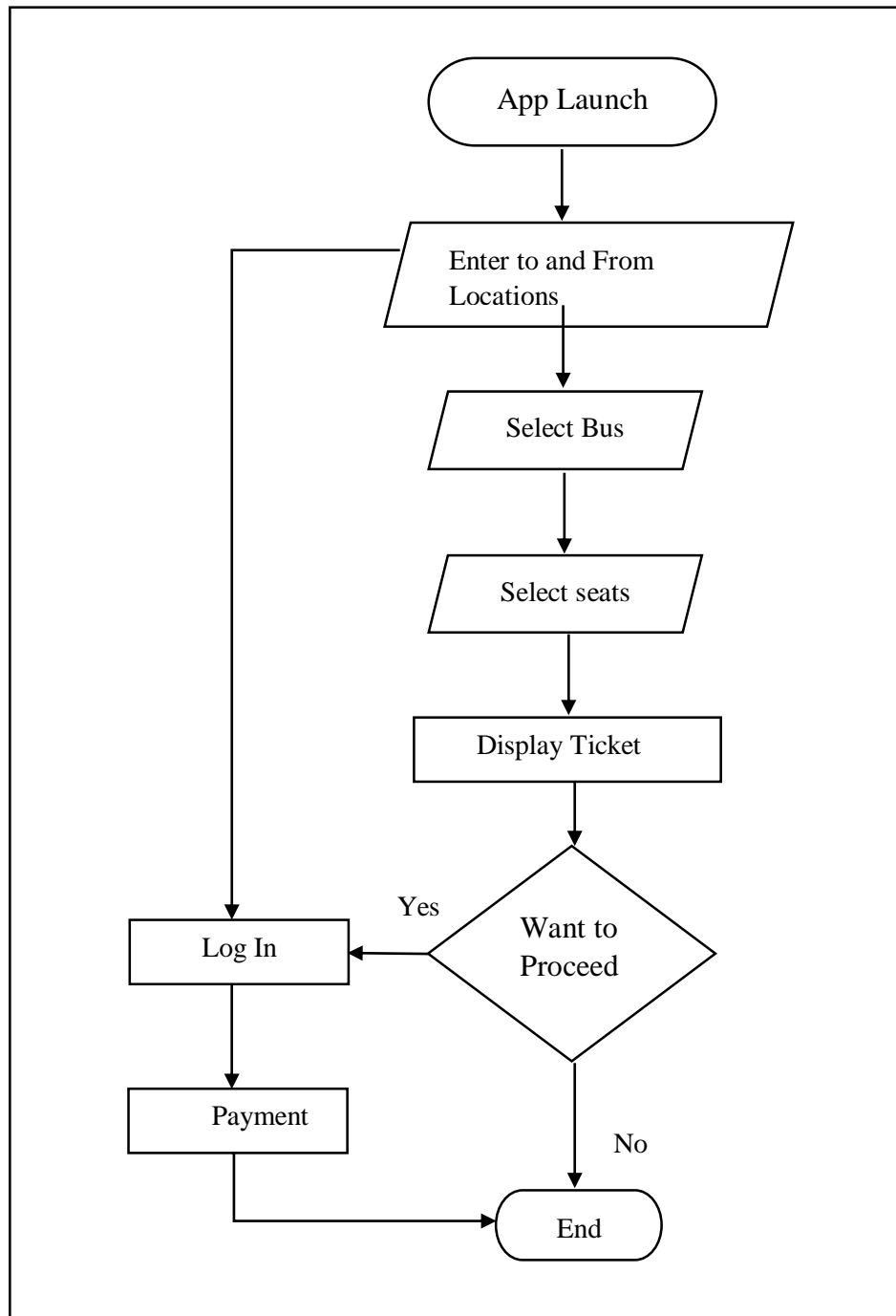
Use case diagrams are drawn to capture the functional requirements of a system.

FLOW CHART DIAGRAM

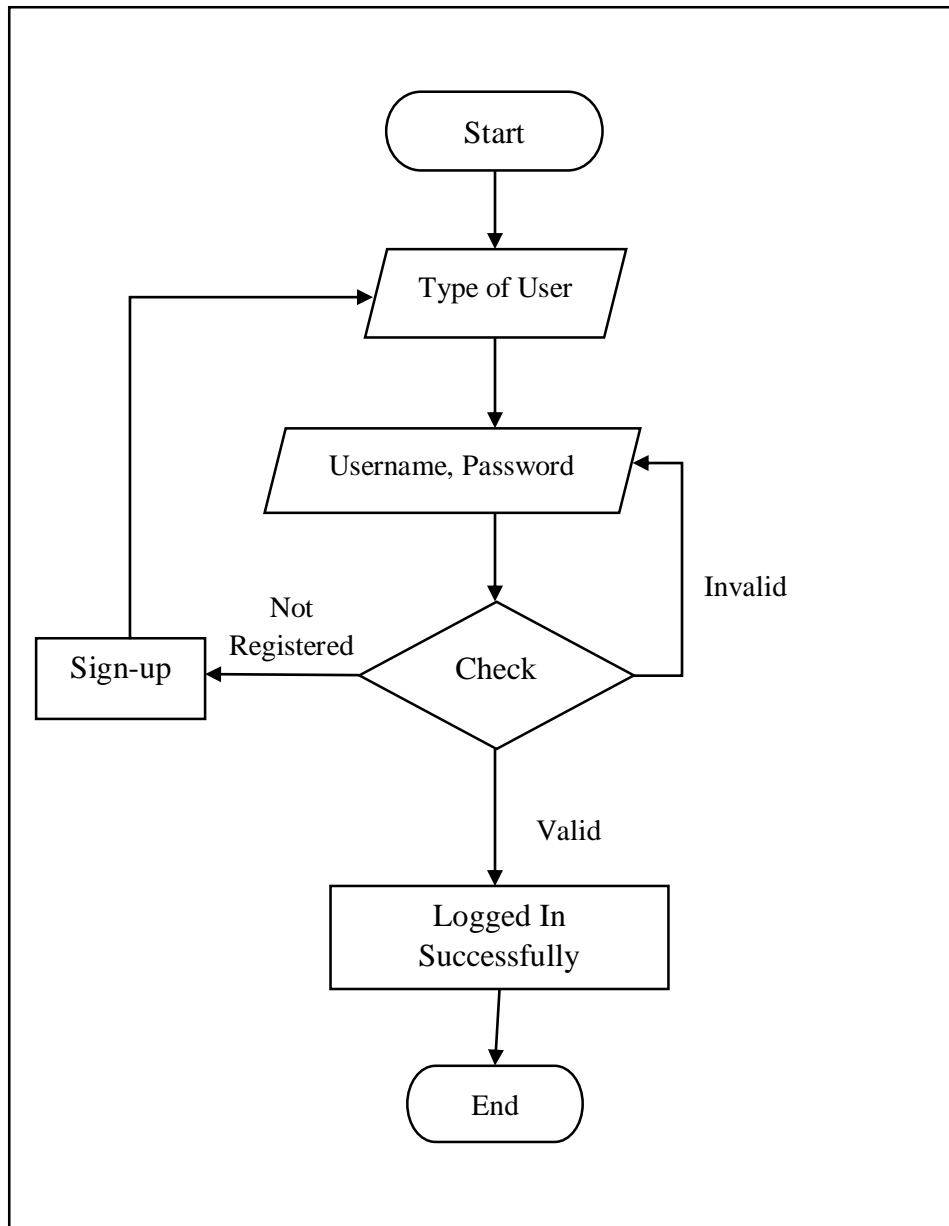
Entity Symbols

	Flow line	Shows the process's order of operation. A line coming from one symbol and pointing at another. Arrowheads are added if the flow is not the standard top-to-bottom, left-to right.
	Terminal	Indicates the beginning and ending of a program or sub-process. Represented as a stadium, oval or rounded (fillet) rectangle. They usually contain the word "Start" or "End", or another phrase signaling the start or end of a process, such as "submit inquiry" or "receive product".
	Process	Represents a set of operations that changes value, form, or location of data. Represented as a rectangle.
	Decision	Shows a conditional operation that determines which one of the two paths the program will take. The operation is commonly a yes/no question or true/false test. Represented as a diamond.
	Input/output	Indicates the process of inputting and outputting data, as in entering data or displaying results. Represented as a parallelogram.

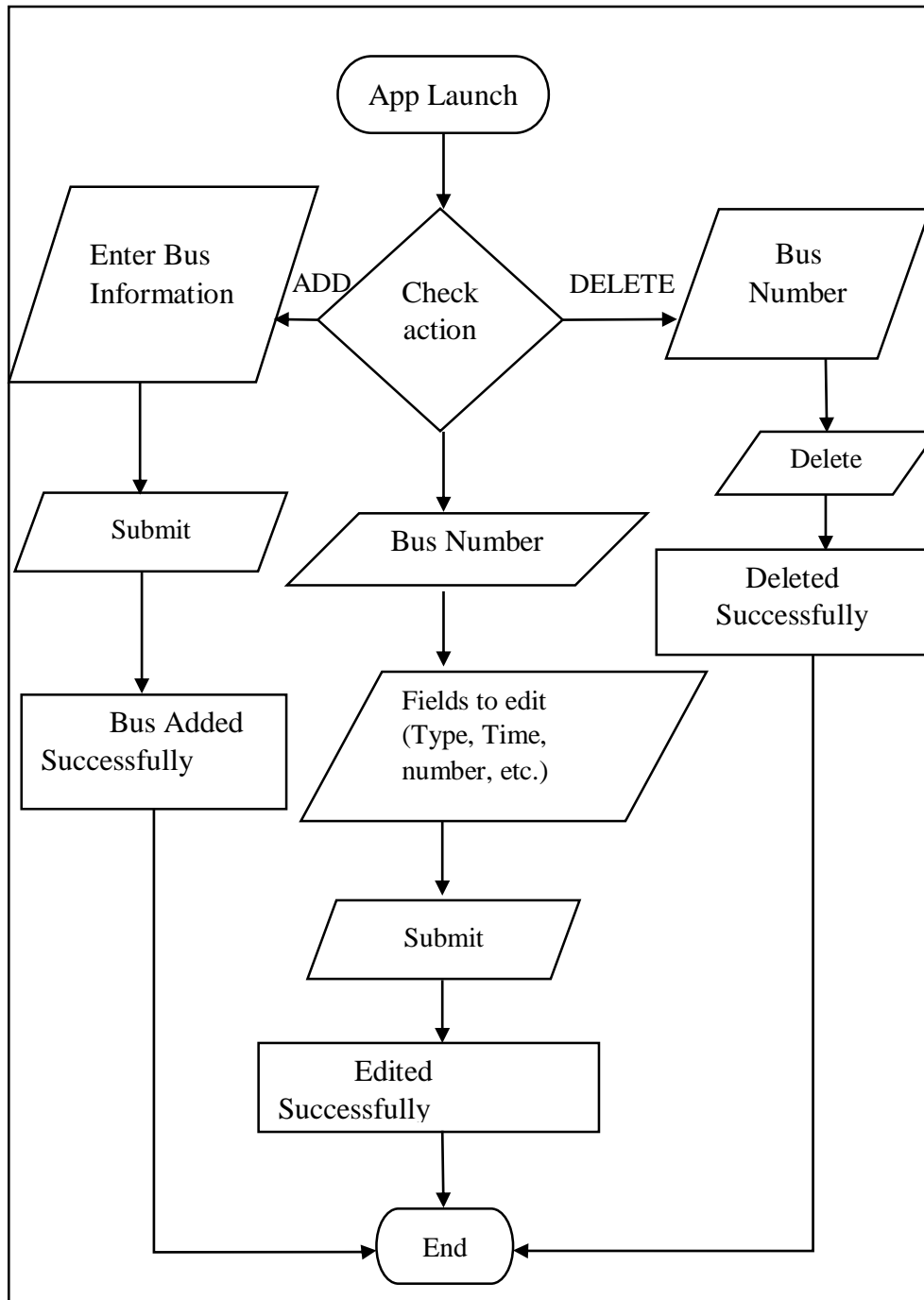
Full App Working



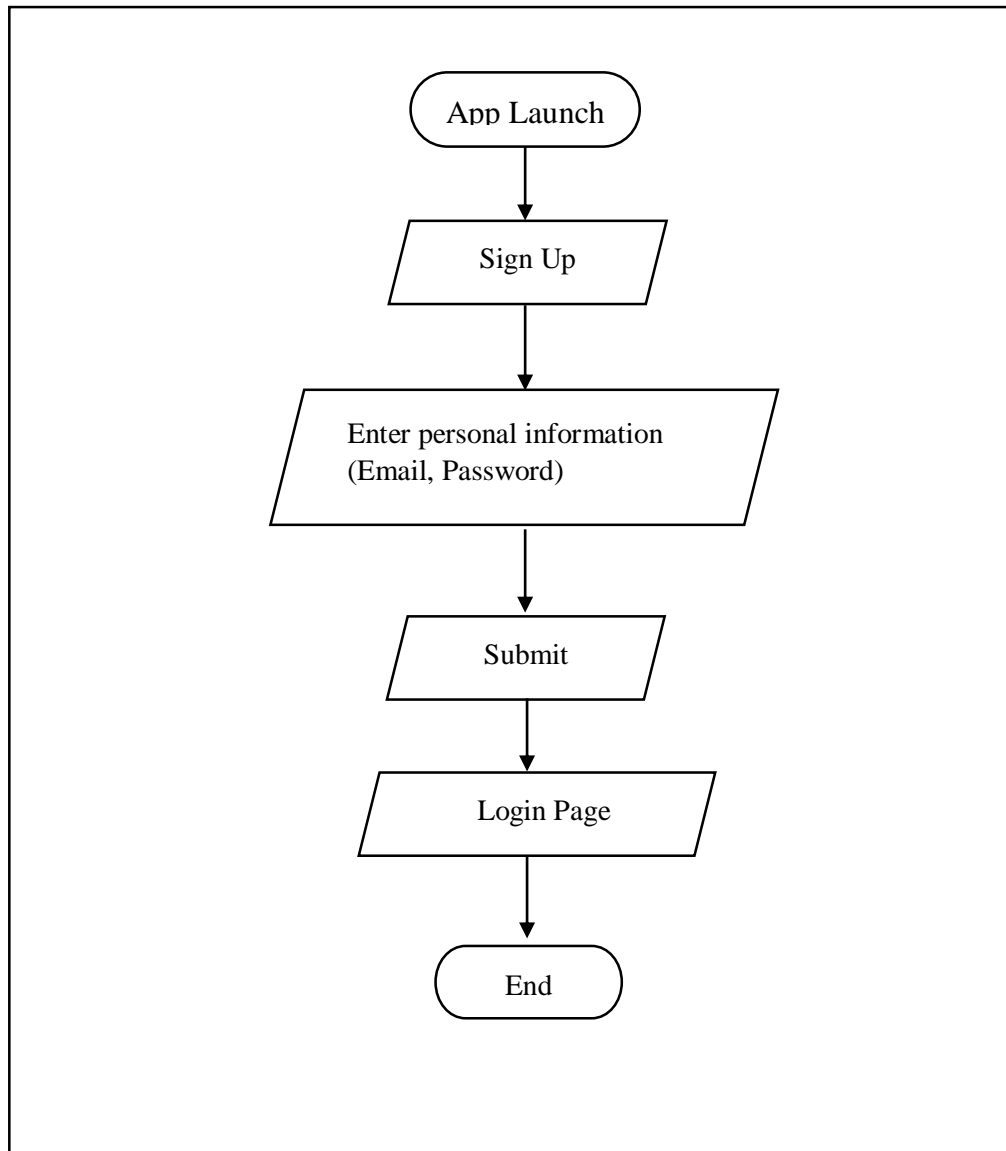
Admin/Customer/Bus Provider Login Form



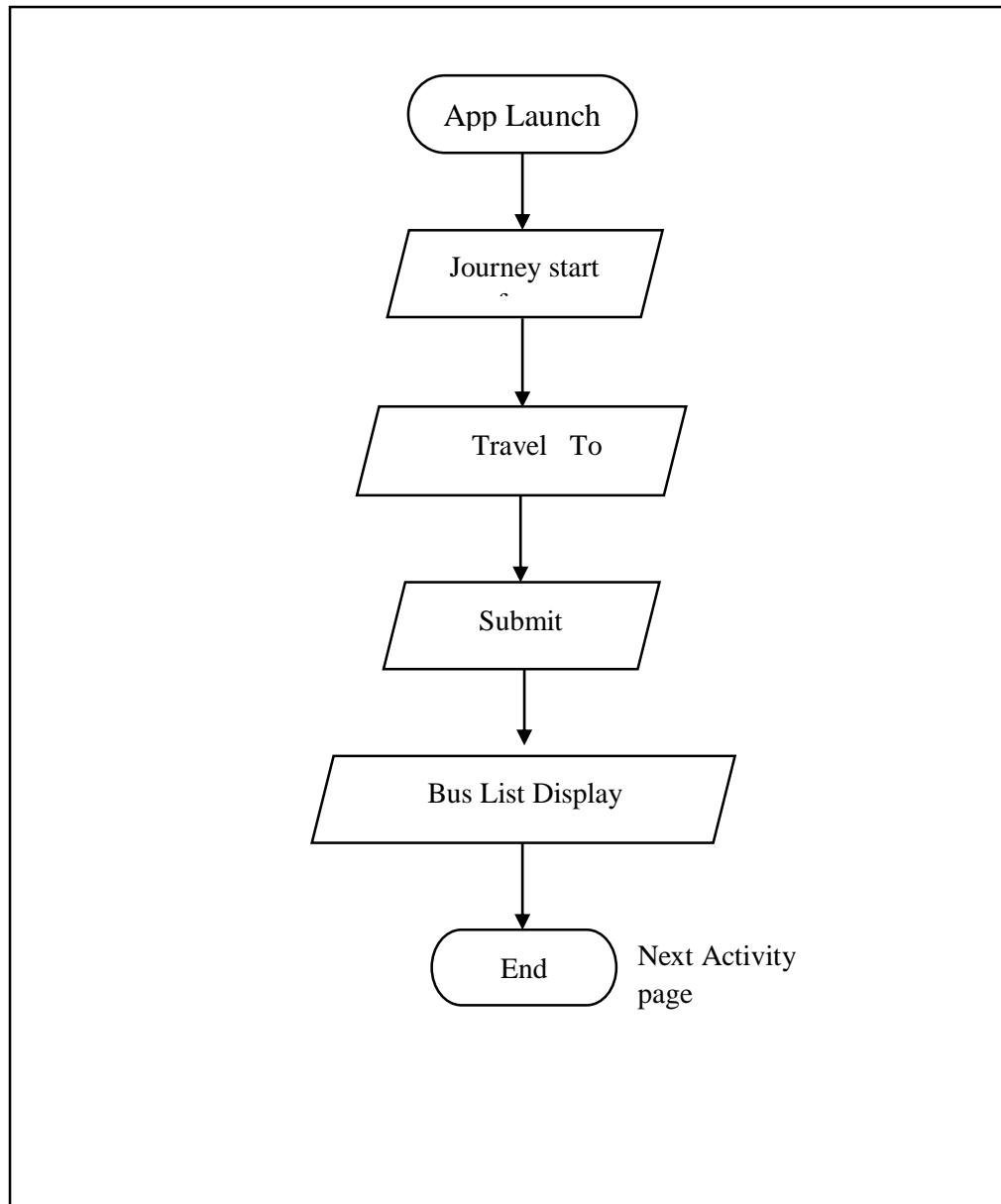
Admin/Bus Provider Add or edit or delete Bus



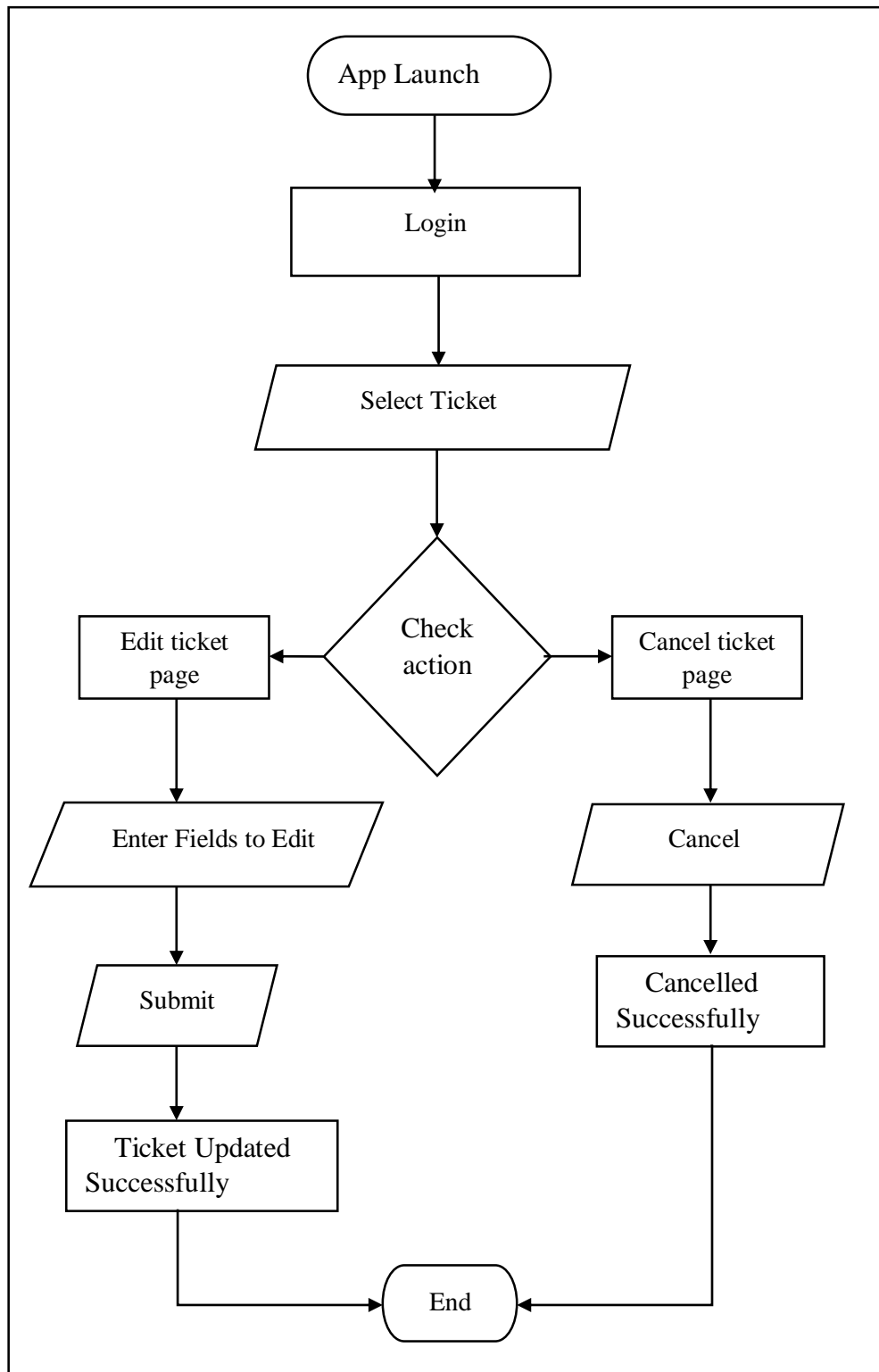
Customer /Admin/Bus Provider Registration Form



Enter Pick up and Drop Places

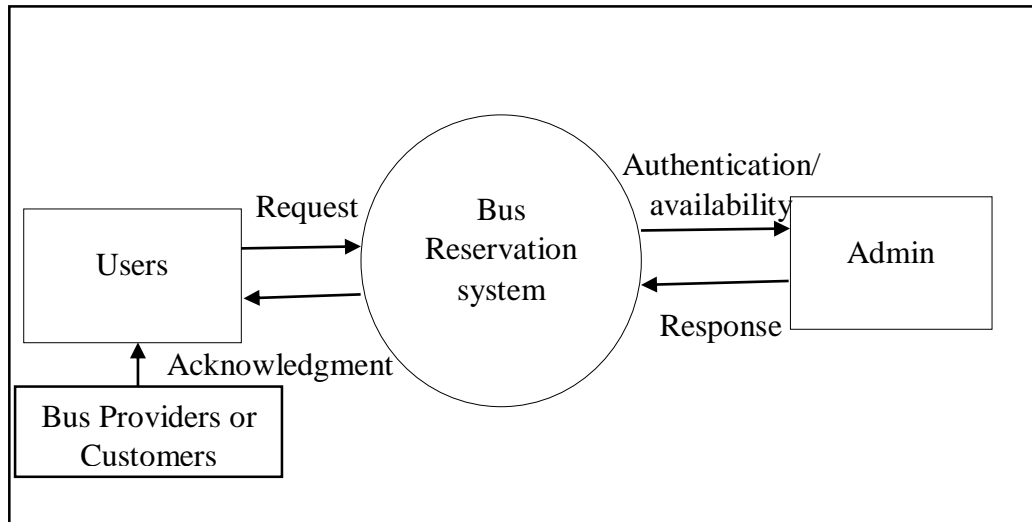


Tickets Edit or Cancelation Form

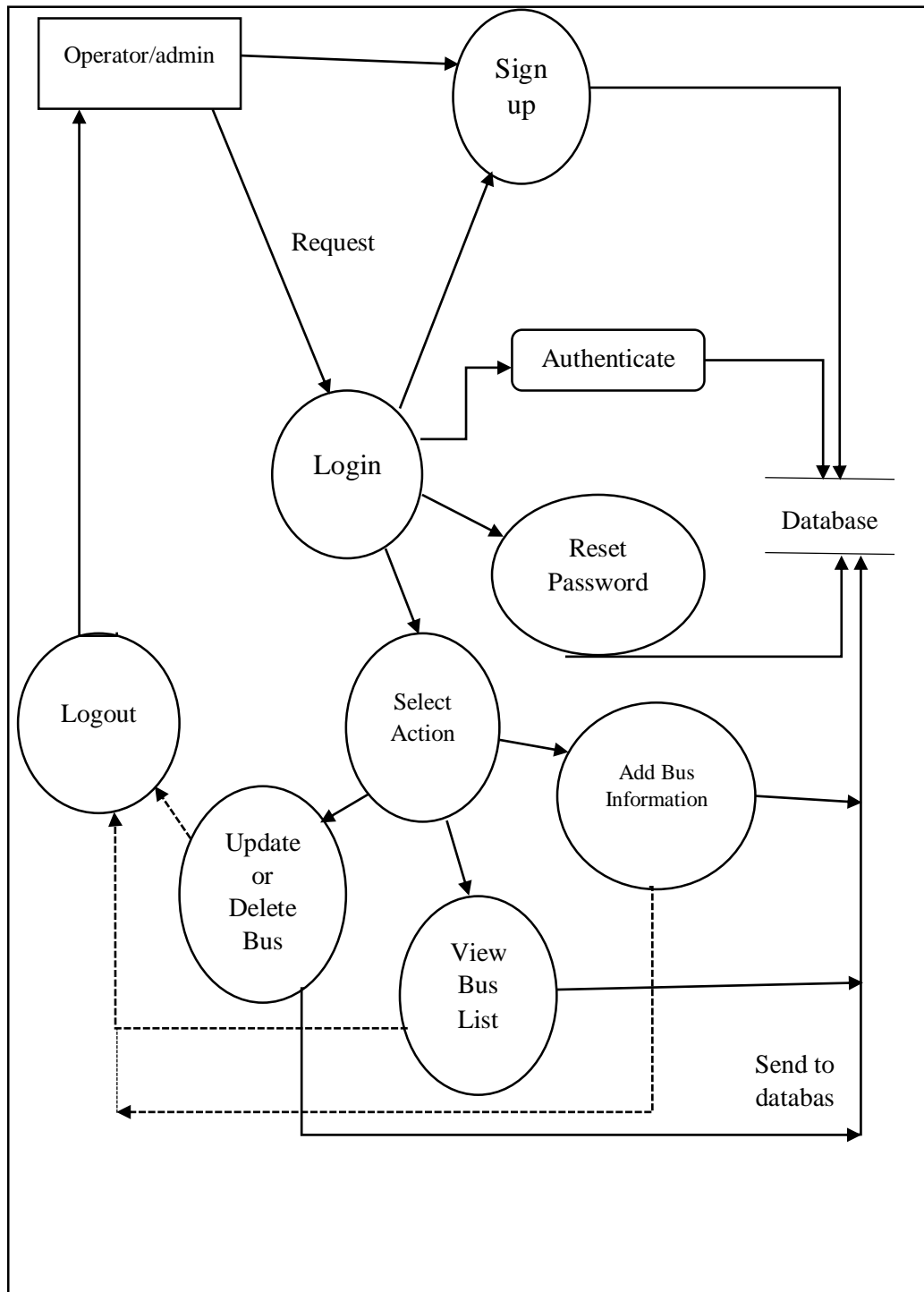


DATA FLOW DAIGRAM

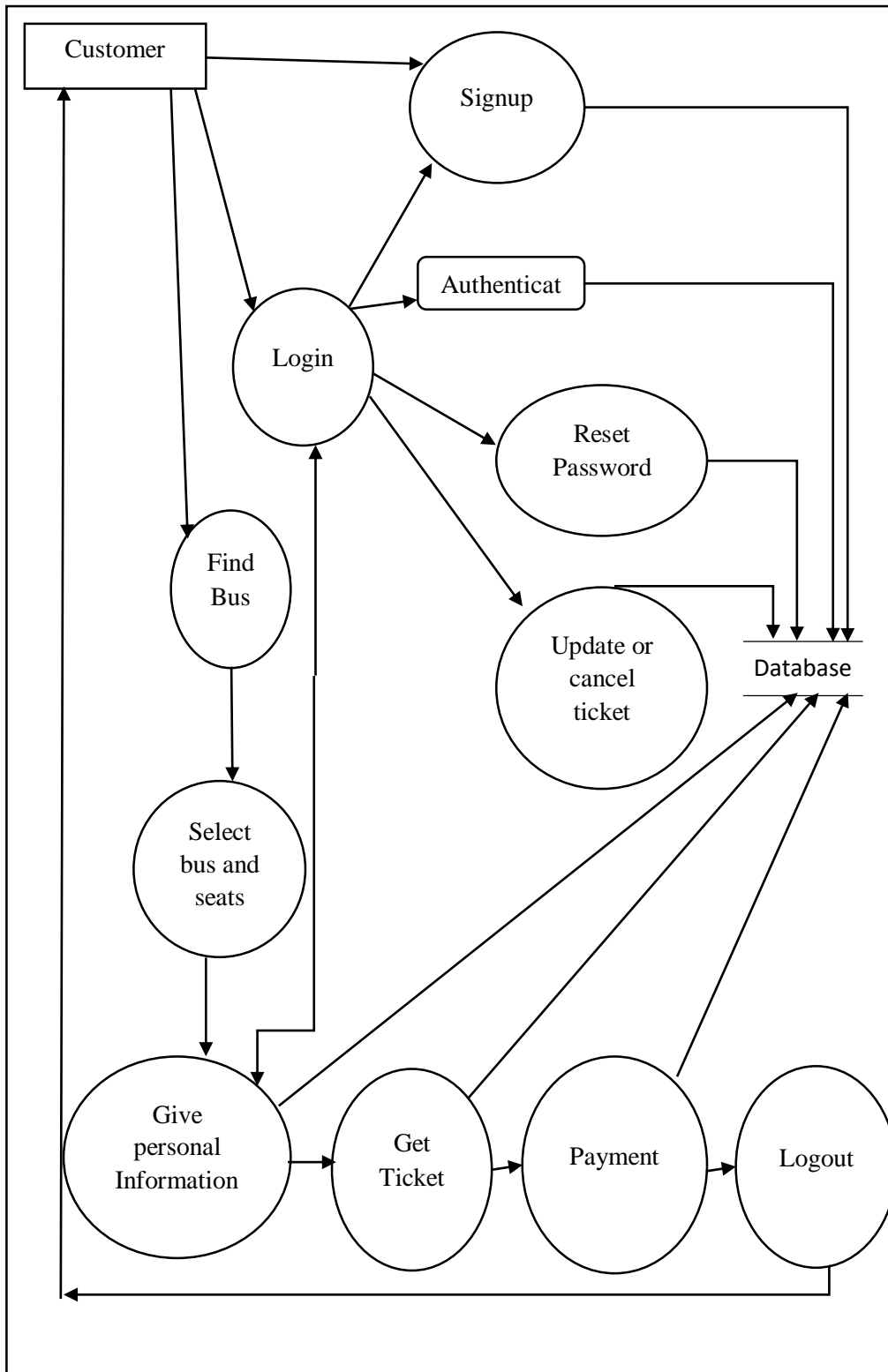
Level 0:



Level 1:

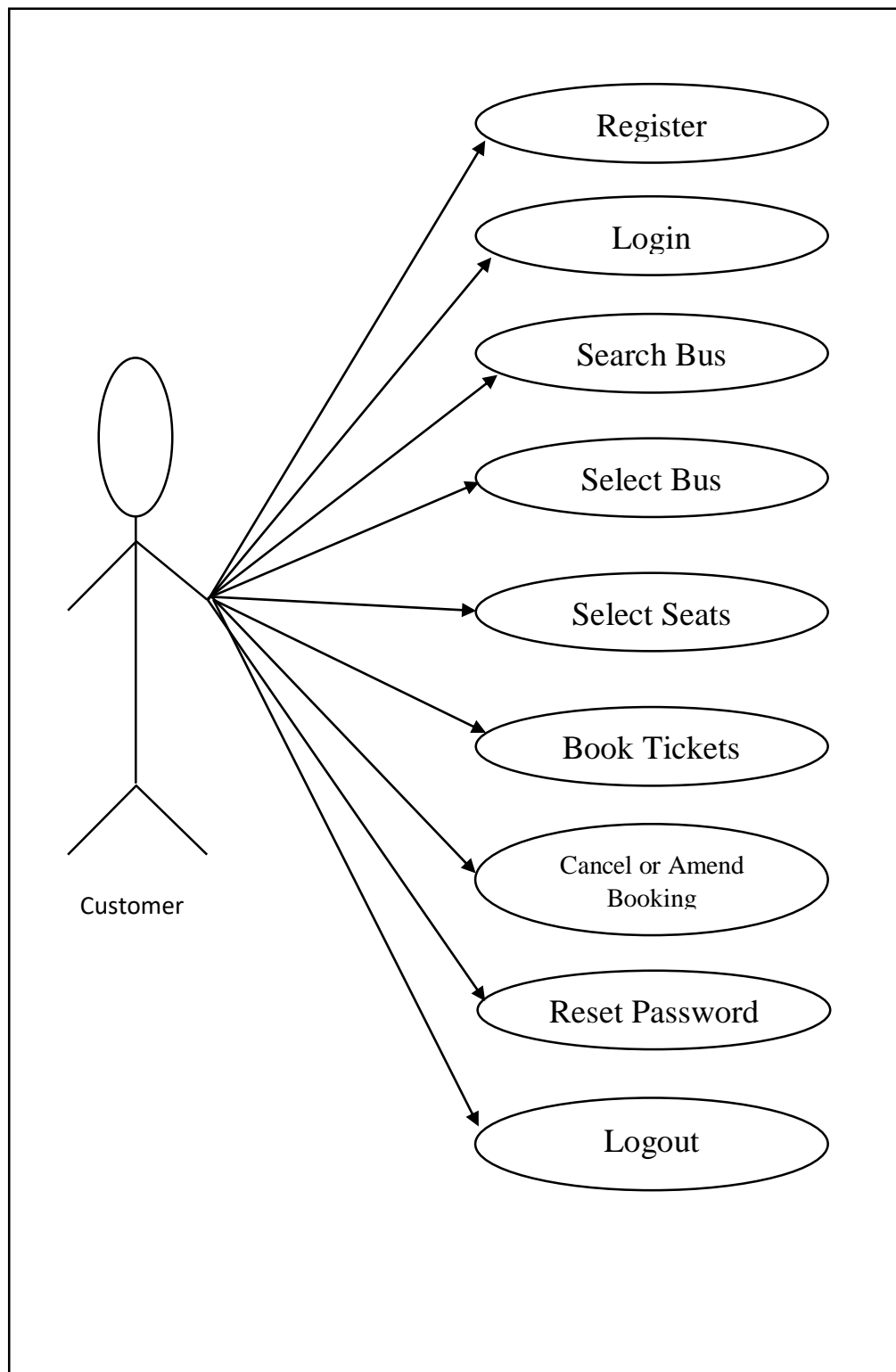


Level 1:



USE CASE DIAGRAM

Customer:



Admin and Bus Provider:

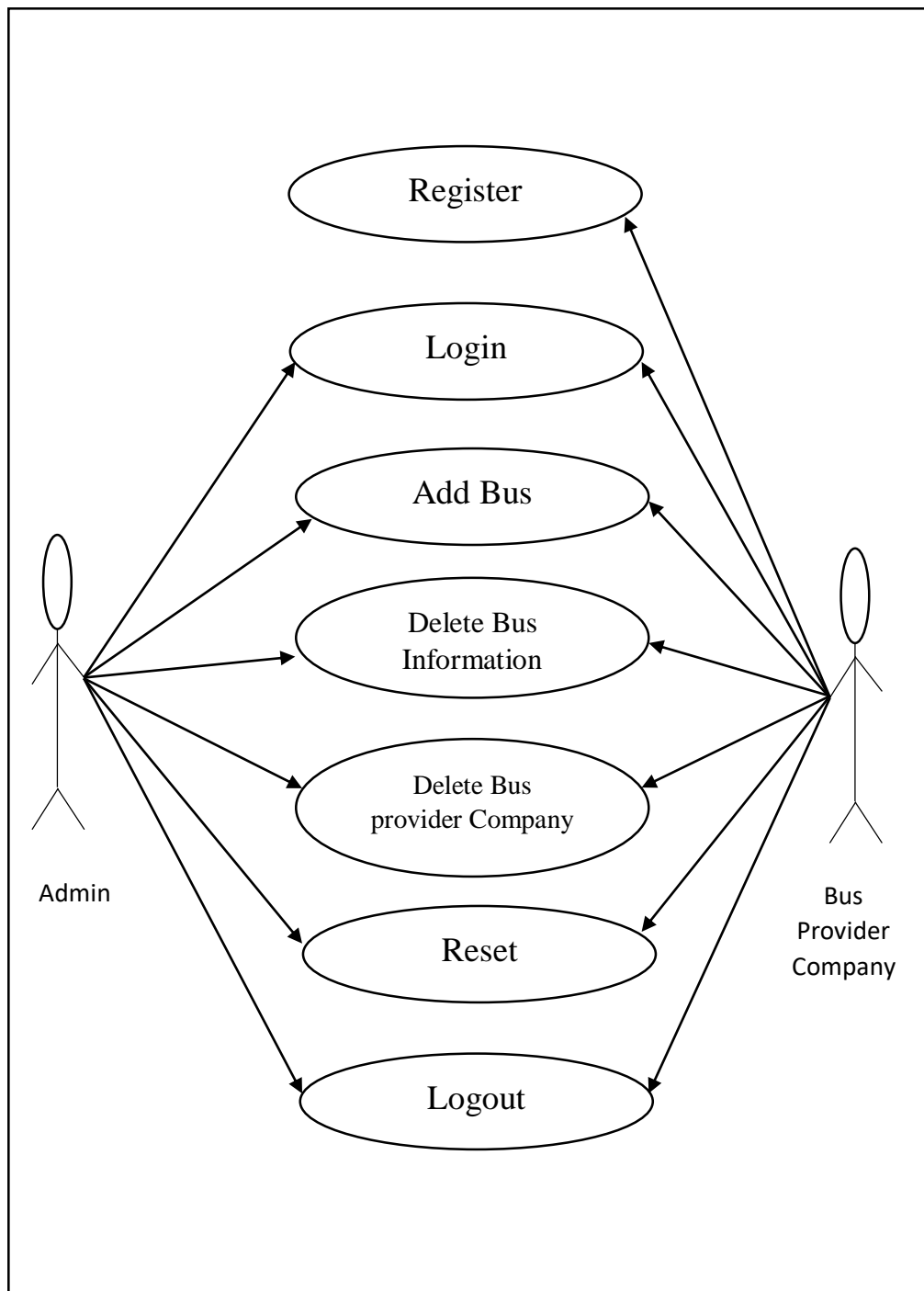
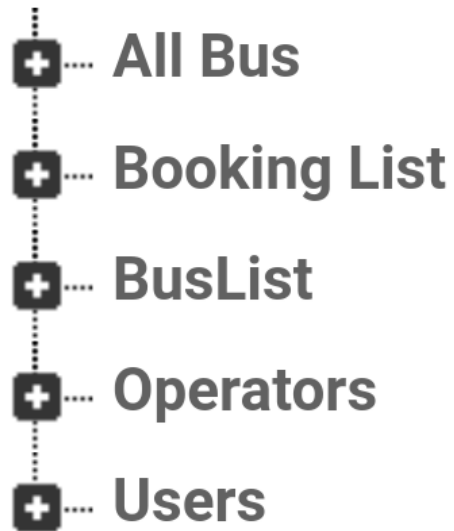


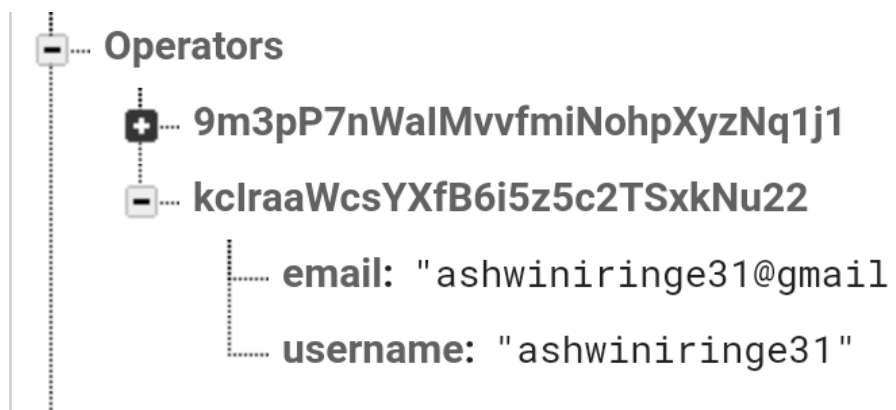
TABLE DESIGN

All Parent Nodes

destination1-370d6



Operators Entries



Bus Information

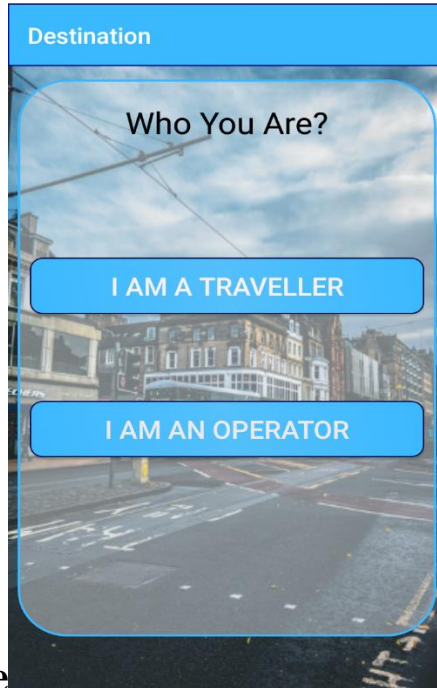
```
..... Bus Number: "Mh125678"
..... Company Name: "Sai Travels"
..... Departure Time: "11:30"
..... Seats: "30"
..... Ticket Rate: "Bus"
..... Travelling Route: "Mumbai -Pune"
..... Vehical Type: "550"
```

User Registration

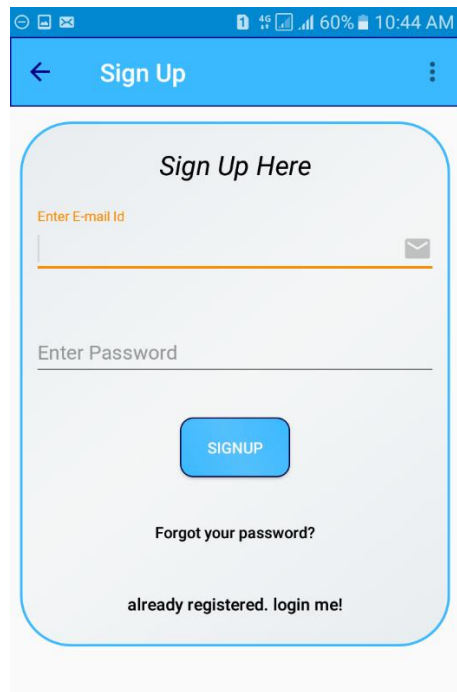
```
..... Users
..... +..... 3uEz1W0UjHSQVG0jKV5Evip75tg1
..... +..... D3k9N6weWxacpXizUZKMndMGGg13
..... +..... FPUuqhaPjGdLsxSJUso9Ug94VRk2
..... +..... Wavx5wNn9QadnLn0WolinRmEEeo2
..... +..... ZVUEbjZjHfUI0ZzrF3jjomVS3ku2
..... -..... ji7VU2JlezW78o4xbcv3V1QgmLG2
..... |..... email: "ashwini@gmail.com"
..... |..... username: "ashwini"
..... +..... leJhrLBzXTdiSLRI9MrvEYNMrW62
..... +..... s4zU9zU7ZMUKQ7kH0tpFD4lX3f02
```

INPUT SCREENS

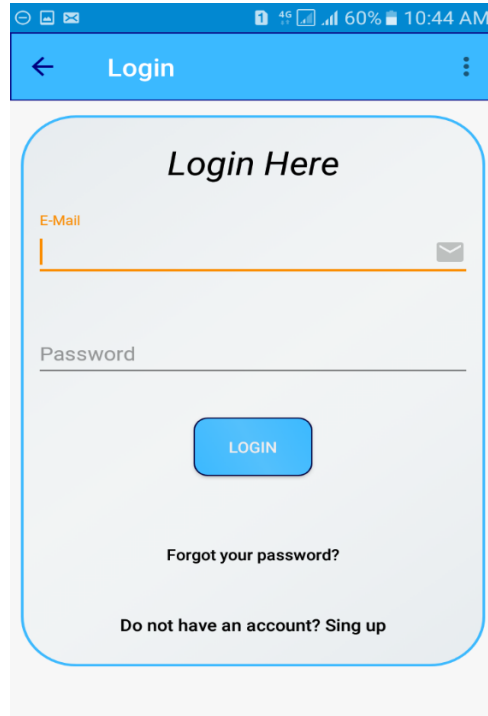
Select User Type



Sign Up Screen

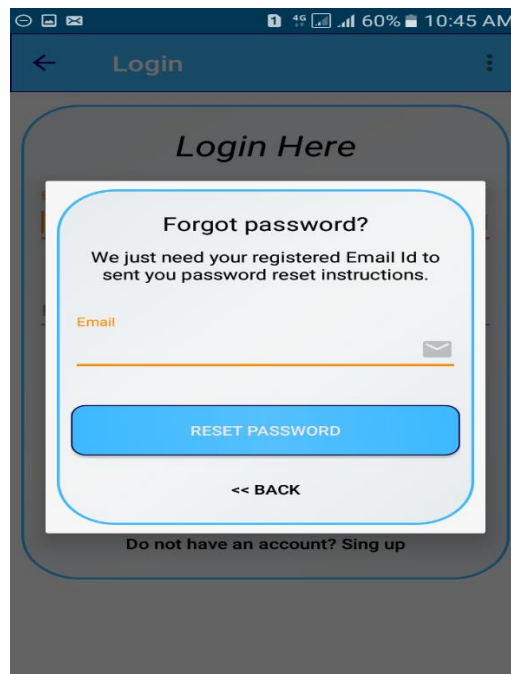


Login Screen



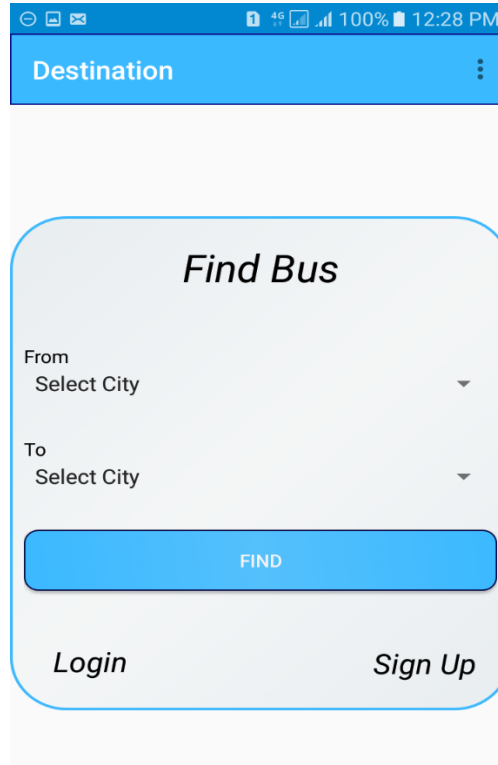
A mobile app login screen with a blue header bar containing a back arrow, the text "Login", and a menu icon. The main content area is a light gray rounded rectangle with the title "Login Here". It features two input fields: "E-Mail" with an orange underline and a mail icon, and "Password" with a gray underline. Below the fields is a blue "LOGIN" button. At the bottom, there are two links: "Forgot your password?" and "Do not have an account? Sing up". The status bar at the top shows icons for signal, 4G, 60% battery, and the time 10:44 AM.

Forgot Password



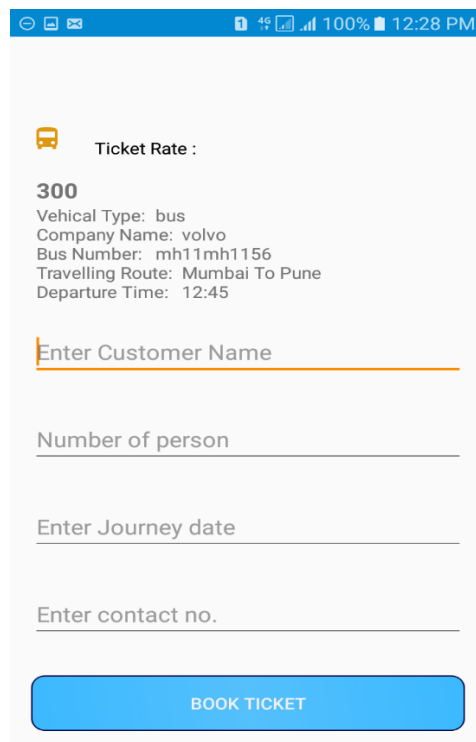
A mobile app "Forgot Password" screen. The header is dark blue with a back arrow, the text "Login", and a menu icon. The main content area is a dark gray rounded rectangle with the title "Login Here". Inside, there is a white rounded rectangle containing the title "Forgot password?" and the text "We just need your registered Email Id to sent you password reset instructions." Below this is an "Email" input field with an orange underline and a mail icon. A blue "RESET PASSWORD" button is positioned below the input field. At the bottom of the white box is a "<< BACK" link. Below the white box, the link "Do not have an account? Sing up" is visible. The status bar at the top shows icons for signal, 4G, 60% battery, and the time 10:45 AM.

Enter Location



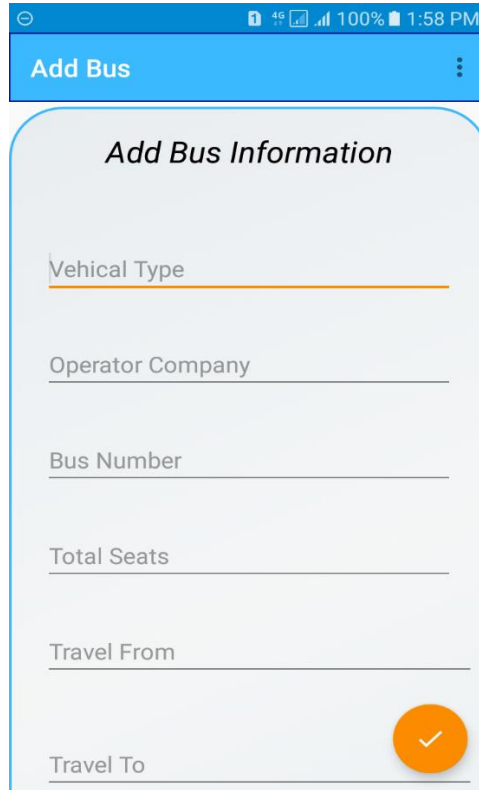
A mobile application interface for finding a bus. At the top, a blue header bar contains the word "Destination" and a three-dot menu icon. Below this is a light gray rounded rectangle with a blue border. Inside, the text "Find Bus" is centered in a large, italicized font. Underneath, there are two dropdown menus labeled "From" and "To", both with "Select City" as the placeholder text. A blue button with the text "FIND" is positioned below the dropdowns. At the bottom of the rounded rectangle, the words "Login" and "Sign Up" are displayed in an italicized font.

Traveler details



A mobile application interface for entering traveler details. At the top, a blue header bar shows standard mobile status icons and the time "12:28 PM". Below the header, a light gray rounded rectangle contains the following information: a bus icon, the text "Ticket Rate :", the number "300", and a list of details: "Vehical Type: bus", "Company Name: volvo", "Bus Number: mh11mh1156", "Travelling Route: Mumbai To Pune", and "Departure Time: 12:45". Below this information are four input fields with orange underlines, labeled "Enter Customer Name", "Number of person", "Enter Journey date", and "Enter contact no.". At the bottom of the rounded rectangle is a blue button with the text "BOOK TICKET".

Enter bus Information



The screenshot shows a mobile application interface for adding bus information. At the top, there is a blue header bar with the text "Add Bus" and a three-dot menu icon. Below the header, the main content area is titled "Add Bus Information". It contains six input fields, each with a label and a horizontal line for text entry: "Vehical Type", "Operator Company", "Bus Number", "Total Seats", "Travel From", and "Travel To". An orange circular button with a white checkmark is positioned to the right of the "Travel To" field, indicating a confirmation or save action. The status bar at the top of the screen shows a 4G signal, 100% battery, and the time 1:58 PM.

Add Bus

Add Bus Information

Vehical Type

Operator Company

Bus Number

Total Seats

Travel From

Travel To

✓

OUTPUT SCREENS

Search Result

4G

100%

12:28 PM

Destination

SEARCH RESULTALL BUSES

100.00
Vehical Type: mini bus
Company Name: neeta
Bus Number: mh12bh3343
Travelling Route: wai To satara
Departure Time: 12:00

300
Vehical Type: bus
Company Name: volvo
Bus Number: mh11mh1156
Travelling Route: Mumbai To Pune
Departure Time: 12:45

4G

100%

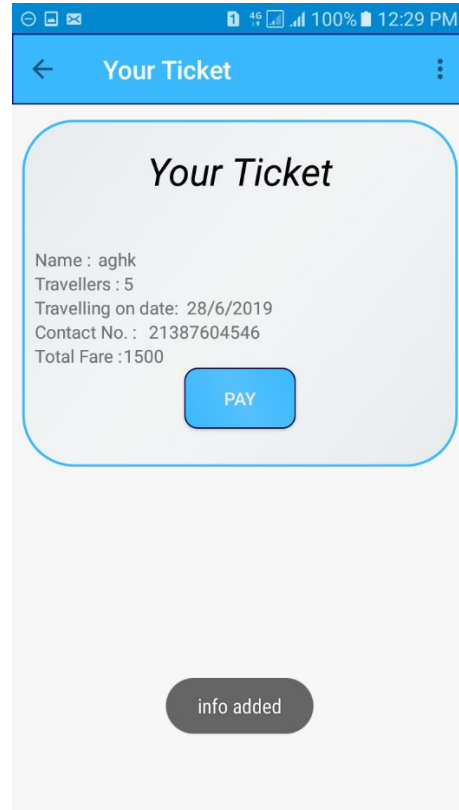
12:28 PM

Destination

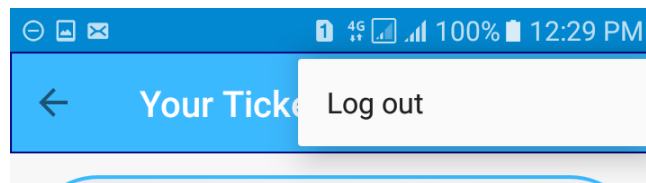
SEARCH RESULTALL BUSES

300
Vehical Type: bus
Company Name: volvo
Bus Number: mh11mh1156
Travelling Route: Mumbai To Pune
Departure Time: 12:45

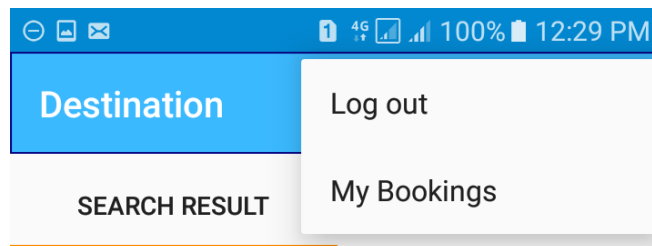
Booked Ticket



Logout Button



Bookings List



BIBLIOGRAPHY

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- **Following Websites has been helpful to development of project.**
- [www.Google .com](http://www.Google.com)
- www.firebase.google.com

CONCLUSION

Conclusion

Bus reservation system comprises of an online bus booking software which is designed with the Main intension of generating an automated system for ticketing purchase, with the help of an online booking system which would be easy to use. An online bus reservation system for your mobile application would help in an easy management of reservation, ticket availability and data of the client who are using online bus reservation service. The customized features that a travel management company can add to a bus reservation system includes route scheduling, display the data in regards to availability of the seats, availability of the seat map for the travelers and the option for the travelers to select their seat from the seat map.