

# **Bus Pass Management System**

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## Chapter 1: Introduction

### **Introduction:**

- We are creating this project to provide "Safe, Reliable, Time-saving, Efficient, Comfortable, and Affordable" services to the people.
- So, we got the idea that this will help our people in a better way.
- Customers can register for bus passes on the Internet within the first 15 days of the month. Also, customers are not required to pay cash for purchasing bus passes.
- Customers can buy a bus pass through the Internet 24 hours a day, this solves the problem of lost or stolen bus tickets.

### **1.1 Problem Definition:**

- The Bus Pass Management System Faces Several Challenges in the Current Manual and Paper Based Process of Issuing, Managing, And Renewing Bus Passes for Passengers Utilizing Public Transportation Services.
- The current system faces several challenges, such as long waiting times, time-consuming administrative procedures, and the need for issuing new passes in case of change or loss.
- The current system no has any automated renewal reminders so we can face, like ...penalty issues, etc...
- All the people have to stand in line for hours.
- Everyone's time is wasted waiting for the pass.

## 1.2 Project Objective:

➤ **Automation:**

The objective of this project is to develop an automated and user-friendly system that streamlines the bus pass lifecycle, reduces waiting times, and enhances the overall passenger experience.

➤ **Convenience:**

Provide passengers with a user-friendly online platform to apply for new bus passes, renew existing ones, and report lost or stolen passes from the comfort of their homes.

➤ **Real-time updates:**

Enable passengers to access real-time information on pass validity, fare structures, bus routes, and service updates through the system.

➤ **Lost/stolen pass handling:**

Establish a seamless process for passengers to report lost or stolen passes and promptly facilitate the issuance of replacements.

➤ **Multi-platform support:**

Ensure compatibility across various devices, including desktops, tablets, and smartphones for seamless accessibility.

## 1.3 Product Scope:

- The system is intended to develop an application to perform functions like getting basic information for authentication and providing passes without waiting in any queue.
- The online bus pass generation system allows students and other daily travelers to issue pass online.
- Before this application implement the manual process is used to issue the bus pass to the students. This manual process requires manpower or is more consuming. To avoid such difficulties, we implemented this system.
- User registration and account management for passengers.

- Apply and renew of bus passes through online using the website & also pay payments for passes online.

## Chapter 2: Overall Description

### 2.1 Product Perspective/Environment Description

#### 2.1.1 Hardware Interface/ Hardware Specification

<b>Device name</b>	LAPTOP-867BHLVP
<b>Processor</b>	11 <sup>th</sup> gen INTEL(R) CORE(TM) i5-11320H @3.20GHz 3.19 GHz
<b>Installed ram</b>	8 GB
<b>System type</b>	64-bit operating system, X64-based processor
<b>Hard disk</b>	1 TB

#### 2.1.2 Software Interface/ Software Specification

<b>Operating system</b>	Microsoft Windows 11
<b>Front end</b>	HTML, CSS, JS, BOOTSTRAP
<b>Back end</b>	MYSQL, PHP
<b>Input device</b>	Keyboard, Mouse
<b>Output device</b>	Monitor
<b>Software used</b>	Vs code
<b>Tools</b>	Xamp

## Chapter 3: System-specific Requirement

### 3.1 Functional requirement:

#### Module 1: Manage login

FRN	Description	comments
FR1	This page will ask for basic login details of the admin, and user like...email id and password.	Login, Registration
FR2	This will provide a facility for the admin and user to change or reset the password.	Forgot Password

#### Module 2: Forgot and change password

FRN	Description	comments
FR1	Admin and user shell be able to change their password by providing their email-id and verify OTP then the password will be updated will the new one.	Change password

### Module 3: pass application

FRN	Description	comments
FR1	Users can apply for their own bus pass. EX: student pass, passenger pass, handicap pass.	Pass information
FR2	Users can provide the necessary information for their own bus passes.	Pass information

### Module 4: pass approval workflow

FRN	Description	comments
FR1	Implement an approval process for pass applications authorized personnel should review and approve applications.	User

### Module 5: pass renewal and cancellation

FRN	Description	comments
FR1	Allow users to renew their bus passes before expiry. Provide the option to cancel a pass if needed.	user



## Module 6: payment integration

FRN	Description	comments
FR1	Users can integrate a secure payment gateway for pass fees to support multiple payment methods (debit/credit card, net banking, digital wallet, etc.)	payment

## Module 7: pass generation

RN	Description	comments
FR1	Users can get a digital bus pass upon approval and payment.	Generate pass
FR2	Deliver passes to users through email and notification.	email

## Module 8: report and analysis

RN	Description	comments
FR1	Admin can view reports on past utilization, revenue, and other relevant metrics.	dashboard

### 3.2 Non-functional requirement:

<b>RN</b>	<b>Description</b>	<b>comments</b>
NFR1	<p>The performance of the system will be optimal when performing the system.</p> <p>The system should process bus pass transactions securely and quickly.</p>	performance

<b>RN</b>	<b>Description</b>	<b>comments</b>
NFR1	<p>User passwords should be stored securely using hashing technique.</p> <p>The proposed system will be highly secure. each user will require registration and a username/password to use the system.</p>	security

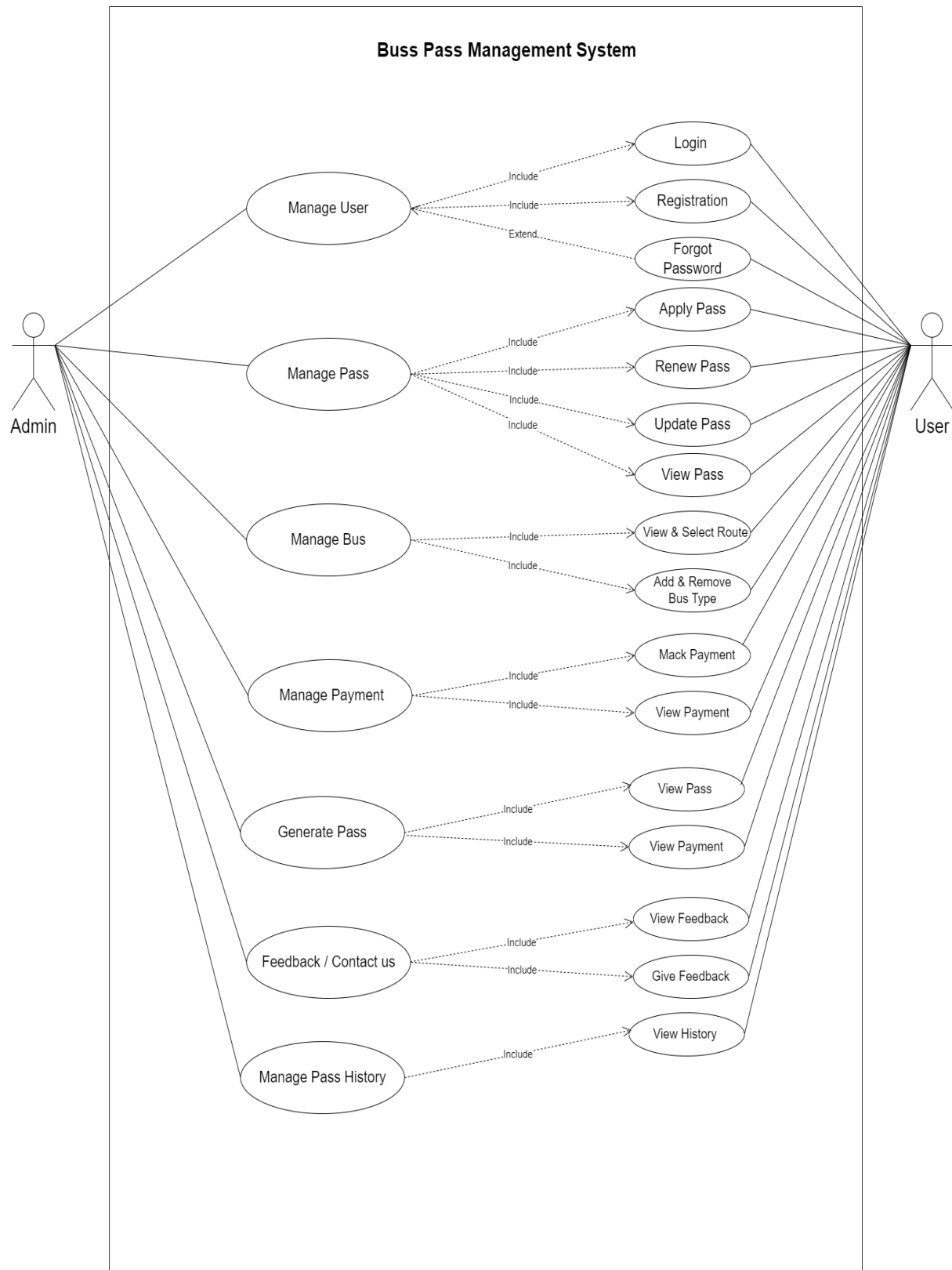
<b>RN</b>	<b>Description</b>	<b>comments</b>
NFR1	<p>The proposed system will be simple and easy to use by the users. The user will be provided with a simple interface of the system.</p> <p>The user interface should be responsive and easy to navigate on both desktop and mobile devices.</p> <p>The system should support multiple languages for user convenience.</p>	usability

<b>RN</b>	<b>Description</b>	<b>comments</b>
NFR1	<p>The proposed system will be reliable in all circumstances and if there is any problem that will be effectively handled in the design.</p> <p>The system should be reliable and generate all the updates in the correct order.</p>	reliability

<b>RN</b>	<b>Description</b>	<b>comments</b>
NFR1	<p>The system will be available and working properly at any time. The system should be available in several languages</p>	Availability

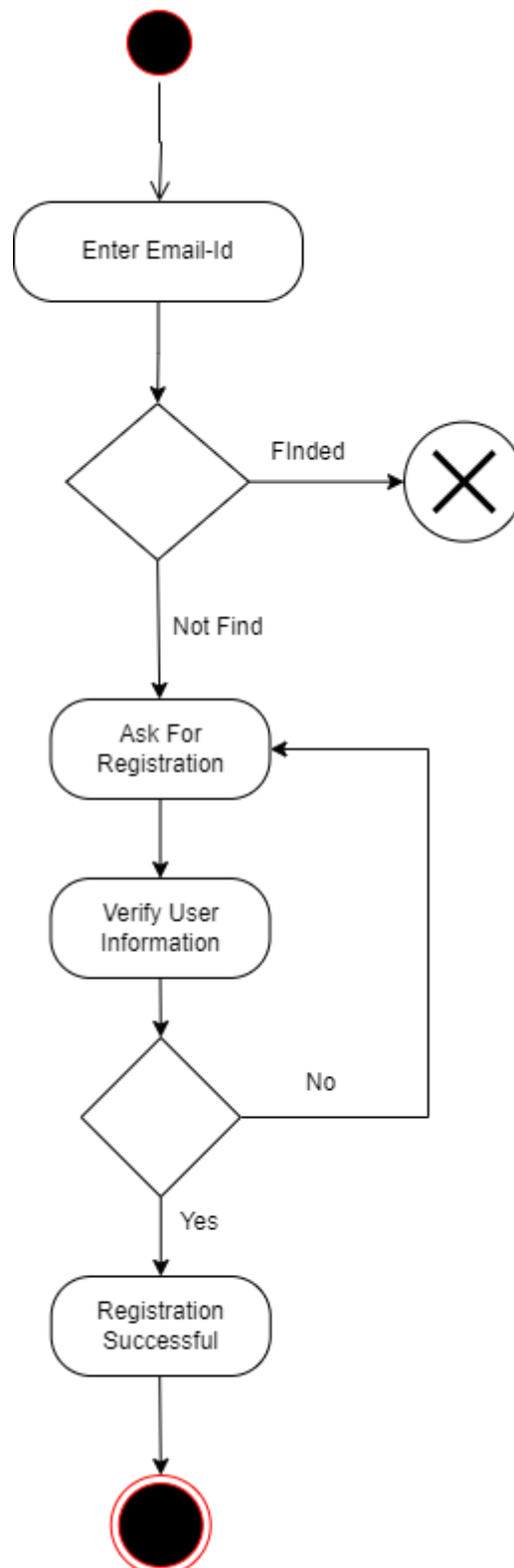
## Chapter 4: UML diagram

### 4.1 Use case diagram

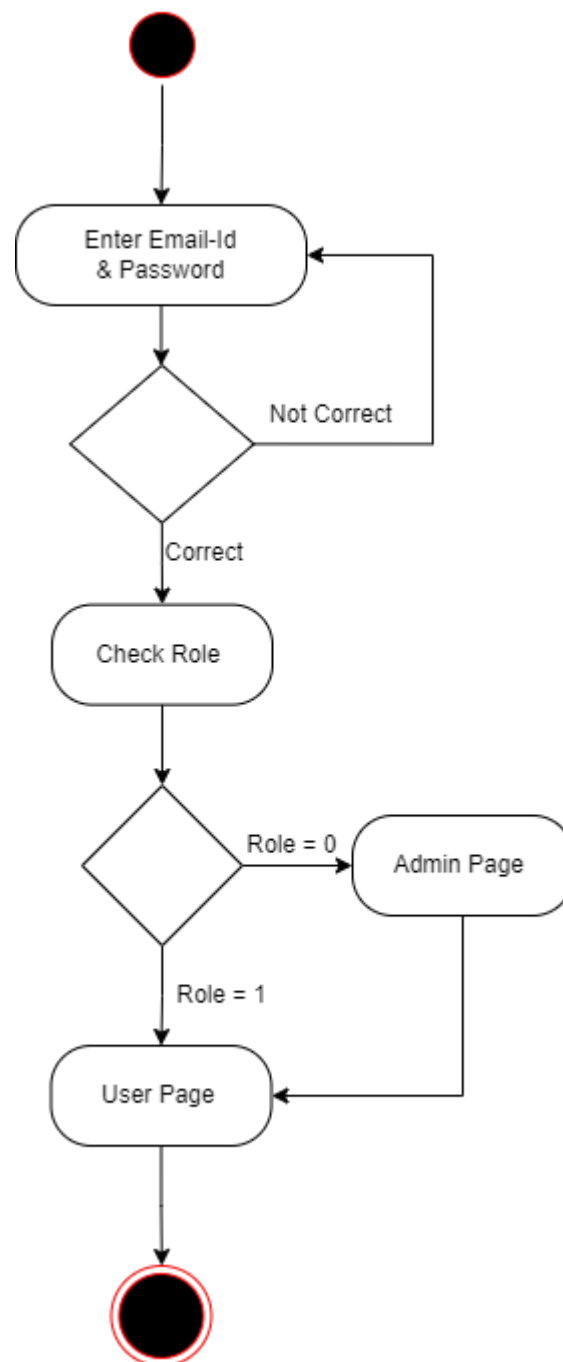


## 4.2 activity Diagram

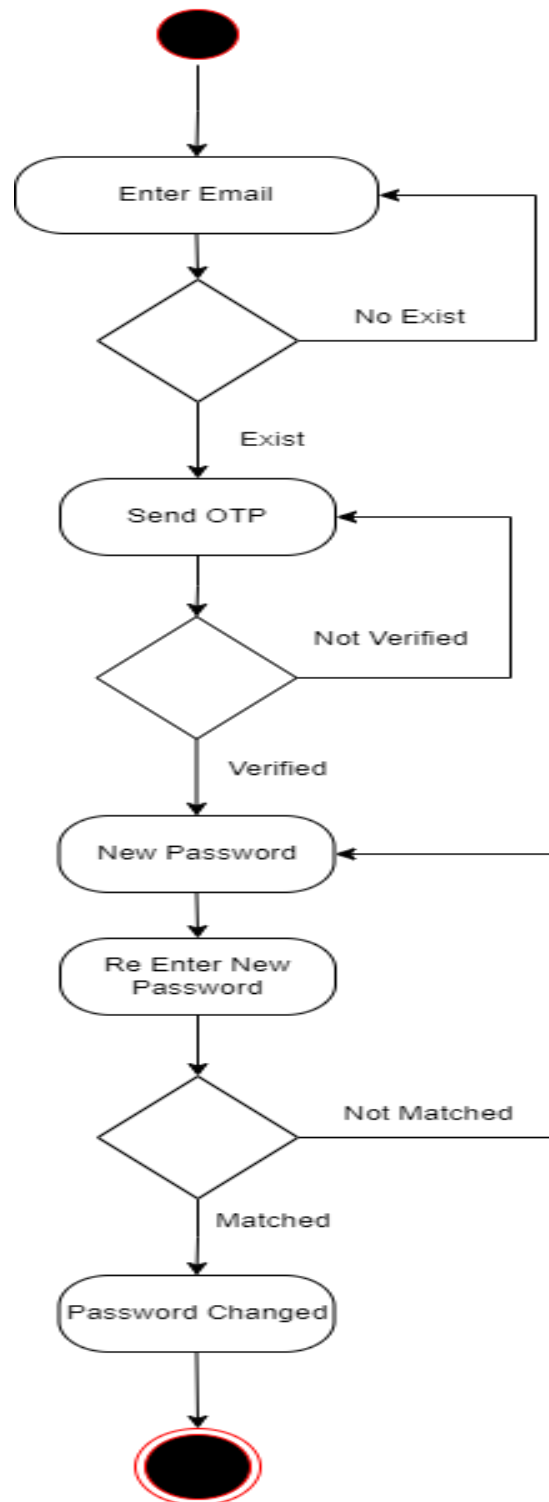
### Registration



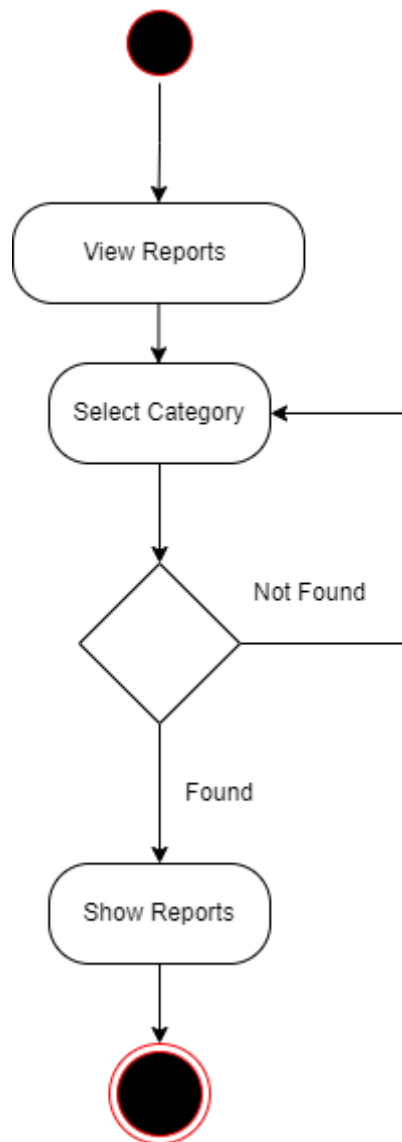
## Login



## Forgot Password

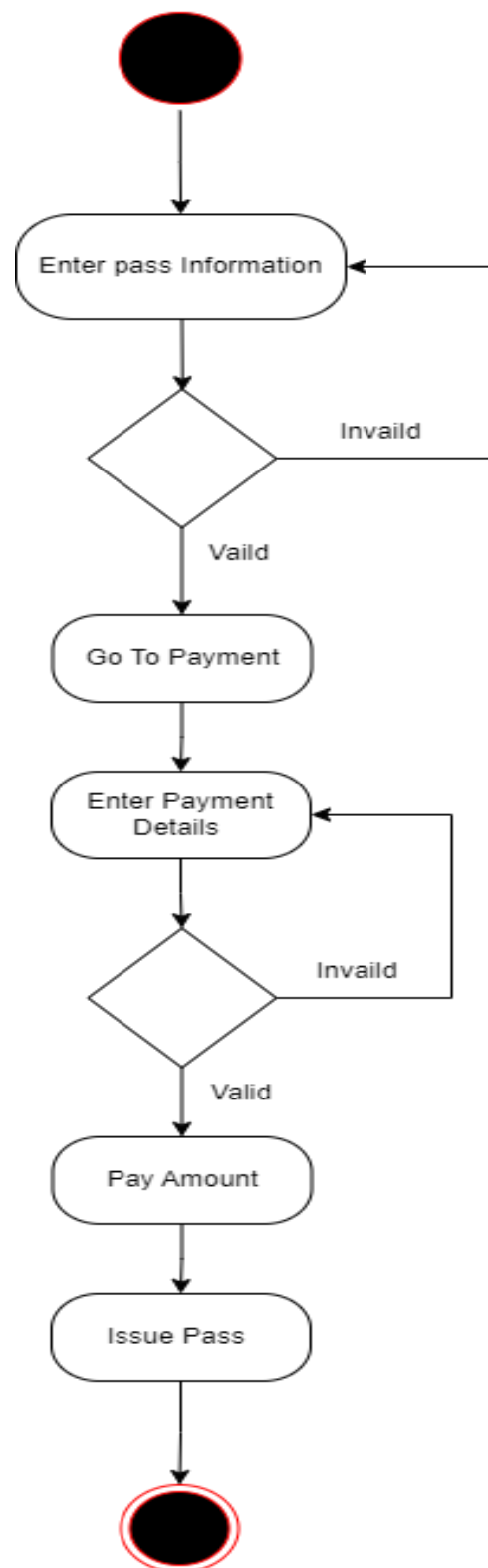


## View Category





## Issue Pass



## Chapter 5: System Design

### 5.1 Database Design

#### 5.1.1 Database Schema

- users (id, fullname, password, email[pk], phone\_number, role)
- otps (id[pk], email, otp)
- city (id[pk], name, state\_id[fk])
- state (id[pk], name)
- cast (id[pk], name)
- bus\_type (id[pk], name)
- bus\_terminals (id[pk], name, city\_id[fk], geo\_location)
- customer\_type (id[pk], name)
- pass\_method (id[pk], name, duration(month))
- price (id[pk], price, bus\_type\_id[fk])
- payment (id[pk], amount, date, pass\_id[fk], method\_id)
- payment\_method (id[pk], name)
- student (id[pk], name, institute\_name, institute\_address, education)
- Handicap (id[pk], name, disease, doc)
- general (id[pk], emp\_type, com\_name, com\_address)
- passenger\_info  
(id[pk], full\_name, address, address\_number, gender[fk], alt\_phone, alt\_email, role, r\_id[pk], user\_id[pk], cust\_id[pk], validate\_through)

## ➤ pass

(id[pk],passenger\_id[fk],user\_id[fk],bus\_type[fk],starts\_term\_id,ends\_term\_id,payment\_id,image\_id[fk])

## ➤ userimage (id[pk],image)

### 5.1.2 Data Dictionary

#### Users:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	User id
2	Fullname	character	200	Not null	Full name
3	Password	Varchar	200	Not null	Password
4	Email	Varchar	255	Unique key	Email
5	Phone_number	Big Integer	10	Not null	Phone number
6	role	boolean	1	Not null	role

#### otps:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	Email	Varchar	255	Not null	Email
3	otp	integer	6	Not null	otp

#### city:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name
3	State_id	Integer	6	Foreign key	State id

**state:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name

**cast:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name

**Bus\_type:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name

**Bus\_terminals:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	User id
2	name	character	200	Not null	name
3	City_id	integer	10	Foreign key	City_id
4	Geo_location	Varchar	255	Not null	Geo_location

**Customer\_type:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name

**Pass\_method:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name
3	Duration	int	-	Not null	Duration(month)

**Price:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	price	decimal	255	Not null	name
3	Bus_type_id	integer	10	Foreign key	Bus_type_id

**Payment:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	User id
2	amount	decimal	200	Not null	amount
3	date	date	-	Not null	date
4	Pass_id	integer	10	Foreign key	Pass_id
5	Method_id	Integer	10	Not null	Method_id

**Payment\_method:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	name	character	255	Not null	name

**Student:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	id
2	name	varchar	200	Not null	name
3	Institute_name	varchar	200	Not null	Institute_name
4	Institute_address	varchar	255	Not null	Institute_address
5	education	varchar	255	Not null	education

**Handicap:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	id
2	name	varchar	200	Not null	name
3	disease	varchar	200	Not null	Desease name
4	doc	varchar	255	Not null	Document which give proof of handicap

**General:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	id
2	Emp_type	varchar	200	Not null	Emp_type
3	Com_name	varchar	200	Not null	Com_name
4	Com_address	varchar	255	Not null	Com_address

**Passenger\_info:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Not null	id
2	Fullname	character	200	Not null	Full name
3	address	Varchar	200	Not null	address
4	Address_number	integer	255	Not null	Address_number
5	gender	char	10	Foreign key	gender
6	Alt_phone	integer	10	Not null	Alt_phone
7	Alt_email	char	255	Not null	Alt_email
8	role	integer	1	Not null	role
9	Adhar_number	Big integer	12	Unique Key	For identity
10	R_id	integer	10	Foreign key	Role_id
11	User_id	integer	10	Foreign key	User_id
12	Cust_id	integer	10	Foreign key	Cust_id
13	Validate_through	date	-	Not null	Validate_through

**Pass:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	id
2	Passenger_id	integer	10	Foreign key	Passenger_id
3	User_id	integer	10	Foreign key	User_id
4	Bus_type	char	255	Foreign key	Buss_type
5	Starts_term_id	integer	10	Foreign key	Starts_term_id
6	Ends_term_id	integer	10	Foreign key	And_term_id
7	Payment_id	integer	100	Foreign key	Payment_id
8	Image_id	integer	10	Foreign key	Image_id

**Userimage:**

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	10	Primary key	Id
2	image	varchar	255	Not null	image