

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 to purchase 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 does not have 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 passes online.
- Before this application is implemented 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 bus passes online using the website and also pay payments for passes online.

Chapter 2: Overall Description

2.1 Product Perspective/Environment Description

2.1.1 Hardware Interface/ Hardware Specification

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

2.1.2 Software Interface/ Software Specification

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

Chapter 3: System-specific Requirement

3.1 Functional requirement:

Module 1: Manage login

FRN	Description	comments
FR1	This 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 shall be able to change their password by providing their email and verifying OTP then the password will be updated with the new one.	Change password

Module 3: pass application

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

RN	Description	comments
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

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

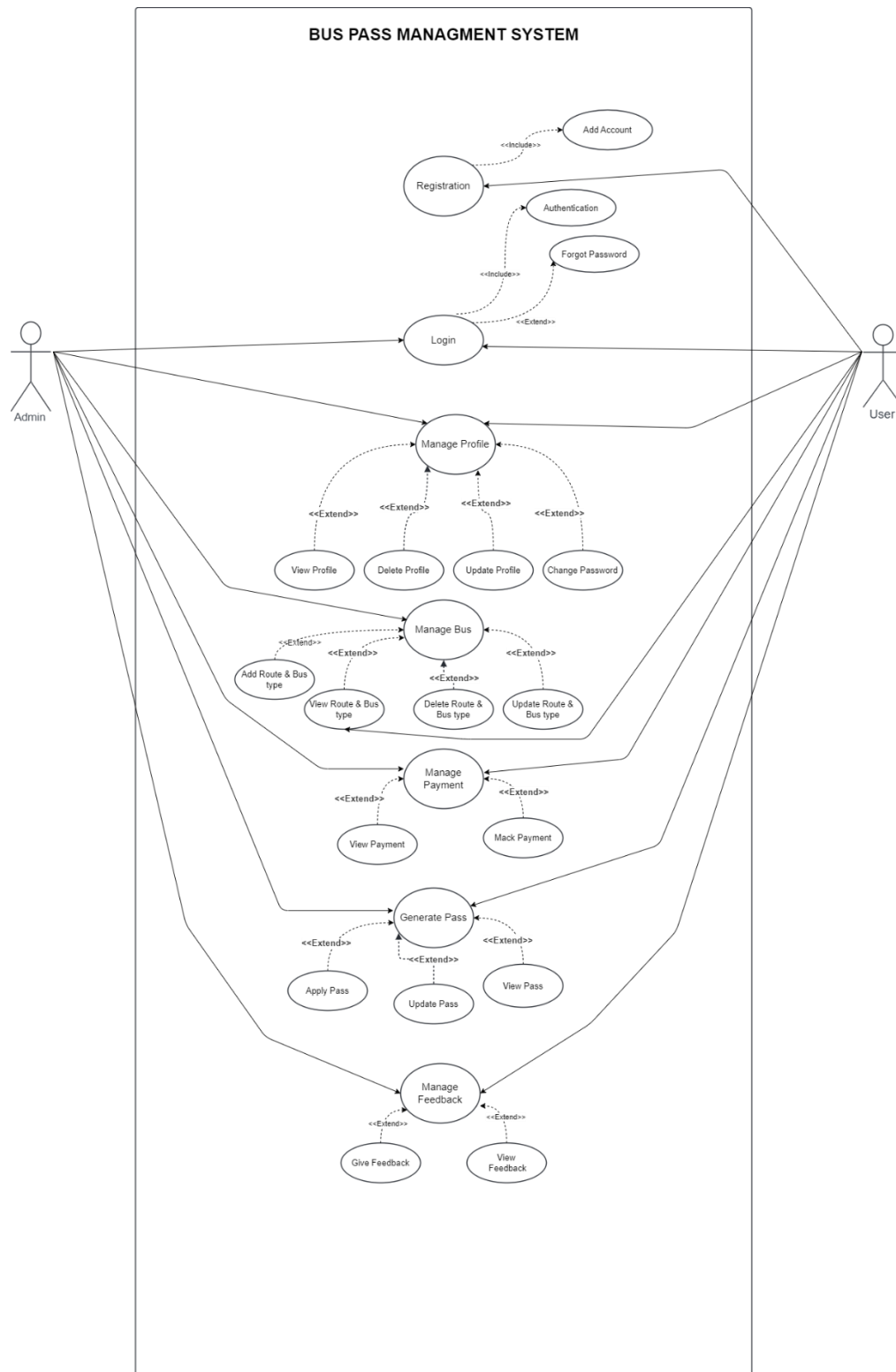
RN	Description	comments
NFR1	<p>The proposed system will be simple and easy to use by the users. The user will be provided with a simple interface of the system.</p> <p>The user interface should be responsive and easy to navigate on both desktop and mobile devices.</p> <p>The system should support multiple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

RN	Description	comments
NFR1	The proposed system will be reliable in all circumstances and any problem will be effectively handled in the design. The system should be reliable and generate all the updates in the correct order.	reliability

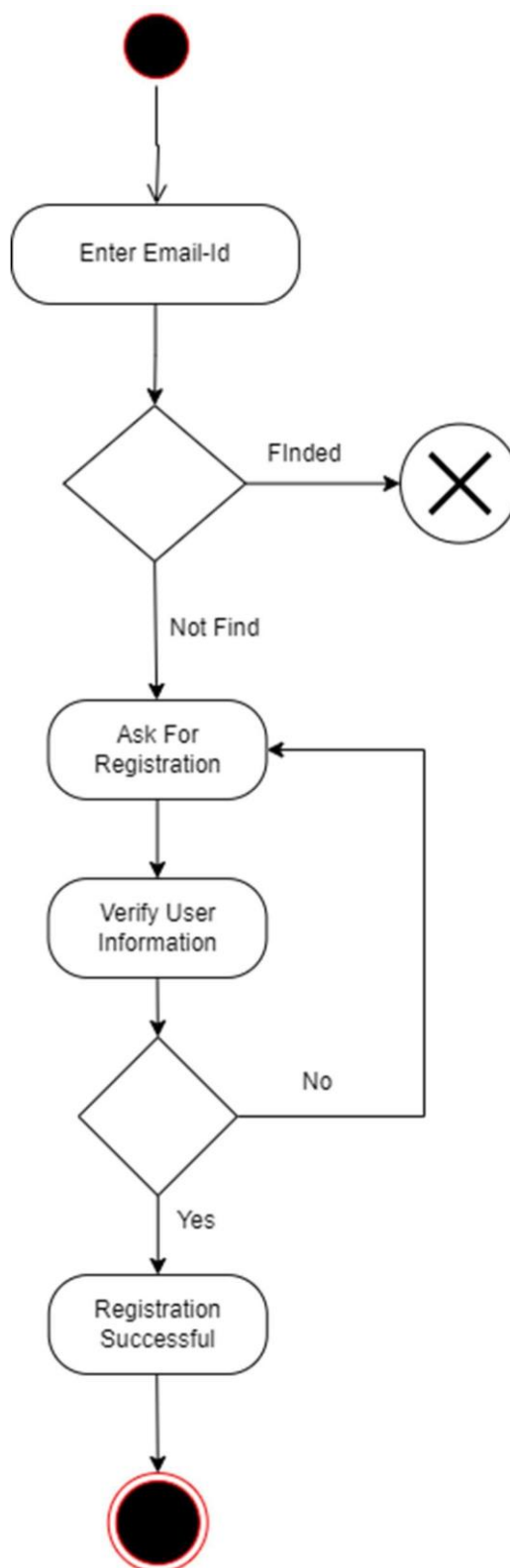
RN	Description	comments
NFR1	The system will be available and working properly at any time. The system should be available in several languages	Availability

Chapter 4: UML diagram

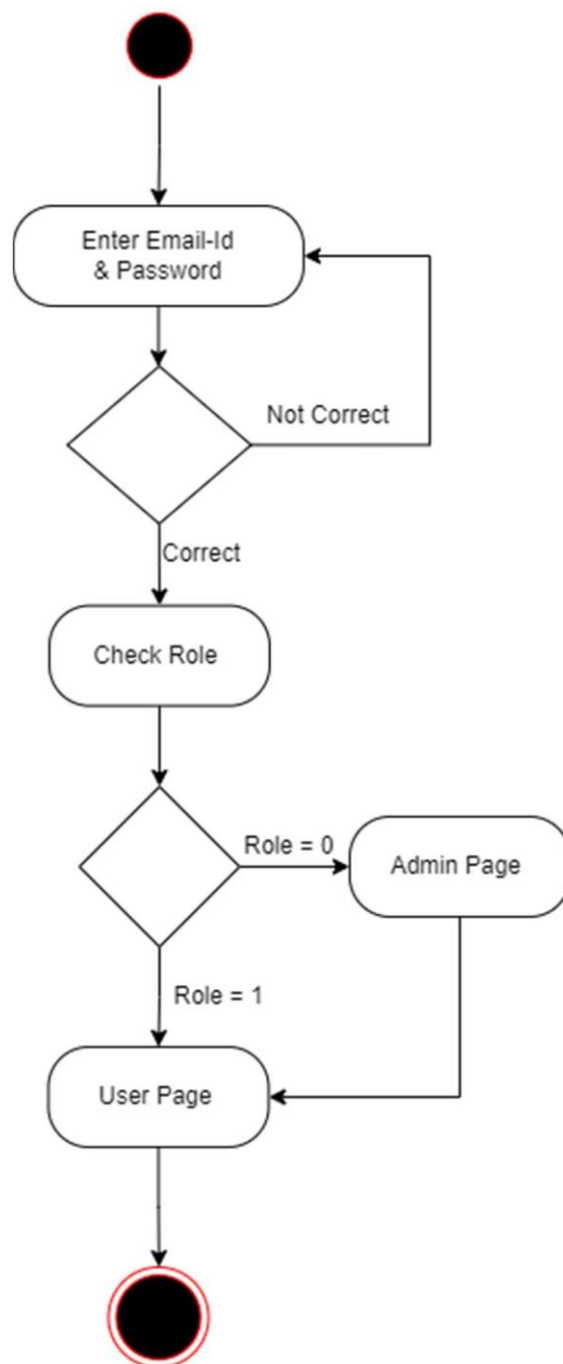
4.1 Use case diagram



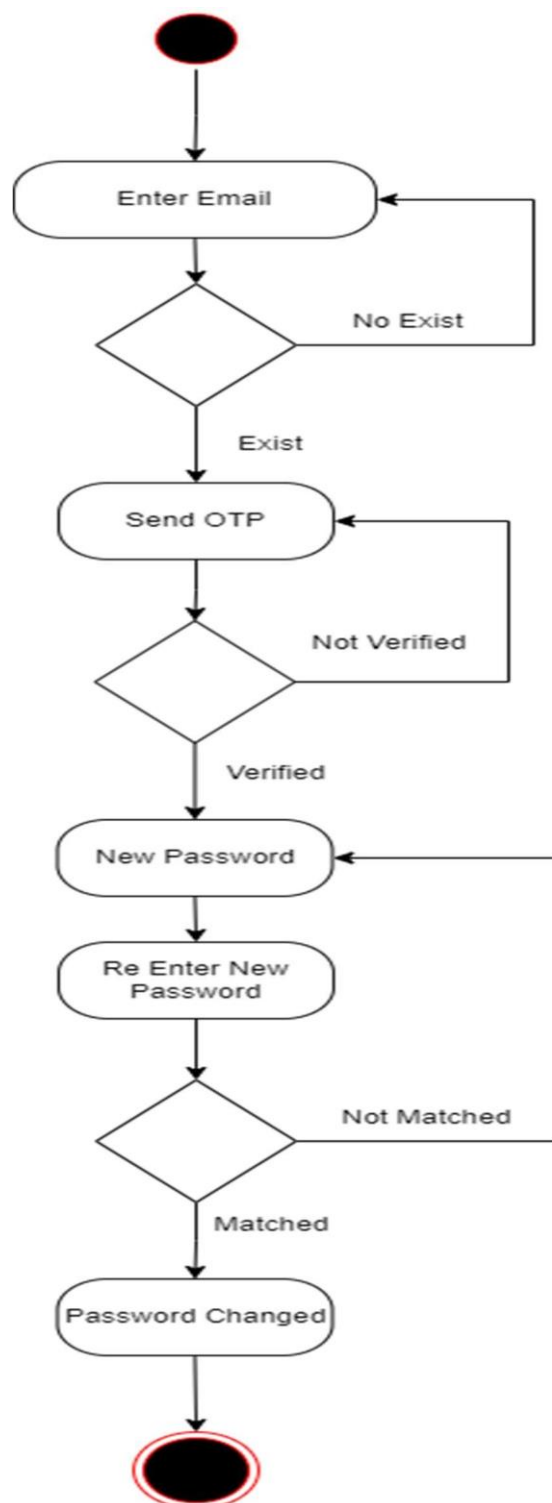
4.2 activity Diagram Registration:



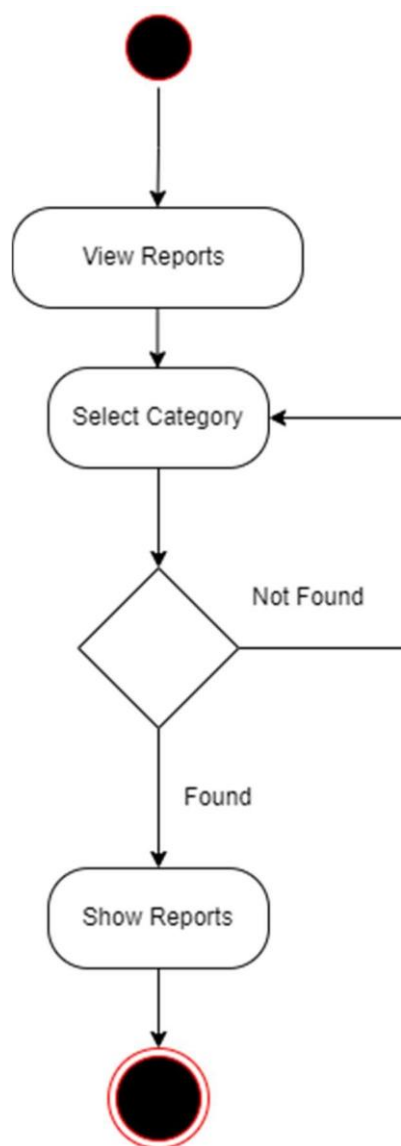
Login:



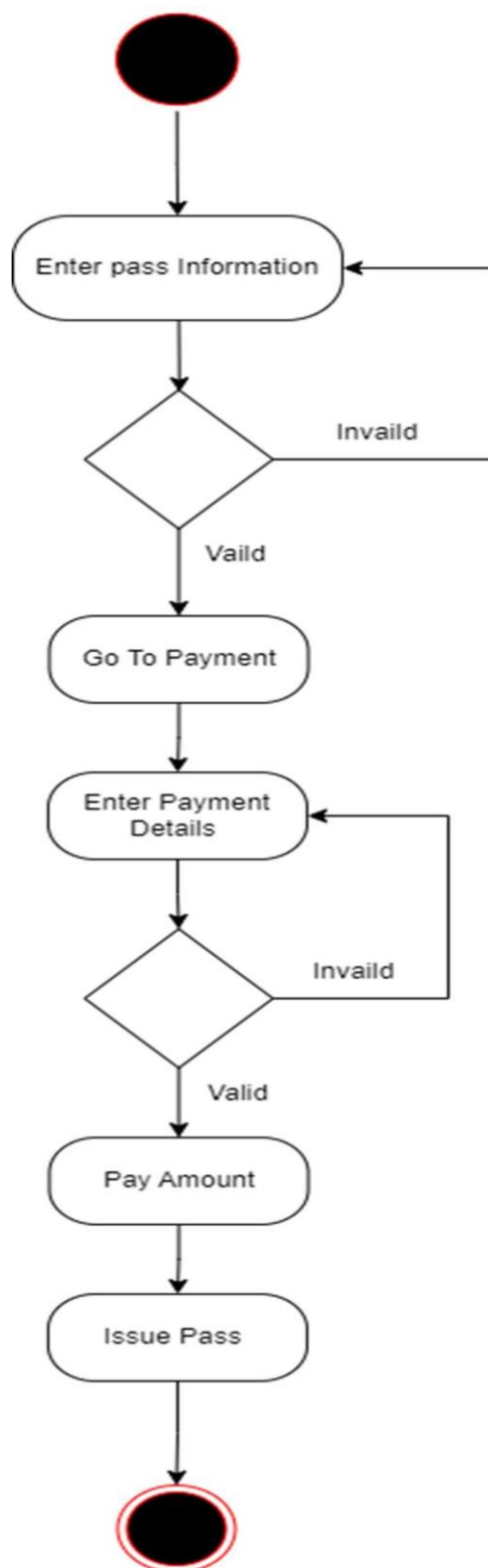
Forgot Password:



View Category:



Issue Pass:



Chapter 5: System Design

5.1 Database Design

5.1.1 Database Schema

- users (id[uk], full_name, password, email[pk], phone_number, role, user_img_path)
- otps (id[pk], email, OTP)
- City (city_id[pk], city_name)
- Document(id[pk], document_type_id, document_file_name)
- Document_type(id[pk], name)
- cast (cast_id[pk], cast_name)
- bus_type (bus_id[pk], bus_name, price_multiply)
- bus_terminals (ter_id[pk], ter_name, city_id, lati, long)
- price (id[pk], price)
- report(id[pk], name, email, note)
- student (id[pk], Institute_name, Institute_address, education, bono_pass)
- handicap (id[pk], disease, hand_doc_id, disability_area, disability_type_id)
- passenger (id[pk], educationp, com_name, com_address, letter_pass)

- passenger_info (id[pk], full_name, address, document_id[fk], gender, role, r_id, user_id[fk], validate_through, dob, user_img_path)
- pass (id[pk], passenger_id, user_id, passType, bus_type, starts_term_id, ends_term_id, payment_id, image_id, from_date, to_date)

5.1.2 Data Dictionary

users:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Unique key	Id of user
2	Full_name	character	120	Not null	Full name of user
3	Password	Varchar	200	Not null	Password of user
4	Email	Varchar	200	Primary key	Email of user
5	Phone_number	Big Integer	10	Not null	Phone number of the user
6	role	tinyint	1	Not null	Role that define role of student, passenger, handicap
7	User_img_path	varchar	255	Not null	User image path

city:

Sr.no.	Field name	Data type	size	constraints	description
1	City_Id	Integer	11	Primary key	Id of city
2	City_name	varchar	200	Not null	Name of city

Document:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Id
2	Document_type_id	Integer	11	Not null	Document_type_id
3	Document_file_name	Varchar	255	Not null	Document_file_name

Document_type:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Id
2	name	varchar	80	Not null	name

bus_type:

Sr.no.	Field name	Data type	size	constraints	description
1	Bus_Id	Integer	11	Primary key	Bus Id
2	Bus_name	varchar	120	Not null	Bus name
3	Price_multiply	float	-	Not null	Price multiply

bus_terminals:

Sr.no.	Field name	Data type	size	constraints	description
1	ter_Id	Integer	11	Primary key	terminal id
2	ter_name	varchar	150	Not null	terminal name
3	City_id	Integer	11	Not null	City id
4	lati	text	-	Not null	Latitude
5	long	text	-	Not null	longitude

price:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Id
2	price	float	-	Not null	Per km basic price

Report:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Id
2	name	character	40	Not null	Name
3	Email	Varchar	80	Not null	Email
4	Note	Varchar	255	Not null	note

student:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Student id
2	education	varchar	50	Not null	Student education
3	Institute_name	varchar	150	Not null	The institute name of the student
4	Institute_address	varchar	150	Not null	The institute address of the student
5	bono_pass	varchar	255	Not null	Student bonofied proof

handicap:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	id of handicap
2	disease	varchar	200	Not null	Disease name of handicap
3	Hand_doc_id	integer	11	Not null	document id of handicap
4	Disability_area	varchar	80	Not null	Disability area of handicap
5	Disability_type_id	integer	11	Not null	Disability type id of handicap

otps:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Id
2	Email	Varchar	250	Not null	Email
3	otp	integer	11	Not null	otp

cast:

Sr.no.	Field name	Data type	size	constraints	description
1	Cast_Id	Integer	11	Primary key	Cast Id
2	Cast_name	character	255	Not null	Cast name

passenger_info:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	Passenger id
2	Full_name	character	200	Not null	Full name
3	address	Varchar	255	Not null	Passenger address
4	Document_id	integer	11	Foreign key	Document id
5	Gender	char	20	Not null	Gender of passenger
6	role	integer	11	Not null	A role that defines the actual role of passenger, student, handicapped
7	R_id	integer	11	Not null	Role ID which defines the use of student ID, handicap ID
8	User_id	integer	11	Foreign key	Id of user
9	Validate_through	date	-	Not null	Date of passenger till
10	dob	date	-	Not null	Date of passenger
11	User_img_path	varchar	-	Not null	User image path

Passenger:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Int	11	Primary key	Id of the Passenger
2	Educationp	Varchar	100	Not null	Which education of passenger
3	Com_name	Varchar	200	Not null	Company name of a passenger
4	Com_address	varchar	200	Not null	Company address of passenger
5	letter_pass	varchar	255	Not null	Letter of passenger

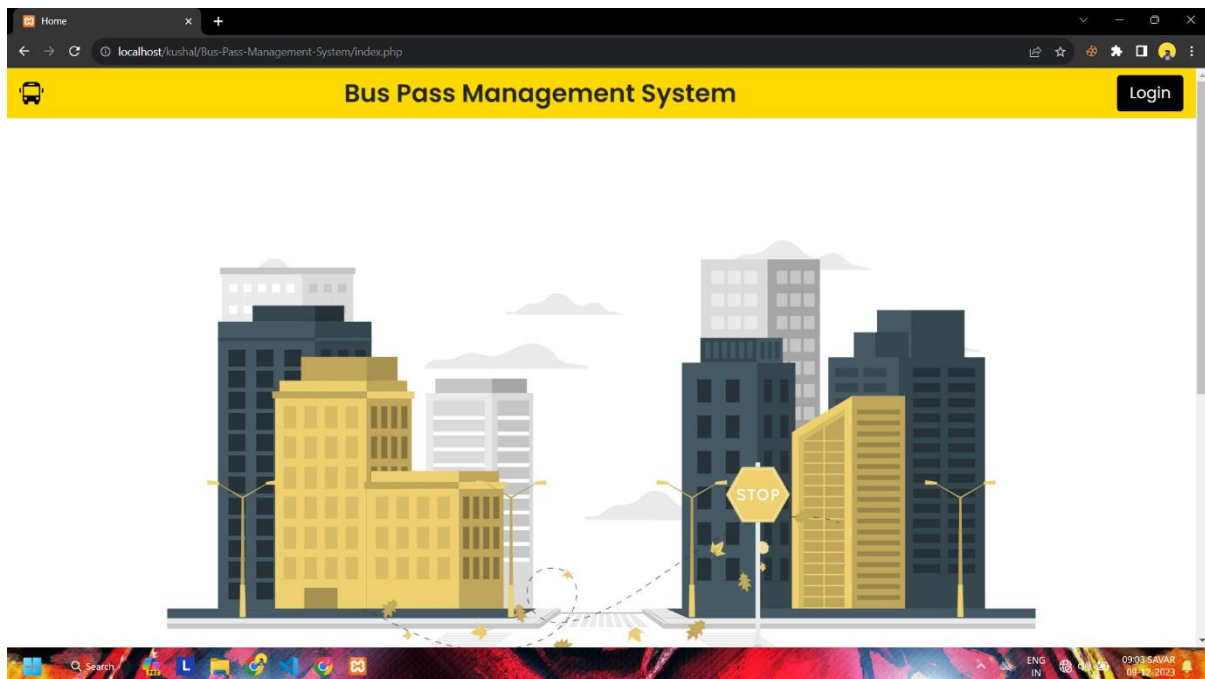
pass:

Sr.no.	Field name	Data type	size	constraints	description
1	Id	Integer	11	Primary key	id
2	Passenger_id	Integer	11	Not null	Id of passenger
3	User_id	integer	11	Not null	Id of user
4	passType	integer	11	Not null	Pass type
5	Bus_type	integer	11	Not null	type of bus
6	Starts_term_id	integer	11	Not null	Starts term id
7	Ends_term_id	integer	11	Not null	And term id
8	Payment_id	integer	11	Not null	Payment id
9	Image_id	integer	11	Not null	Image id

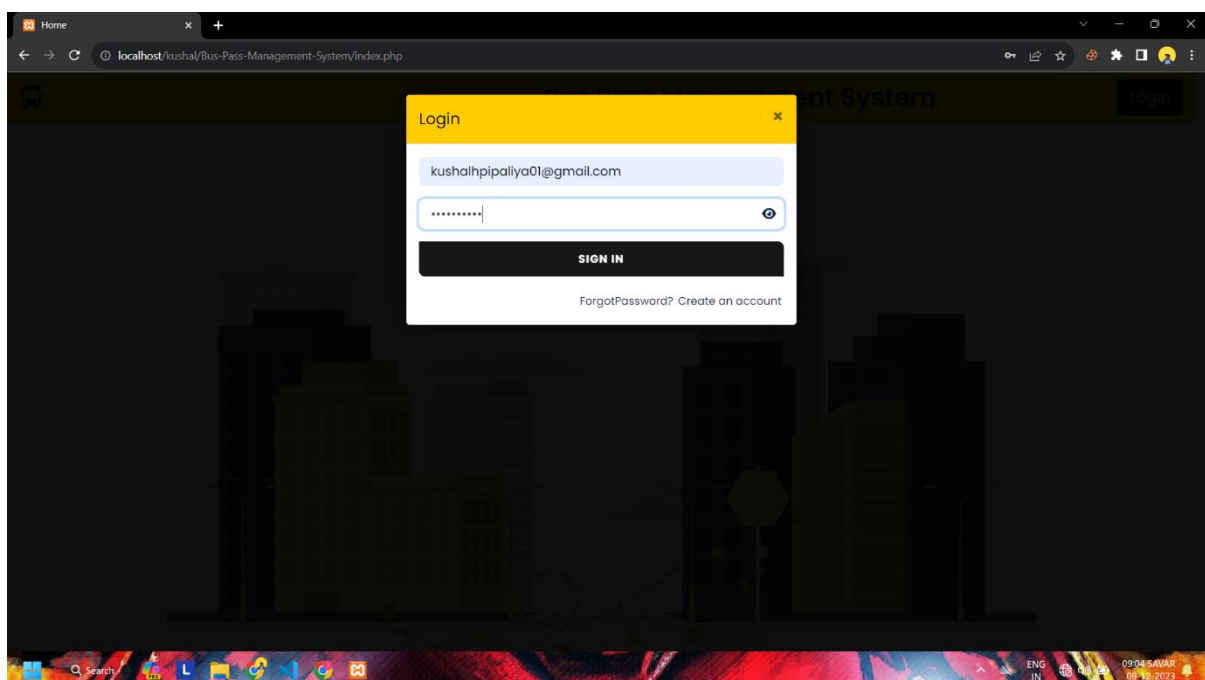
Chapter: 6 System Implementation

6.1 Screenshots:

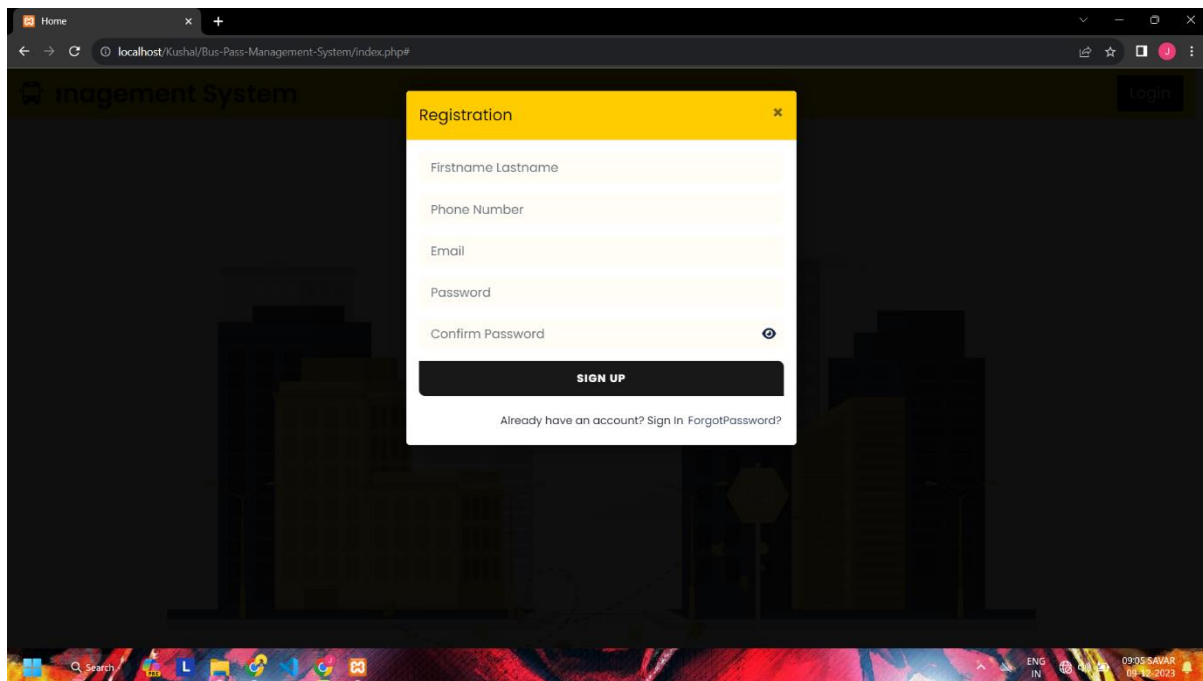
Home page:



Login:

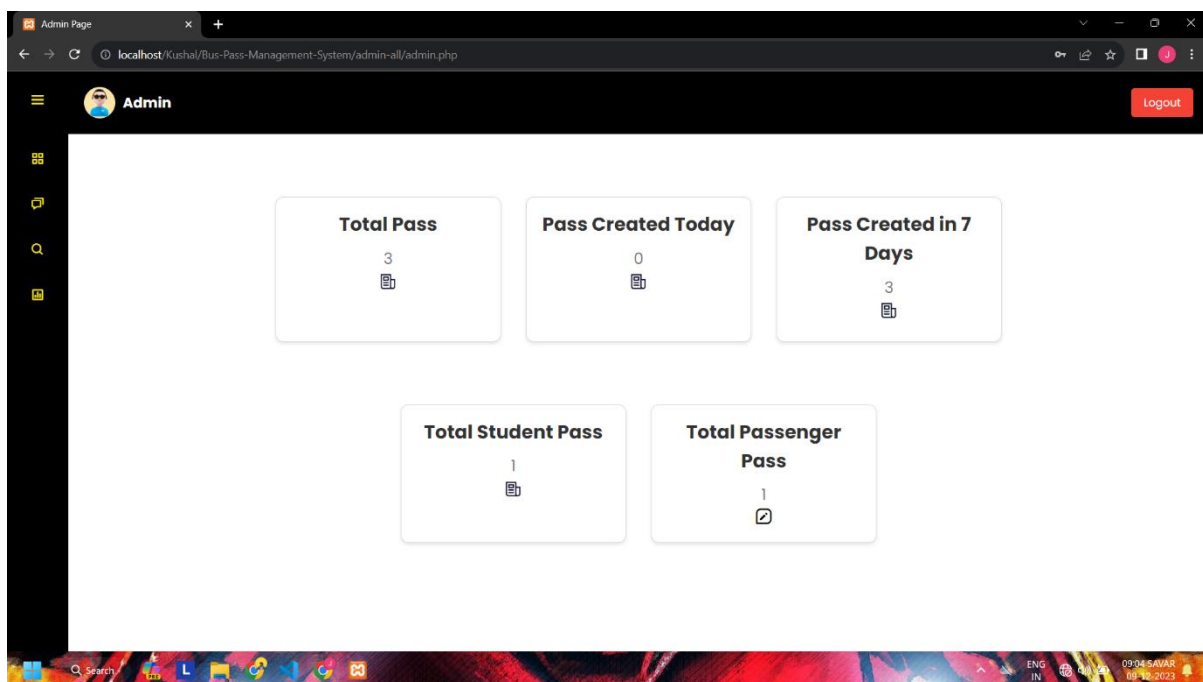


Registration:

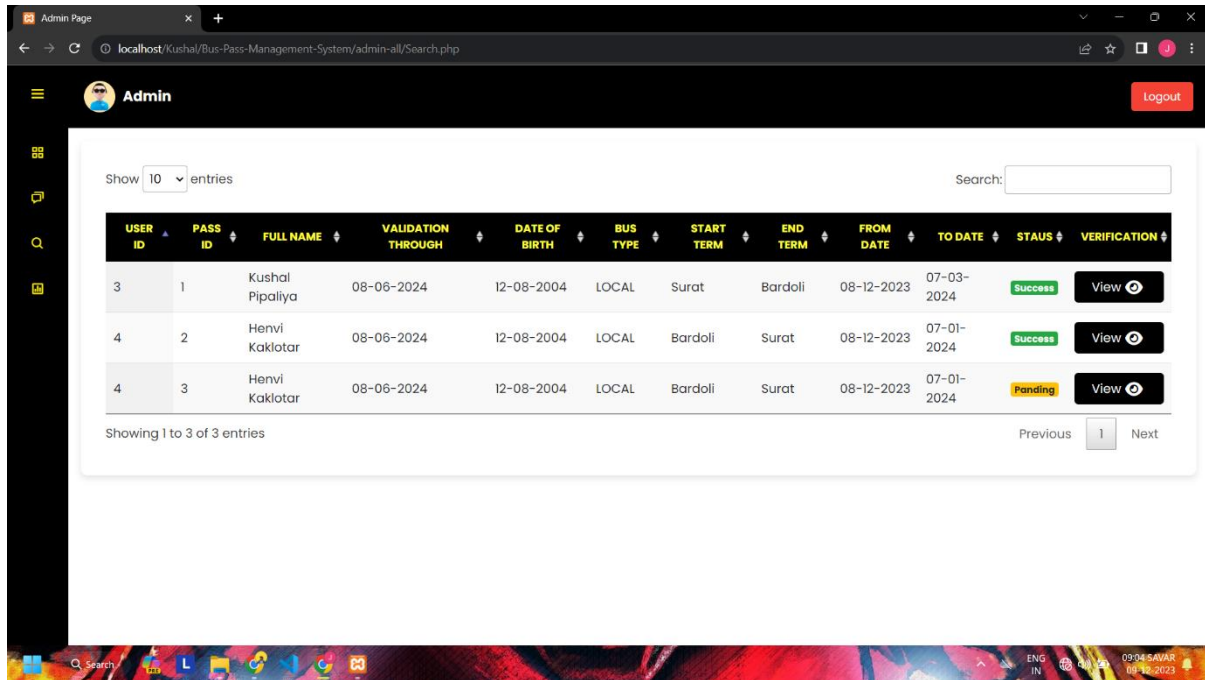


The screenshot shows a web browser window with the URL `localhost/Kushal/Bus-Pass-Management-System/index.php#`. The page title is "Management System". A "Registration" modal is open, featuring a yellow header with a close button. The form contains the following fields: "Firstname Lastname", "Phone Number", "Email", "Password", and "Confirm Password" (with an eye icon for toggling visibility). A "SIGN UP" button is at the bottom of the form. Below the button, a link reads "Already have an account? Sign In ForgotPassword?".

Admin page:



Passes:

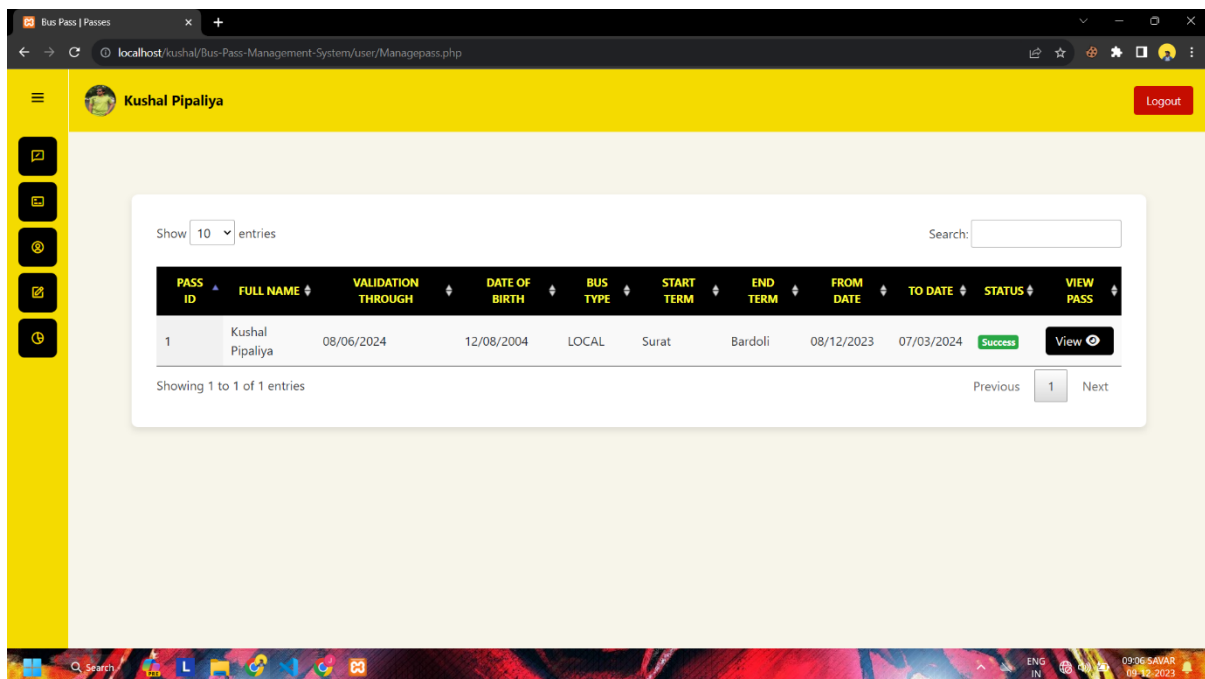


The screenshot shows the Admin Page of a Bus Pass Management System. The user is logged in as 'Admin'. The page displays a table of bus passes with the following columns: USER ID, PASS ID, FULL NAME, VALIDATION THROUGH, DATE OF BIRTH, BUS TYPE, START TERM, END TERM, FROM DATE, TO DATE, STATUS, and VERIFICATION. There are 3 entries shown.

USER ID	PASS ID	FULL NAME	VALIDATION THROUGH	DATE OF BIRTH	BUS TYPE	START TERM	END TERM	FROM DATE	TO DATE	STATUS	VERIFICATION
3	1	Kushal Pipaliya	08-06-2024	12-08-2004	LOCAL	Surat	Bardoli	08-12-2023	07-03-2024	Success	View
4	2	Henvi Kaklotar	08-06-2024	12-08-2004	LOCAL	Bardoli	Surat	08-12-2023	07-01-2024	Success	View
4	3	Henvi Kaklotar	08-06-2024	12-08-2004	LOCAL	Bardoli	Surat	08-12-2023	07-01-2024	Pending	View

Showing 1 to 3 of 3 entries

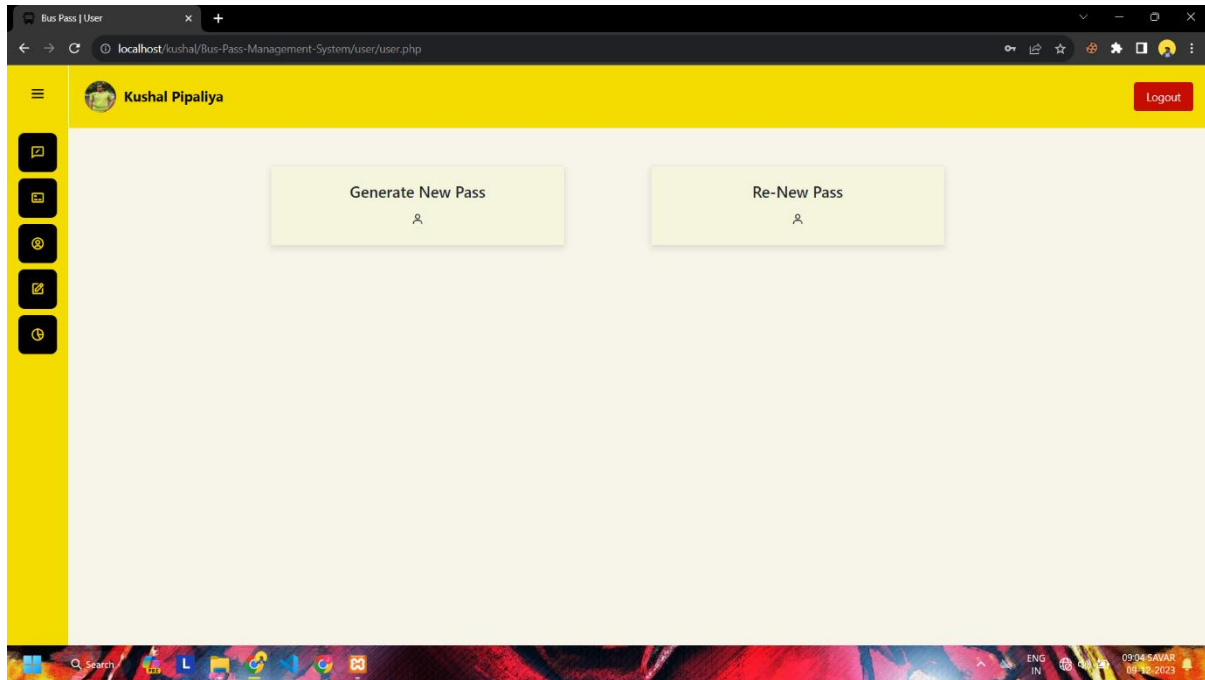
Student pass:



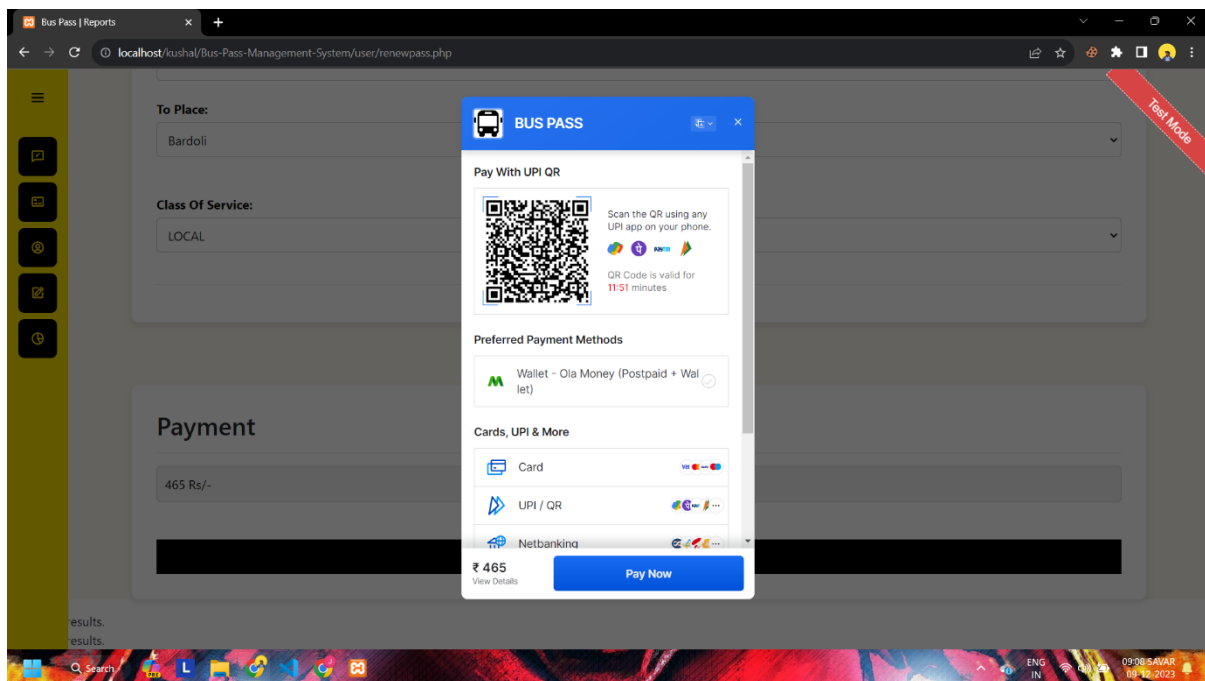
The screenshot shows the Student Pass Page of a Bus Pass Management System. The user is logged in as 'Kushal Pipaliya'. The page displays a table of bus passes with the following columns: PASS ID, FULL NAME, VALIDATION THROUGH, DATE OF BIRTH, BUS TYPE, START TERM, END TERM, FROM DATE, TO DATE, STATUS, and VIEW PASS. There is 1 entry shown.

PASS ID	FULL NAME	VALIDATION THROUGH	DATE OF BIRTH	BUS TYPE	START TERM	END TERM	FROM DATE	TO DATE	STATUS	VIEW PASS
1	Kushal Pipaliya	08/06/2024	12/08/2004	LOCAL	Surat	Bardoli	08/12/2023	07/03/2024	Success	View


Showing 1 to 1 of 1 entries



Payment page:



Pass format:




Bus Pass Managment System

Pass Id: 275

From Date: 06-11-2023


To Date: 04-02-2024

Student



Name: Kushal Pipaliya
Gender: Male
Date of Birth: 12-06-2004

Pass Type: LOCAL
Pass Days: 90



From Location: Surat
To Location: Bardoli
Address: Maliba Collage , Mahuva Road , Bardoli

Home

Download PDF

Chapter 7: Testing

7.1 Test cases:

Registration:

Sr. No .	Input Field	Input Value	Valid/ Invalid	For valid Value	For Invalid Value
1	First name	Kushal	Valid	No Message	--
		Kushal01	Invalid	--	The name can only consist of alphabets
		[Empty]	Invalid	--	The name is required and cannot be empty
2	Last name	Pipaliya	Valid	No Message	--
		Xyz01	Invalid	--	Please input only the character
		[Empty]	Invalid	--	The last name is required so...Please enter your last name
3	Phone number	9876787890	valid	No message	--
		empty	invalid	--	Please enter your phone number
		Abcd1234	Invalid	--	Please enter only Numeric!
4	Email	21bmiit129@gmail.com	Valid	No Message	--
		Khush12@	Invalid	--	The email address is not a valid

		[Empty]	Invalid	--	The email address is required and cannot be empty
5	Password	Kushal@123	Valid	No Message	--
		kush1	Invalid	--	The password cannot be the same as the username
		[Empty]	Invalid	--	Please enter your password!
		kush	Invalid	--	The password must have at least 8 characters
		@b\$345&	Valid	No Message	--
6	Confirm password	Kushal@123	Valid	No Message	--
		[Empty]	Invalid	--	Please enter your confirmed password!
		k@l3	Invalid	--	The password is not matched

Login:

Sr. No.	Input Field	Input Value	Valid/ Invalid	For valid Value	For Invalid Value
1	Email id	21bmiit129@gmail.com	Valid	No Message	--
		Abc12@4	Invalid	--	The email ID is not valid
		[Empty]	Invalid	--	Please enter your email id
2	Password	Kushal@123	Valid	No Message	--
		[Empty]	Invalid	--	Please enter password

Change password:

Sr. No.	Input Field	Input Value	Valid/ Invalid	For valid Value	For Invalid Value
1	New password	Kushal@123	valid	No message	--
		[Empty]	Invalid	--	Please enter your email ID
2	Renew Password	Kushal@123	Valid	No Message	--
		[Empty]	Invalid	--	Please enter password
3	verify password	Kushal@123	invalid	--	The new password can't be the same as the current password
4	Verify password	Kushal@129	valid	Password updated successfully	--

Genrate pass:

Sr. No.	Input Field	Input Value	Valid/ Invalid	For valid Value	For Invalid Value
1	Address	surat	valid	No message	--
		[Empty]	Invalid	--	Address is required
2	Date of birth	12-08-2004	Valid	No Message	--
		[Empty]	Invalid	--	Date of birth is required

3	category	Select cast	invalid	--	Category is required
4	category	st	valid	No message	--
5	Education	Select Highest Qualification	Invalid	-	Education is required
6	Education	Primary	valid	No Messages	-
7	Institute name	empty	invalid	--	The Institute name is required
	Institute name	ABC	valid	--	--
8	Institute address	empty	invalid	--	An Institute address is required
	Institute address	surat	valid	No Messages	Institute address is required