

CITY TRANSPORT MANAGEMENT SYSTEM

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This Report Presented in Partial Fulfilment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

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PROJECT OVERVIEW

Introduction

In this modern world, where every thing greatly relies on technology there is a possible to develop unique application which can justify the problems faced by ordinary methodology to achieve a desired functionality in a real time system. Our project belongs to that half. The main purpose of our project is to reduce traffic jams. In our daily lives we have to face a lot of traffic jams while we travelling to different places. As a result, we waste a lot of time. For this reason, the Government has introduced '**NOGOR**

PORIBOHON' platform which will operate at fixed times and routes which makes our daily life easier. And making this platform popular and maintains transport system easier, so we develop this application. In this system user can access to our application features. There are three types of users can access this they are admin, supervisor and passengers. Admin can control entire system.

This project is a real time application that is being developed for **CITY TRANSPORT MANAGEMENT**. The project takes .NET as development platform and C# is the language used for development and used MySql for store all data in local database. The **CITY TRANSPORT MANAGEMENT** system is designed in a simplest manner, very much user friendly so that the people using it should not struggle with the operational feature of the system.

Objectives

The key objects of the project are as follows:

- ✓ Provide a better application to reduce traffic jam.
- ✓ To maintain the proper time schedules all transport system.
- ✓ To provide registration option for all passengers.
- ✓ To provide a personal profile for every registered employee and admin. Where they can login by using username or password and also can update their own information.
- ✓ There is no fear of losing document, and it's easy to find any route information easily.
- ✓ To provide a platform to the admin so that they can update all information from anywhere with internet access.

REQUIREMENTS

Software Requirement

To build up this application, we used following software:

- Operating System: Windows
- Software: Visual Studio 2022, XAMPP
- Language: C#, MySQL
- Framework: DOT NET (.NET)
- Device: Laptop

Software Requirement for running the app:

- Operating System: Windows
- Devices: Computer or Laptop
- Software: Visual Studio 2022, XAMPP

Hardware Requirement

- Processor: Intel Core i5
- RAM: Minimum 8 GB
- Space on Disk: Minimum 20 GB

Functional Requirements

From the whole of the view of our system, it should have huge functional requirements, user registration panel, user login panel, admin login panel, supervisor login panel. In

admin panel admin can insert, update or delete. In supervisor panel supervisor can view bus information, route information and also can update some data. In dashboard user can search bus, buy ticket, download ticket, view own profile, delete own account, change password, logout.

Non-functional Requirement

Non-functional requirements are help to being more efficiently such as: performance optimize, consuming of memory, smoother operation and load on quickly as soon as possible to our application. Application design of UI should be user friendly and gorgeous for user experience.

LOGICAL DATA MODEL

An Entity Relationship diagram is the part of flowchart that are broadly describes how to connected each other like as people and object. An Entity Relationship diagrams are biggest portion to use to draw a relationship diagram in software engineering, computer engineering, business, education thesis and research field. This field are easy to describe using ER diagram. people and student can easily understand whole system in a few times. And also known as ER or ERDs models used they can create a set of symbols such as diamond, ovals, rectangle, connecting lines together [5]. Data structure diagram (DSDs) are related to Entity Relationship. ER diagram are flow the design of whole diagram of system. Now we can see this process, how to describe whole system in ER diagram in our project. Given below is the Schema diagram and ER diagram used in our Project.

SCHEMA DIAGRAM

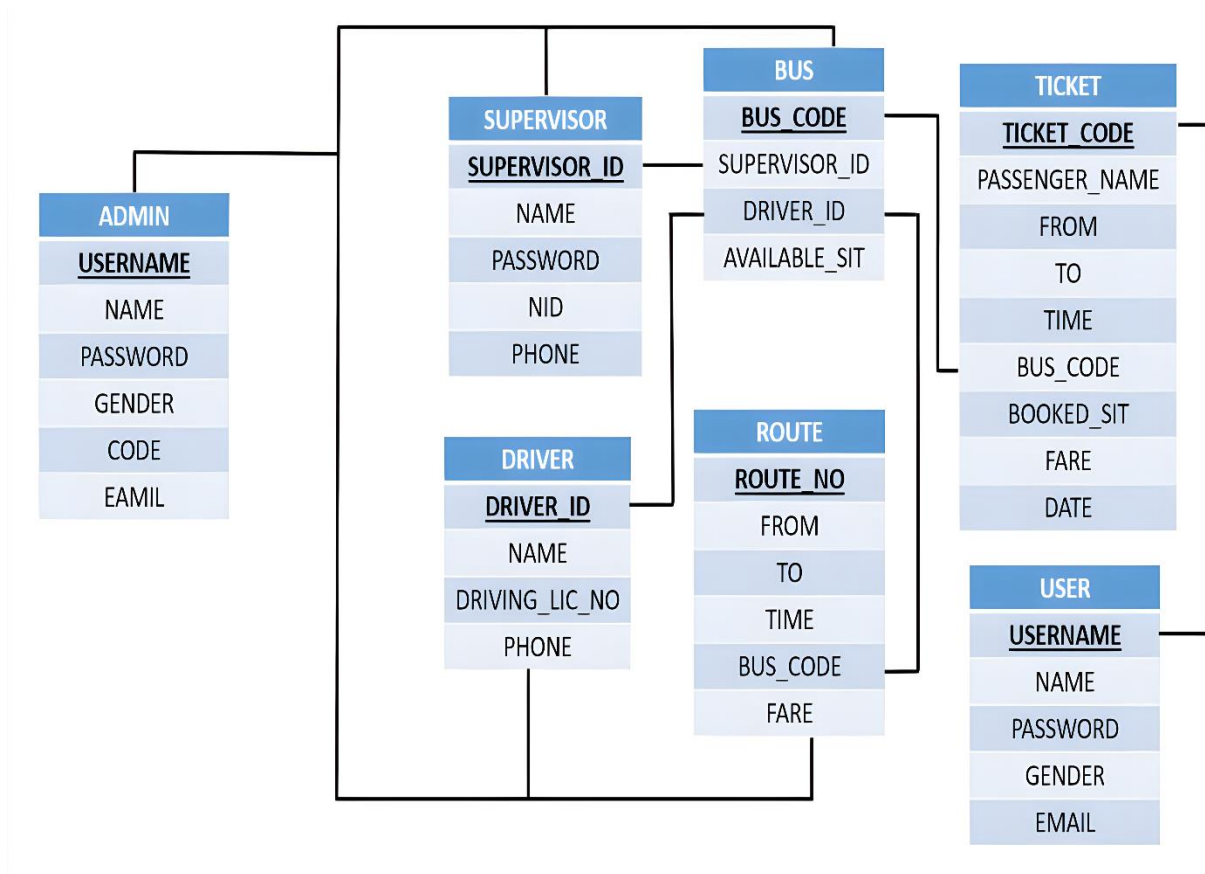


Figure 1: Schema Diagram of our project

ER DIAGRAM

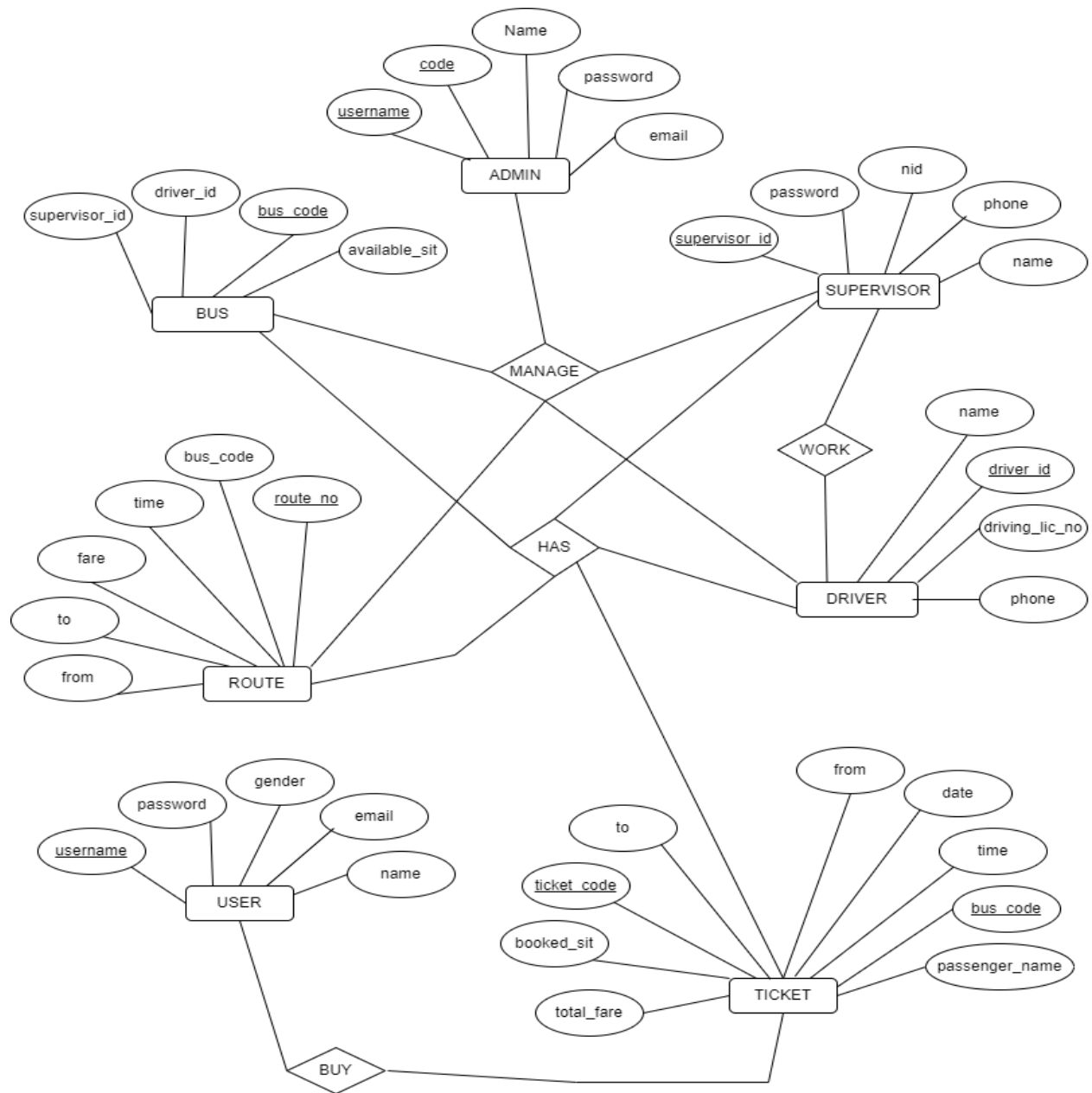


Figure 2: ER Diagram of our project

DESIGN SPECIFICATION

Front-end Design

In this transportation system we use in front-end and back-end process on this system. We trying to beautiful designed on this transportation system. Also trying to easy process for users friendly on this management system. In front-end back-end we want to try user friendly management system on this management system process.

Front-end Design

Dynamic function on this project application on the system on transport management process. In this procedure we used in data base management because transport management system is trying to solve in user friendly app on the system. Application in our transport system is easier for users and friendly for this procedure. The user can't be accessed by the back-end design or framework system or management system on this application procedure. The controller can be accessed by all files on the transportation system. It is the important system for the application. Model is trying to be drawing easy for users. In this all combinations then everyone can be seen this framework easily.

IMPLEMENTATION AND TESTING

1. Implementation of Database

In this web application app, we can use DBMS (MySQL). MySQL is one of the best server side applications. Here I am showing figure in MySQL database.

Table	Action	Rows	Type
<input type="checkbox"/> admin_info	★ Browse Structure Search Insert Empty Drop	3	InnoDB
<input type="checkbox"/> bus_info	★ Browse Structure Search Insert Empty Drop	5	InnoDB
<input type="checkbox"/> driver_info	★ Browse Structure Search Insert Empty Drop	5	InnoDB
<input type="checkbox"/> route	★ Browse Structure Search Insert Empty Drop	6	InnoDB
<input type="checkbox"/> supervisor_info	★ Browse Structure Search Insert Empty Drop	5	InnoDB
<input type="checkbox"/> ticket_info	★ Browse Structure Search Insert Empty Drop	2	InnoDB
<input type="checkbox"/> user_info	★ Browse Structure Search Insert Empty Drop	3	InnoDB
7 tables	Sum	29	InnoDB

☐ Check all
 With selected: ▼

Figure 1.1: Implementation of main system table

The figure 1.1 shows the MySQL table system. This page manages database table system edit, deleted and update. It's also shows all table information.

+ Options




















				from_where	to_where	fare	time	bus_code	route_no
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mirpur-1	Gabtolli	30	8 AM	B101	R1
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mirpur-2	Airport	40	8:45 AM	B102	R2
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mirpur-1	Airport	30	8:15 AM	B102	R3
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mirpur-1	Gabtolli	40	8:30 AM	B102	R4
<input type="checkbox"/>	 Edit	 Copy	 Delete	Airport	Mirur-2	40	9 AM	B103	R5
<input type="checkbox"/>	 Edit	 Copy	 Delete	Kamlapur	Mirpur-2	40	9:30 AM	B104	R6

Figure 1.2: Show Route

The figure 1.2 shows data from Route table.

2. Implementation of Front-end Design:

For the application development front-end is a most important section. User can directly interact front-end design and its work on presentation layer. It is very useful to user when they use application and they can easily understand. So, we tried to develop and design our application easy user friendly so that user can easily use this application, but development task was not easy. Now we attach some front-end screen given below.



Figure 2.1: Loading Application

The figure 2.1 shows a loading animation while run the application.

LogIn Panel



CITY TRANSPORT

Username

suvo

Password


☐ show passwordForgot Password? **LOGIN****Don't Have any Account?**

Figure 2.2: User login page

The figure 2.2 show in this system user must login before use this application.

SignupForm

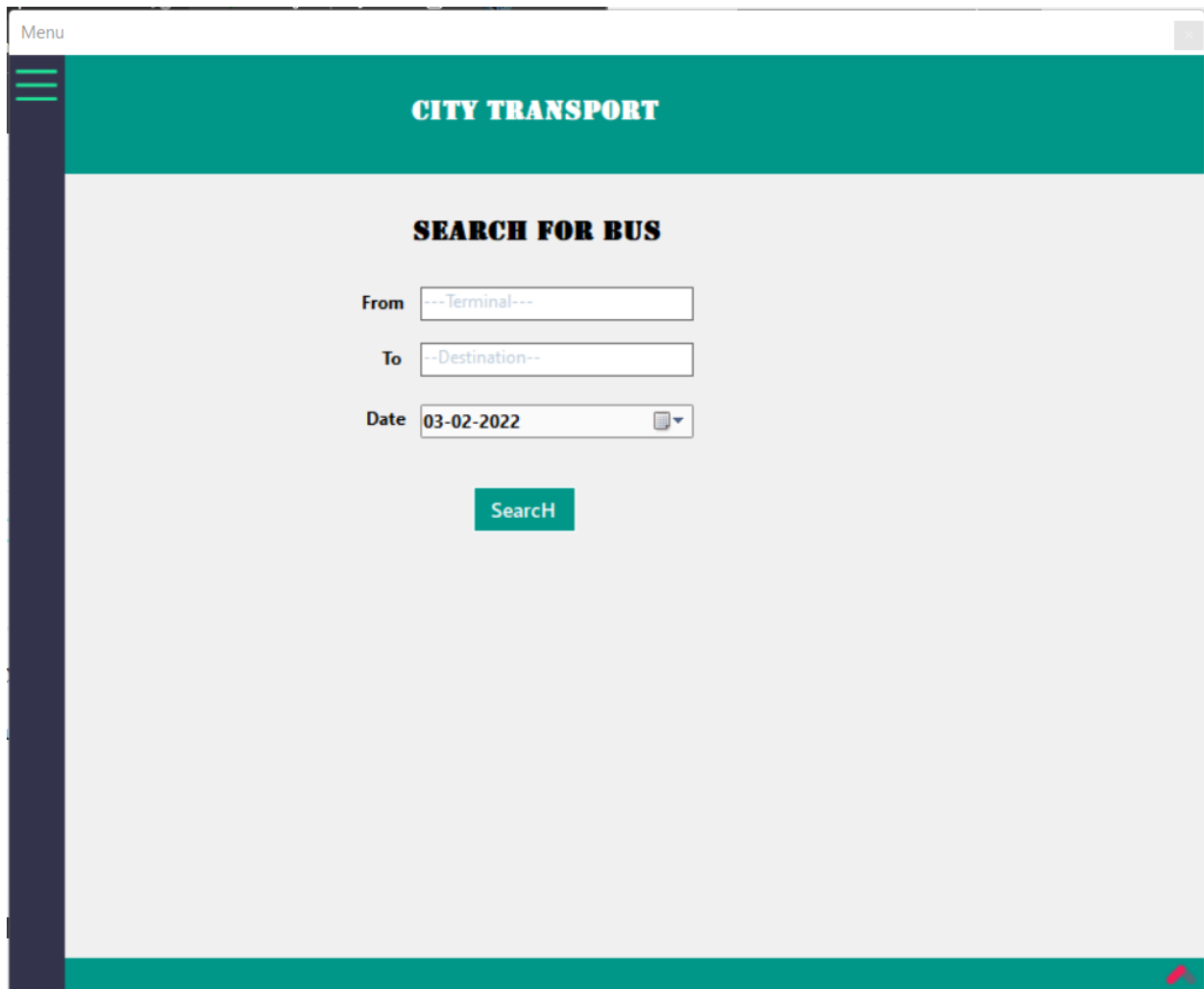


CITY TRANSPORT

Name**Email****Username****Password****Gender** ▼**Re-Password**☐ I agree to the Terms of Service and Privacy Policy☐ show password**SIGNUP**[Already Have an Account?](#)

Figure 2.3: User Registration page

The figure 2.3 shows user registration page where user can registration easily. User must registration first if they don't register before.



The screenshot displays a web application interface for 'CITY TRANSPORT'. It features a dark teal header with the company name in white. A dark sidebar on the left contains a 'Menu' label and three horizontal lines. The main content area is light gray and contains a 'SEARCH FOR BUS' section. This section includes three input fields: 'From' with a placeholder '---Terminal---', 'To' with a placeholder '--Destination--', and 'Date' with the value '03-02-2022' and a calendar icon. A teal 'SearchH' button is positioned below the inputs. A red heart icon is visible in the bottom right corner of the page.


Menu

CITY TRANSPORT

SEARCH FOR BUS

From

To

Date 

SearchH

Figure 2.4: Dash-Board page

This is our Main Menu. While user login/register then they will come to this page.

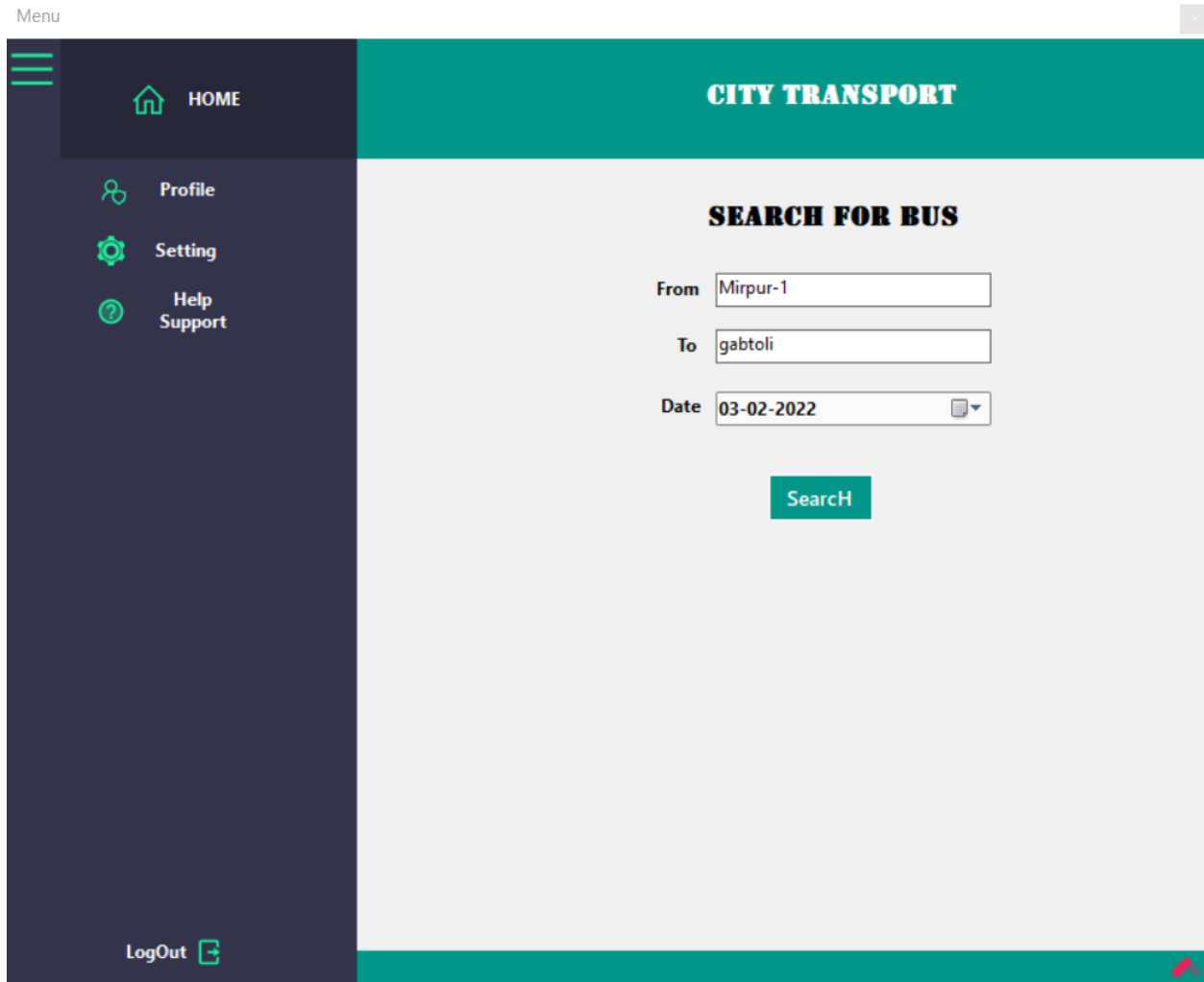


Figure 2.5: Menu Option

The figure 2.5 shows four buttons. There are '**Profile**' button, '**Setting**' button, '**Help & Support**' button and '**Logout**' button.

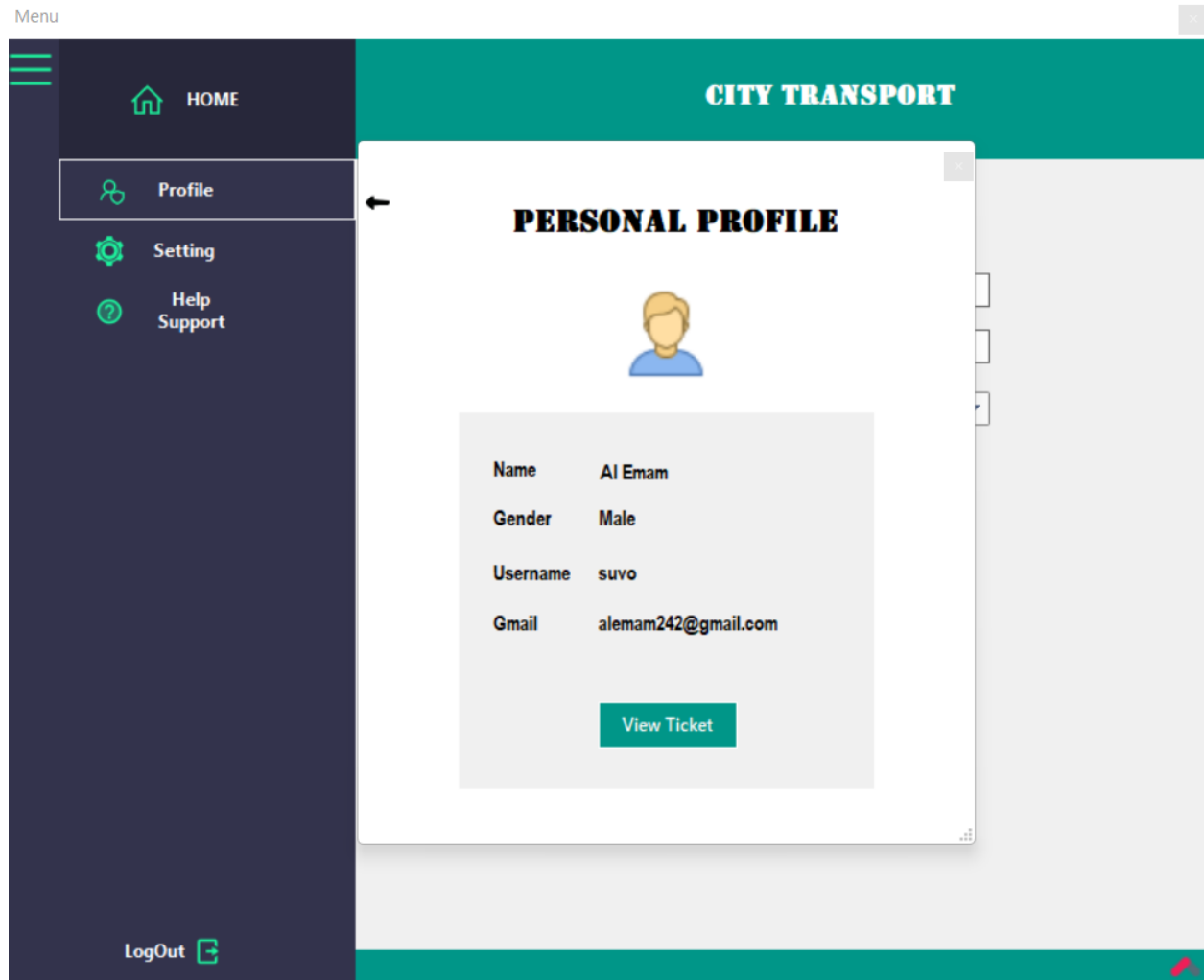


Figure 2.6: Profile button click

The figure 2.6 shows when user click on '**Profile**' button then he/she can see his/her personal details and a '**View Ticket**' button.

ViewTicket



CITY TRANSPORT

TICKET

		ticket_code	passenger_name	from_where	to_where	bus_id	booked_seat	date	time	total_fare
Download	Delete	CT213283AS	Al Emam	Mirpur-1	Gabtolli	B102	1	03-01-2022	8:30 AM	40
Download	Delete	CT908933AS	Al Emam	Mirpur-1	Gabtolli	B102	3	03-04-2022	8:30 AM	120

Figure 2.7: View Ticket

The figure 2.7 shows if user click on '**View Ticket**' they can see their ticket if they buy any ticket from our application. Also can see a '**Download**' button and a '**Delete**' button. User can delete expired ticket from their profile.

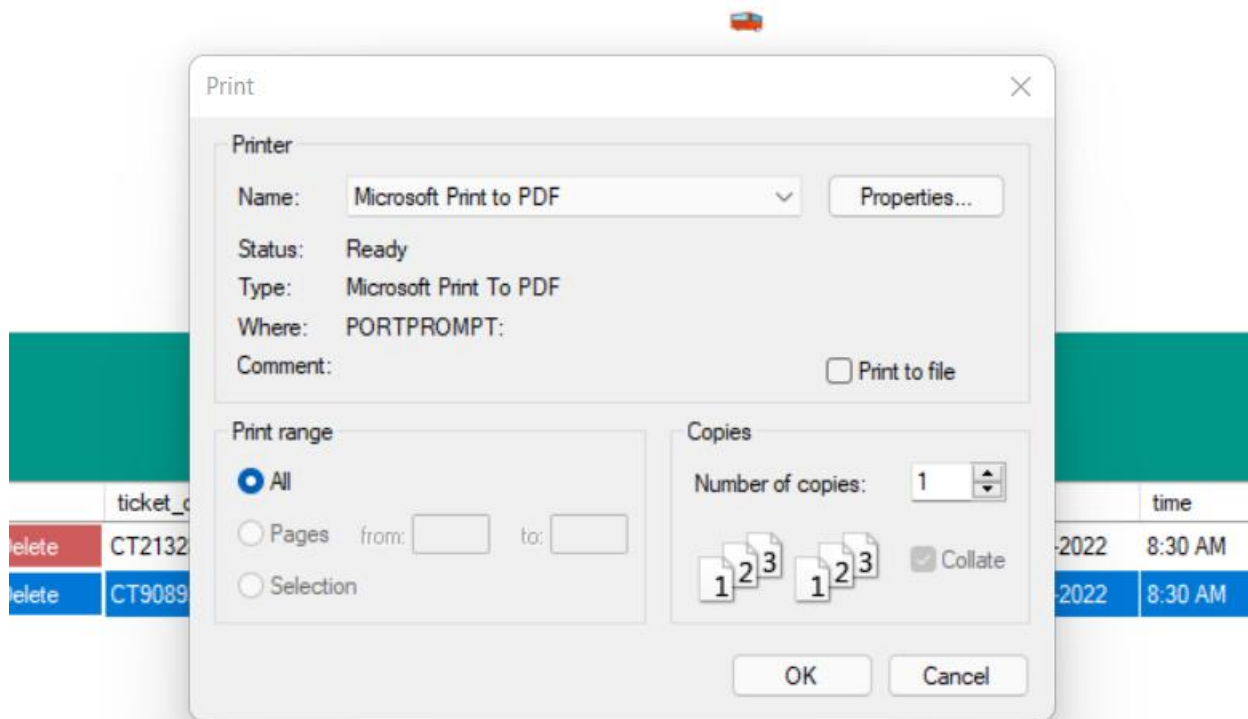


Figure 2.8: Download ticket from user profile

When user click on download button a window will open like figure 2.8. If user click on ok button of the window then a select folder and set file name page will open which is given in figure 2.9.

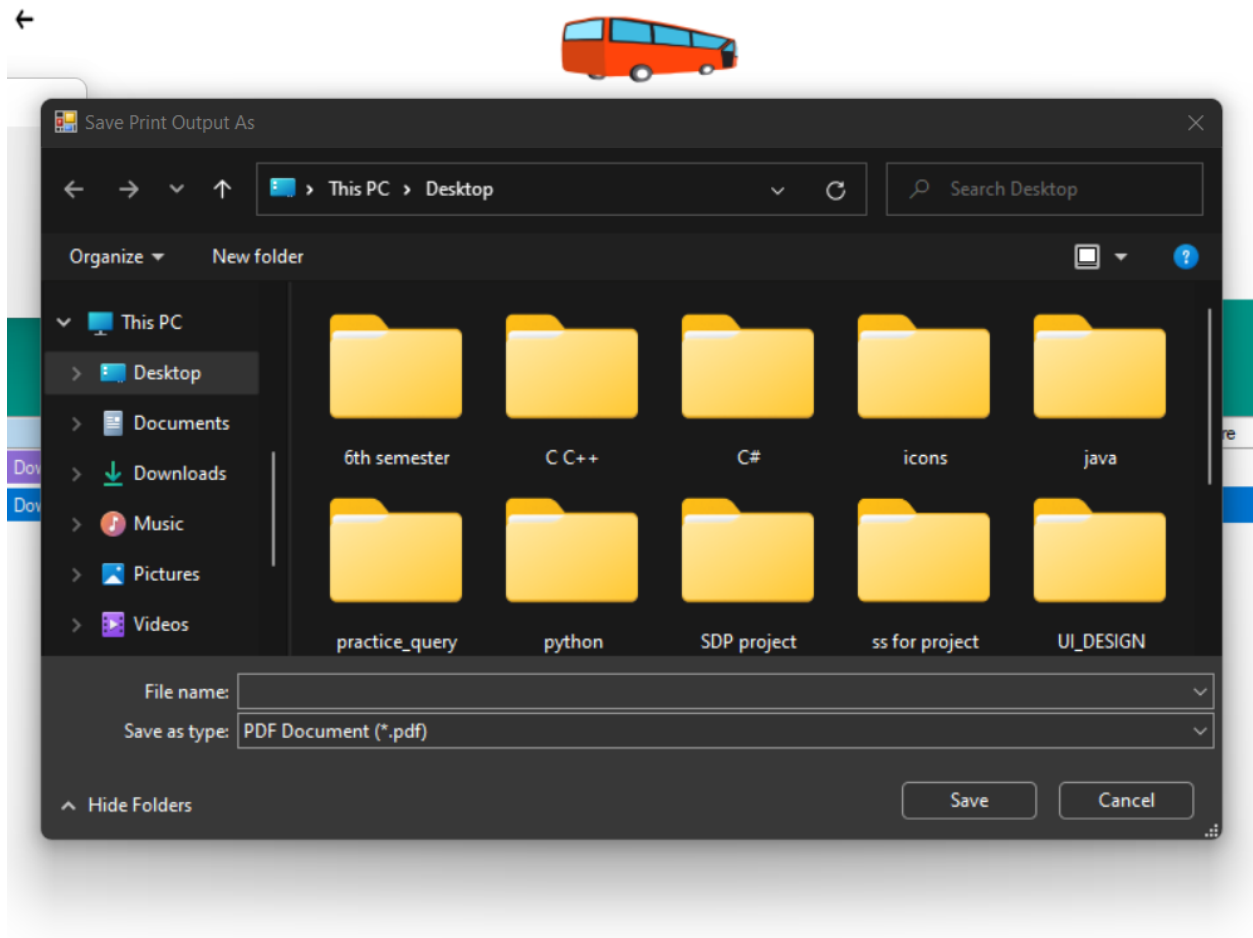


Figure 2.9: Set file name select folder

After saving the file a ticket [.pdf] can be seen in the selected folder. The ticket will look like the figure 2.10

CITY TRANSPORT

Ticket Code: CT598776AS

Issue Date: 02-03-2022

Passenger Name: Al Emam

Email: alemam242@gmail.com

Gender: Male

Journey Date: 03-02-2022

From: Mirpur-1

To: Gabtoli

Departure Time: 8 AM

Person: 1

Total Fare: 30 TK

Figure 2.10: Ticket View

In the ticket all the useful information of user and journey can be seen. No user will be able to travel without showing this ticket to the supervisor.

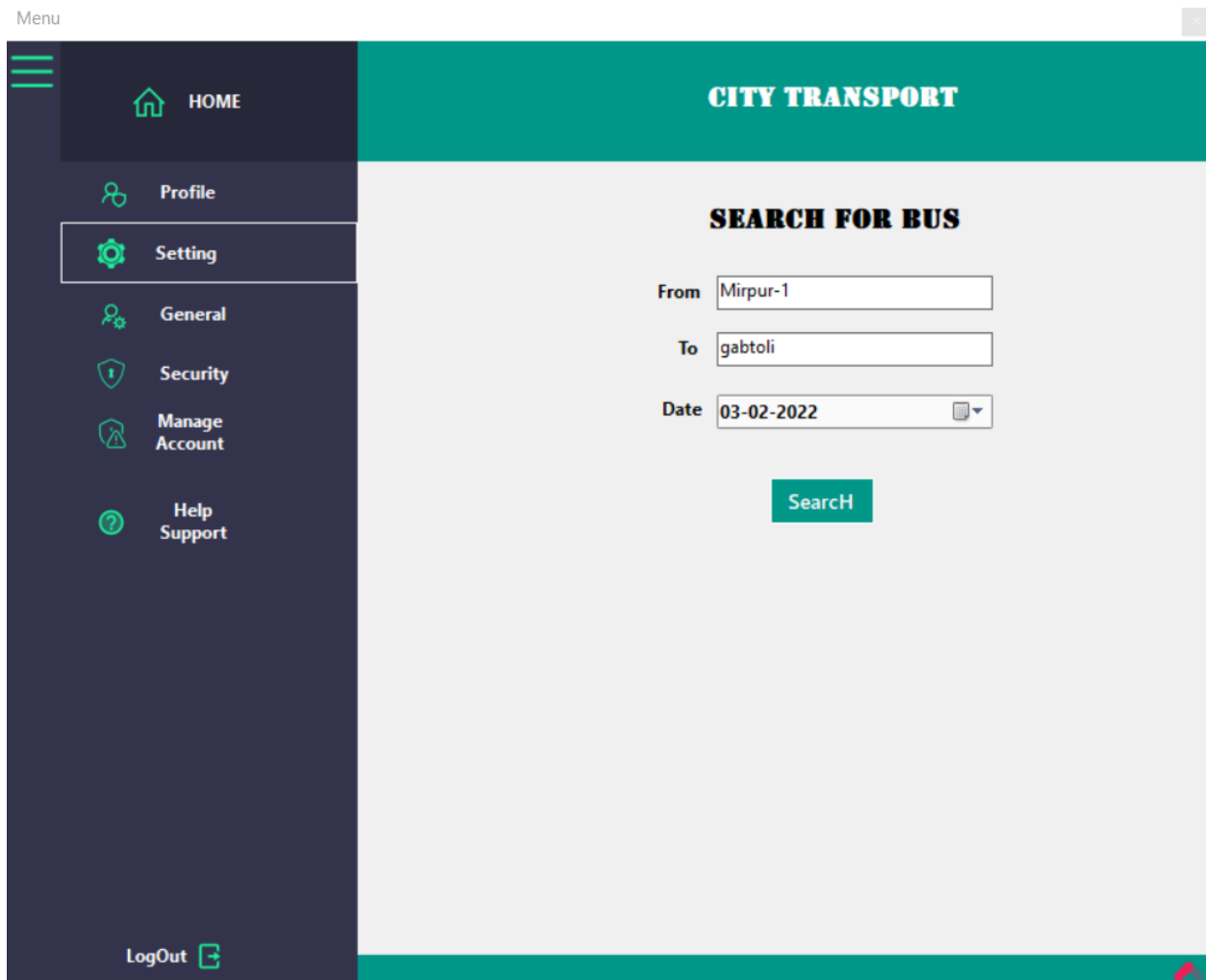


Figure 2.11: Other options in setting

There are three sub setting in the setting button which are '**General**', '**Security**' and '**Manage Account**'. And every sub setting has one more sub setting.

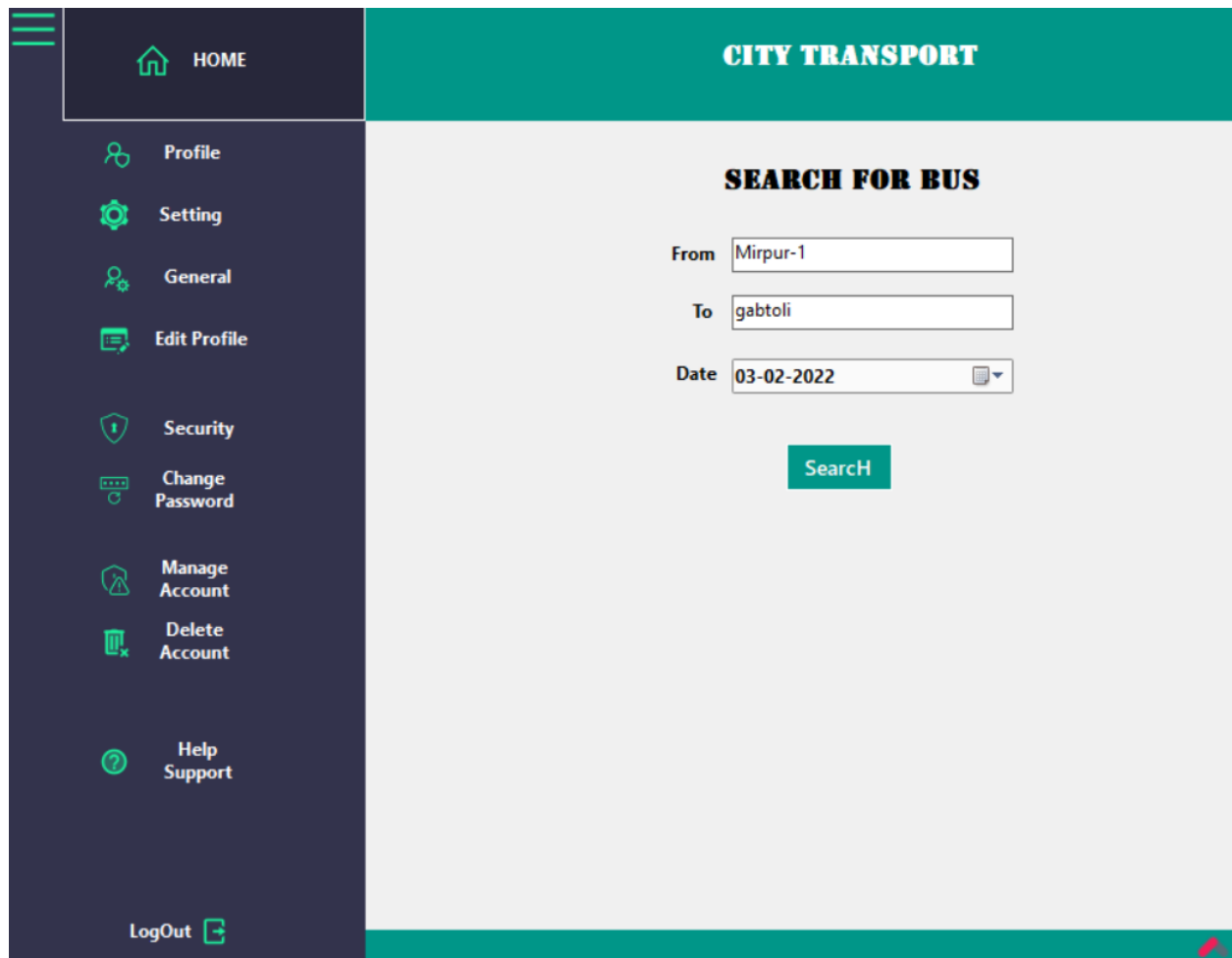
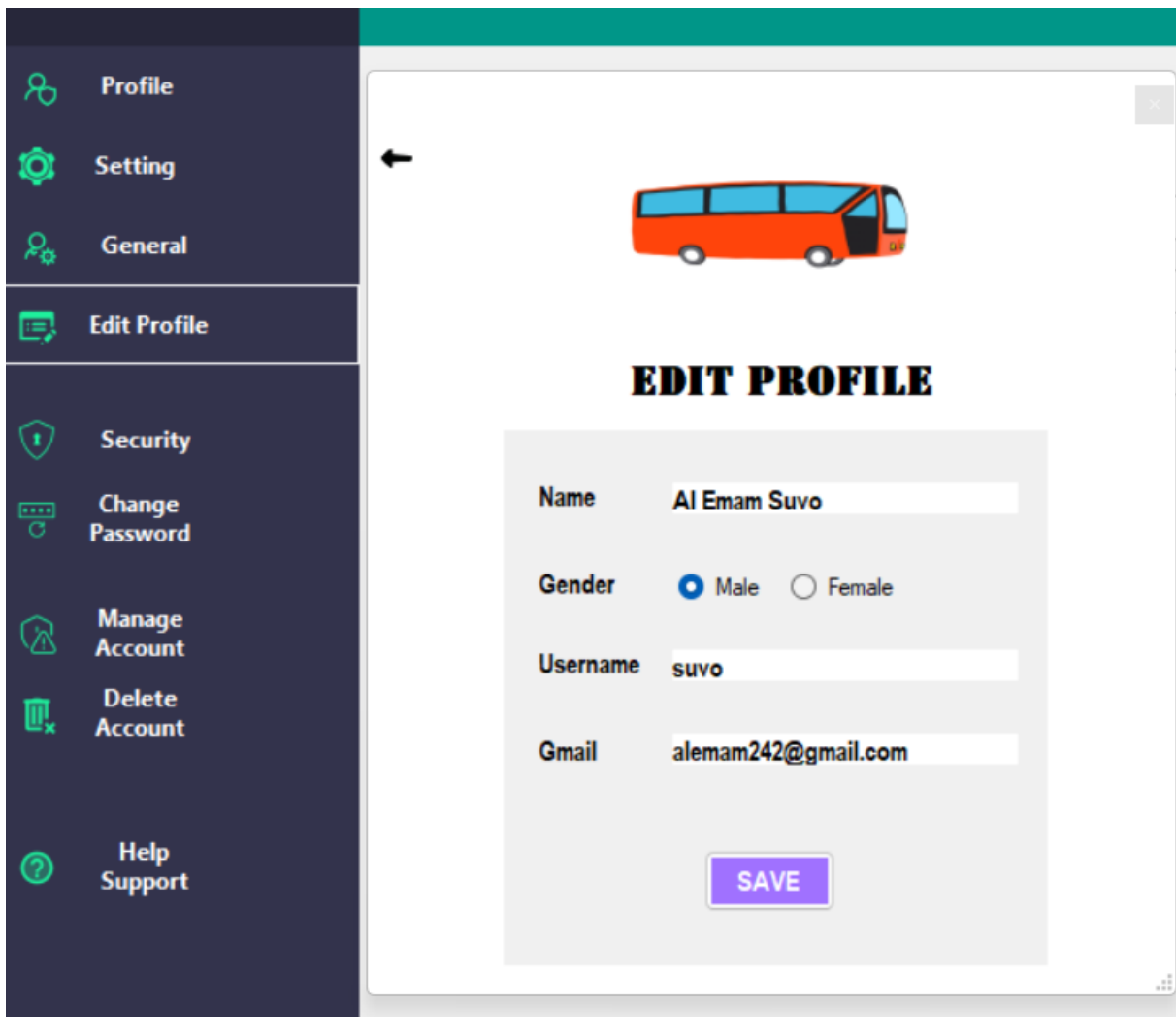


Figure 2.12: All the button and sub button in setting

In General setting there is a button called '**Edit Info**' and in Security setting there is a button called '**Change Password**' and in Manage Account setting there is a button called '**Delete Account**'.



Profile

Setting

General

Edit Profile

Security


Change Password

Manage Account

Delete Account

Help Support

←



EDIT PROFILE

Name

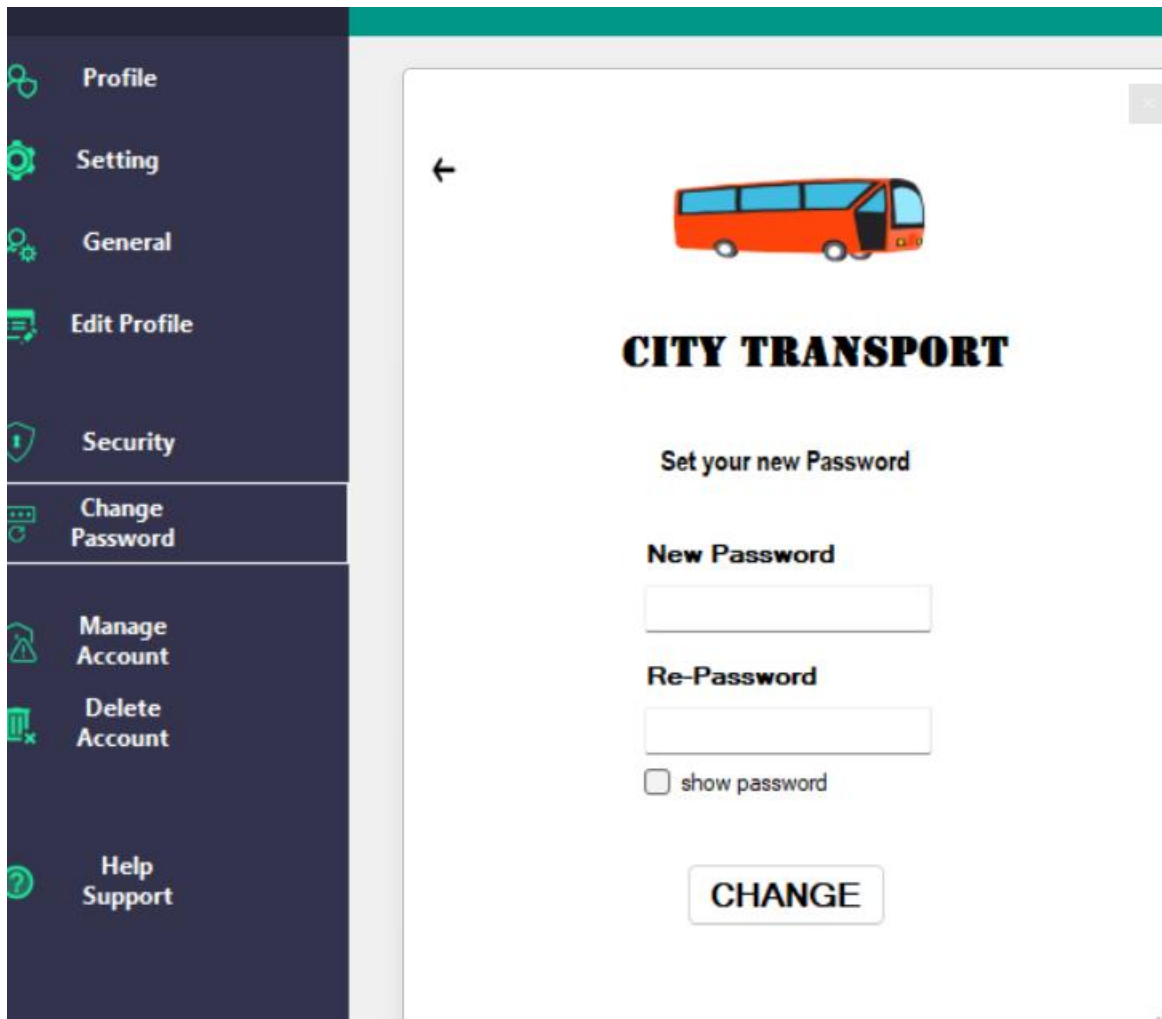
Gender ☒ Male ☐ Female

Username

Gmail

Figure 2.13: Edit Profile

User can edit/update their personal information from here.



Profile

Setting

General

Edit Profile

Security


Change Password

Manage Account

Delete Account

Help Support

←



CITY TRANSPORT

Set your new Password

New Password

Re-Password

☐ show password

CHANGE

Figure 2.14: Change Password

User can change their password by clicking on '**Change Password**' button.

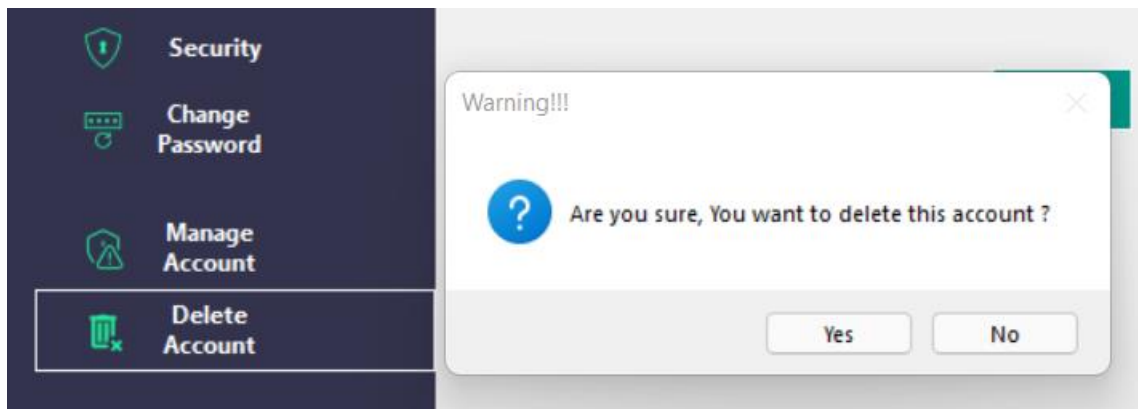


Figure 2.15: Delete Account

When user click on '**Delete Account**' button a warning message will appear. If user want to delete their account they can simply delete their account by pressing yes.

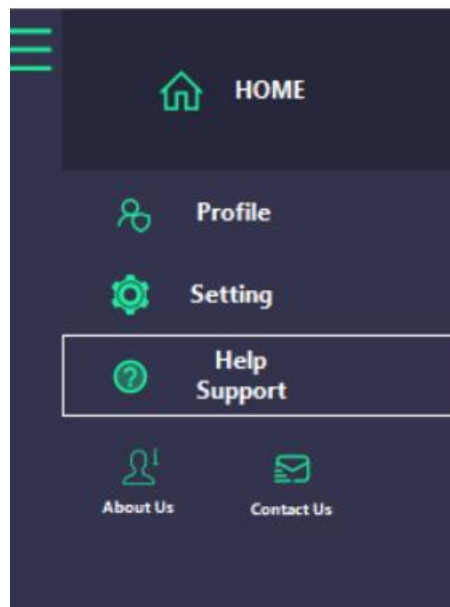


Figure 2.16: Help & Setting

Here user can see Developers details and also can see a mail for contact with us. If user ever face any problems they can inform us by the provided mail.


Menu

CITY TRANSPORT

SEARCH FOR BUS

From

To

Date 

	from_where	to_where	fare	time	bus_code	available_sit
<input type="button" value="Buy Ticket"/>	Mirpur-1	Gabtoli	30	8 AM	B101	40
<input type="button" value="Buy Ticket"/>	Mirpur-1	Gabtoli	40	8:30 AM	B102	40




Figure 2.17: Search for bus

User can easily search for bus if any bus available on the route info given by user. If available they can buy ticket for the bus by clicking on '**Buy Ticket**' button.



CITY TRANSPORT

TICKET BOOKING

Name	<input type="text" value="Al Emam"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
From	<input type="text" value="Mirpur-1"/>
To	<input type="text" value="Gabtoli"/>
Person	<input type="text" value="1"/>  
Email	<input type="text" value="alemam242@gmail.com"/>
Payment	CASH 

Confirm

Figure 2.18: Booking Ticket

User can update their mail and number of person in this page. After pressing on confirm button a download panel will appear. User can book ticket for maximum 4 people and minimum 1 people at a time.



CITY TRANSPORT

Download Ticket




Name	<input type="text" value="Al Emam"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
From	<input type="text" value="Mirpur-1"/>
To	<input type="text" value="Gabtoli"/>
Person	<input type="text" value="2"/>  
Email	<input type="text" value="alemam242@gmail.com"/>
Payment	CASH 



Figure 2.19: Download Ticket

After confirm the information for booking they can download their ticket easily from here. They can download their ticket from their profile which is shown in figure 2.7, 2.8, 2.9. And the photo of ticket is shown in figure 2.10.



CITY TRANSPORT

Username

SEARCH

Figure 2.20: Forgot password

By any chance if any user forgot their password, they can reset password by searching their account using valid username. If the given username found in our database, then they can reset their password.



CITY TRANSPORT

Email

SEND

OTP

VERIFY

Figure 2.21: Verification before reset password

The figure 2.21 shows that a verification mail will be sent to the user's email which is given by the user's when they register or they can change the mail too.

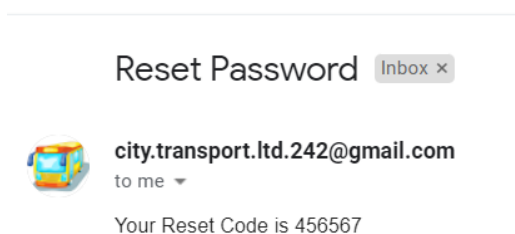
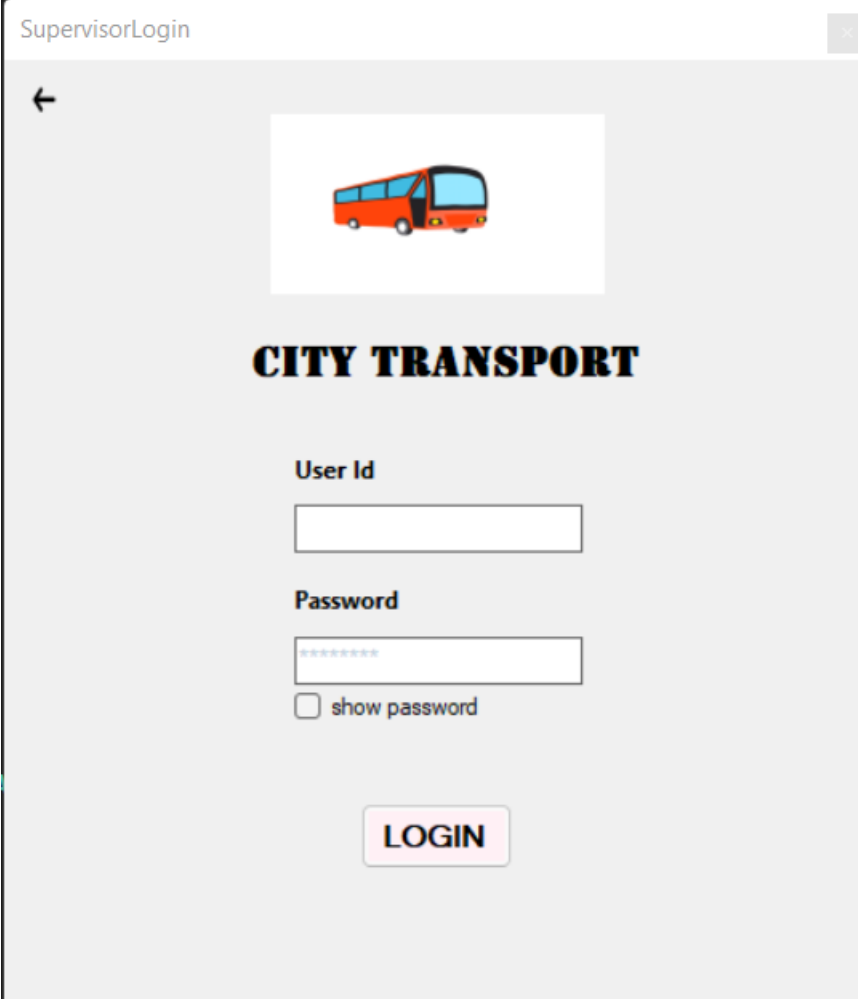



Figure 2.22: Verification mail for reset password



The image shows a web browser window titled "SupervisorLogin". Inside the window, there is a back arrow icon in the top left corner. In the center, there is a logo of a red bus with the text "CITY TRANSPORT" below it. Below the logo, there are two input fields: "User Id" and "Password". The "Password" field is masked with asterisks. Below the "Password" field, there is a checkbox labeled "show password". At the bottom, there is a "LOGIN" button.

SupervisorLogin

←



CITY TRANSPORT

User Id

Password

☐ show password

LOGIN

Figure 2.23: Supervisor Login page

This is supervisor login page. Here supervisor can login with his valid user id and password.

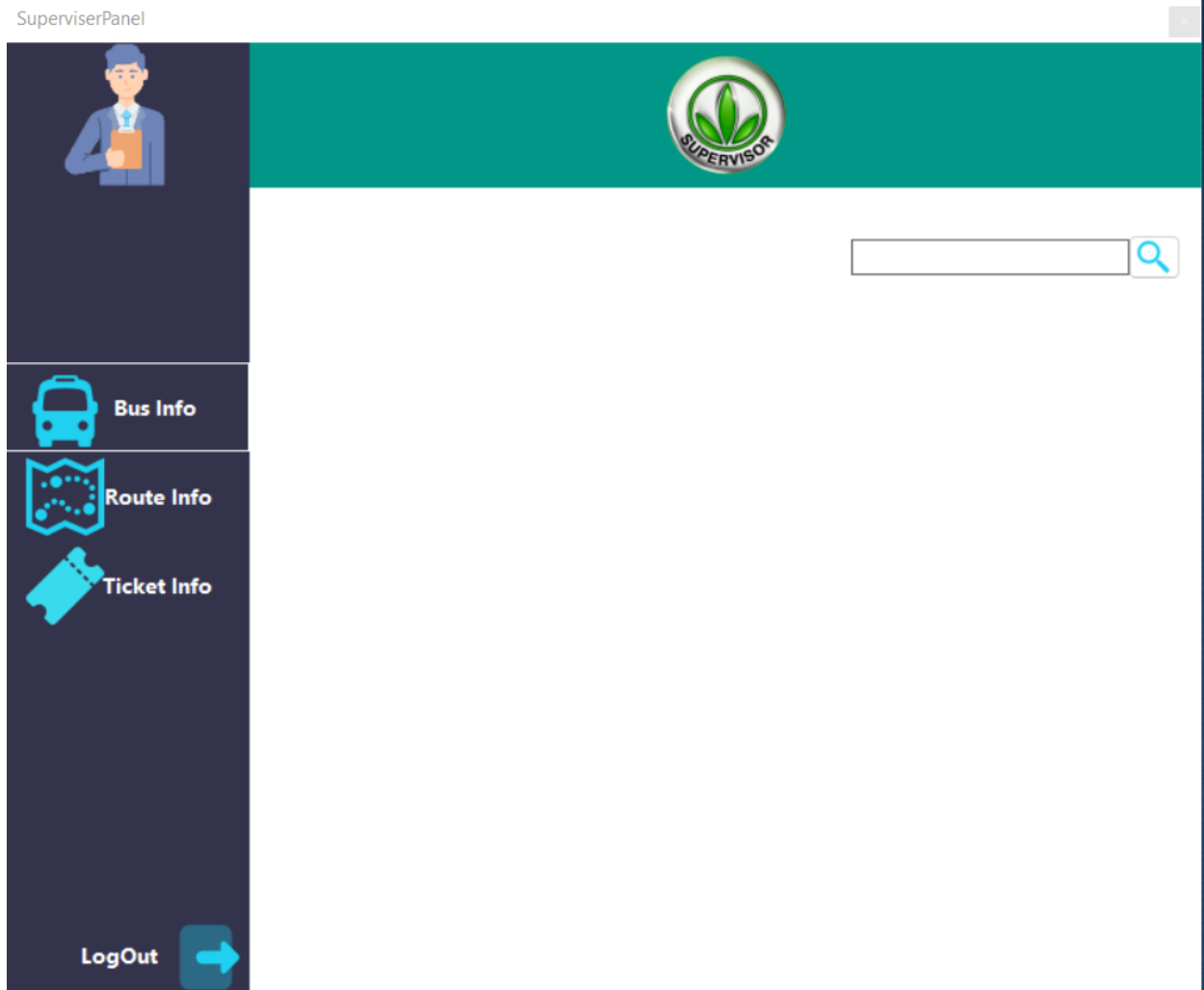
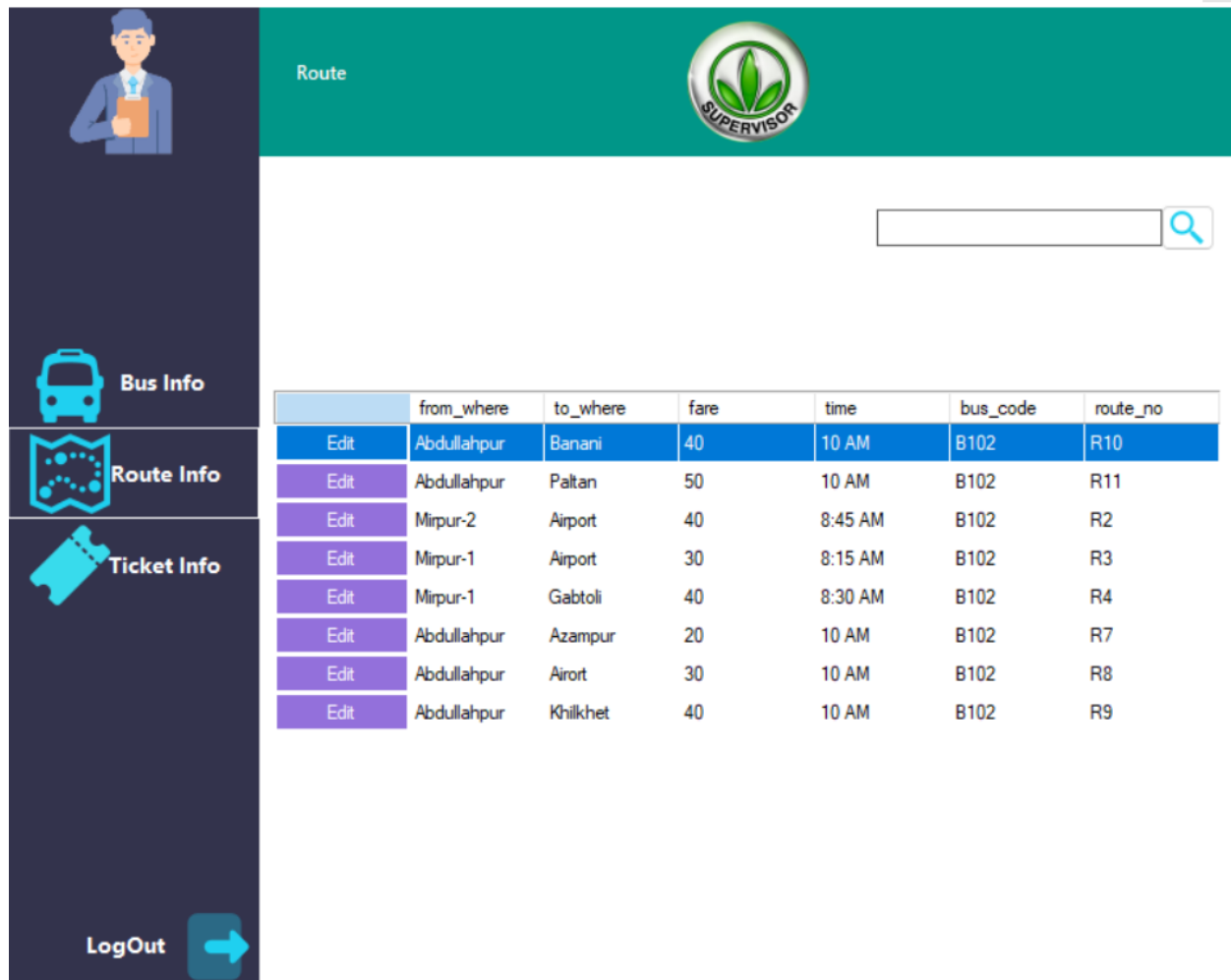


Figure 2.24: Supervisor panel

Here supervisor can see, edit, search for bus, route and ticket information.

SupervisorPanel





The Supervisor Panel interface features a dark blue sidebar on the left with icons for a supervisor, bus, route, and ticket, along with a 'Logout' button. The main area has a teal header with the word 'Route' and a circular logo. Below the header is a search bar. The central part of the panel displays a table of route information.





	from_where	to_where	fare	time	bus_code	route_no
Edit	Abdullahpur	Banani	40	10 AM	B102	R10
Edit	Abdullahpur	Paltan	50	10 AM	B102	R11
Edit	Mirpur-2	Airport	40	8:45 AM	B102	R2
Edit	Mirpur-1	Airport	30	8:15 AM	B102	R3
Edit	Mirpur-1	Gabtolli	40	8:30 AM	B102	R4
Edit	Abdullahpur	Azampur	20	10 AM	B102	R7
Edit	Abdullahpur	Airort	30	10 AM	B102	R8
Edit	Abdullahpur	Khilkhet	40	10 AM	B102	R9


Figure 2.25: Route Information in supervisor panel

Here Supervisor can see route information and update the time if the bus is late for any reason.

SupervisorPanel



**Bus Info**
**Route Info**
**Ticket Info**
LogOut 



	from_where	to_where	fare	time	bus_code	route_no
Edit	Mirpur-2	Airport	40	8:45 AM	B102	R2
Edit	Mirpur-1	Airport	30	8:15 AM	B102	R3
Edit	Airport	Mirpur-2	40	9 AM	B103	R5

Figure 2.26: Searching data

Supervisor can search for data from any table.

AdminPanel



CITY TRANSPORT

ADMIN LOGIN

Username

Code

Password

☒ show password

LOGIN

Figure 2.27: Admin Login panel

This is admin login panel. An admin verification mail will be sent after clicking on login button.

AdminVerification

**CITY TRANSPORT****ADMIN VERIFICATION**

OTP

732810

Resend OTP?

VERIFYAdmin Verification Inbox x

city.transport.ltd.242@gmail.com

to me ▾

Admin verification Code is 732810

Reply

Forward

Figure 2.28: Admin verification

After verification, admin will be able to enter the admin panel.

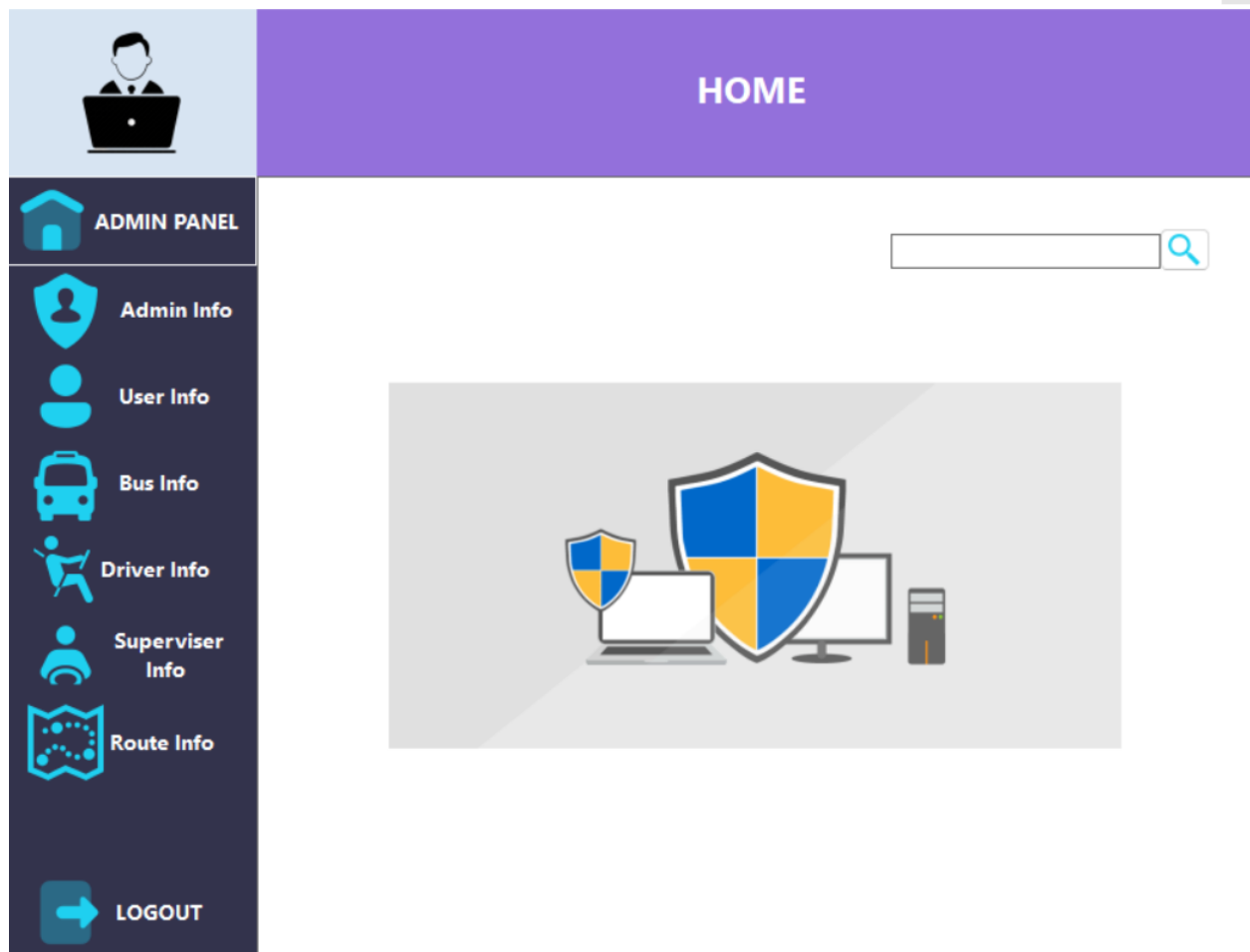
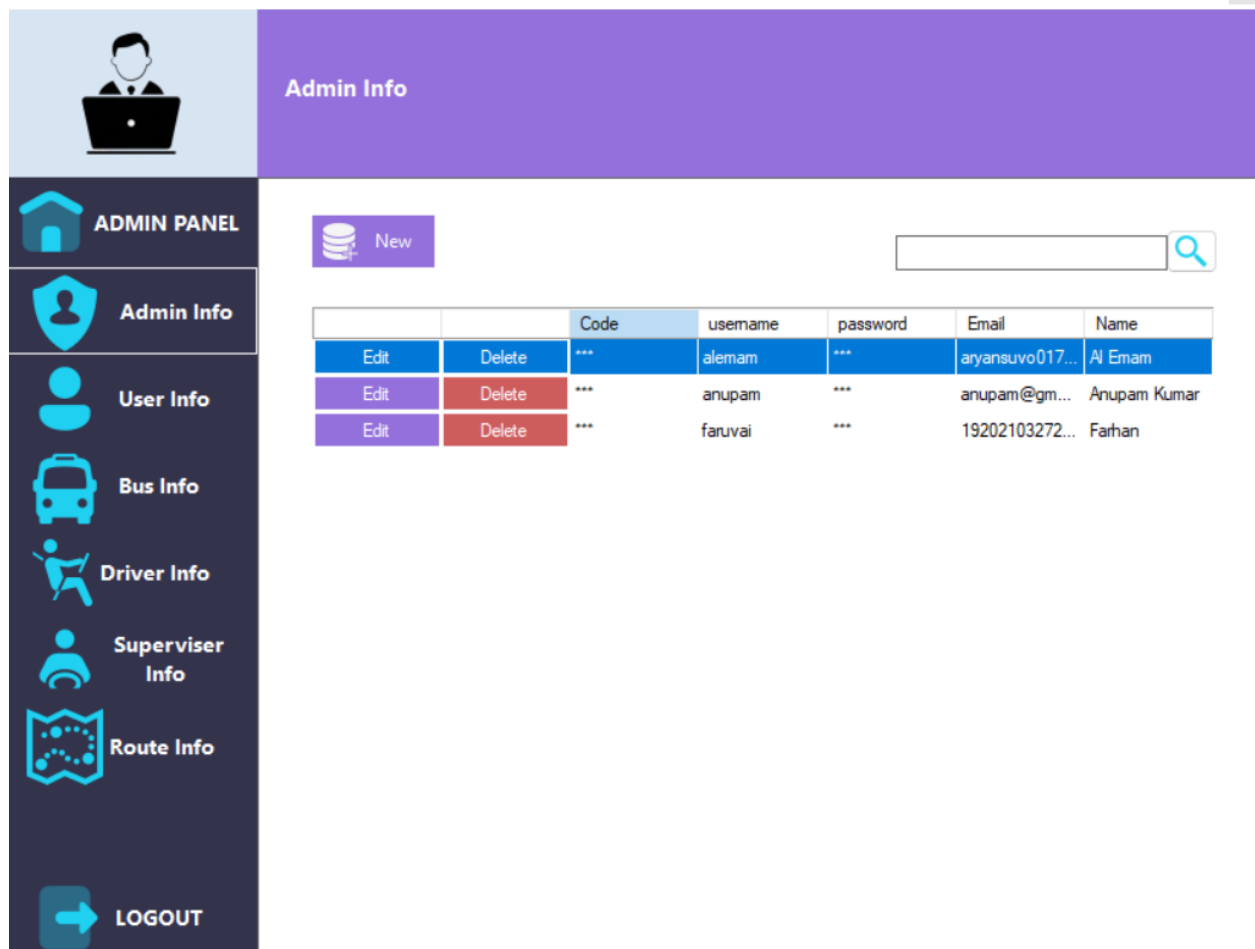


Figure 2.29: Admin Panel

In this page admin will be able to Create, Read, Update and Delete data from all tables except user table. But admin can only read and delete data from user table.

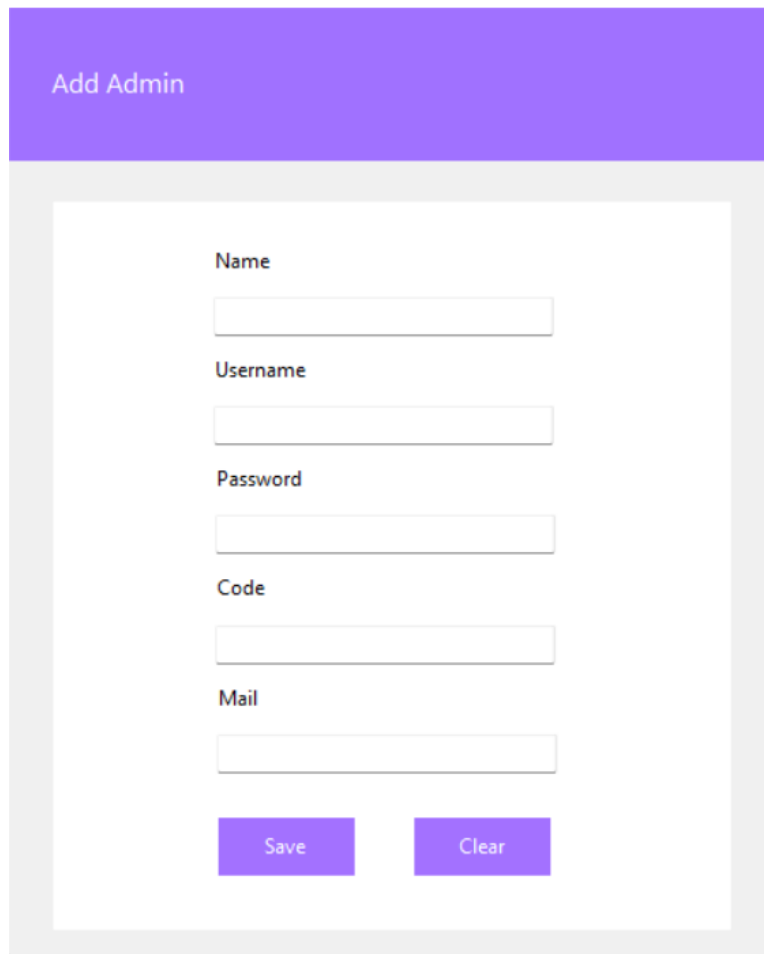


The screenshot displays an Admin Panel interface. On the left is a dark sidebar with icons and labels for 'ADMIN PANEL', 'Admin Info', 'User Info', 'Bus Info', 'Driver Info', 'Supervisor Info', 'Route Info', and a 'LOGOUT' button. The main content area has a purple header 'Admin Info'. Below the header, there is a 'New' button with a database icon and a search bar. A table displays user data with columns for Code, username, password, Email, and Name. Each row has 'Edit' and 'Delete' buttons. The table contains three rows of data.

		Code	username	password	Email	Name
Edit	Delete	***	alemam	***	aryansuvo017...	Al Emam
Edit	Delete	***	anupam	***	anupam@gm...	Anupam Kumar
Edit	Delete	***	faruvai	***	19202103272...	Farhan

Figure 2.30: Read data

The figure 2.30 shows that admin can read data from table.



The image shows a web form titled "Add Admin" with a purple header. The form is enclosed in a light gray border and contains five text input fields labeled "Name", "Username", "Password", "Code", and "Mail". At the bottom of the form are two purple buttons labeled "Save" and "Clear".

Add Admin

Name

Username

Password

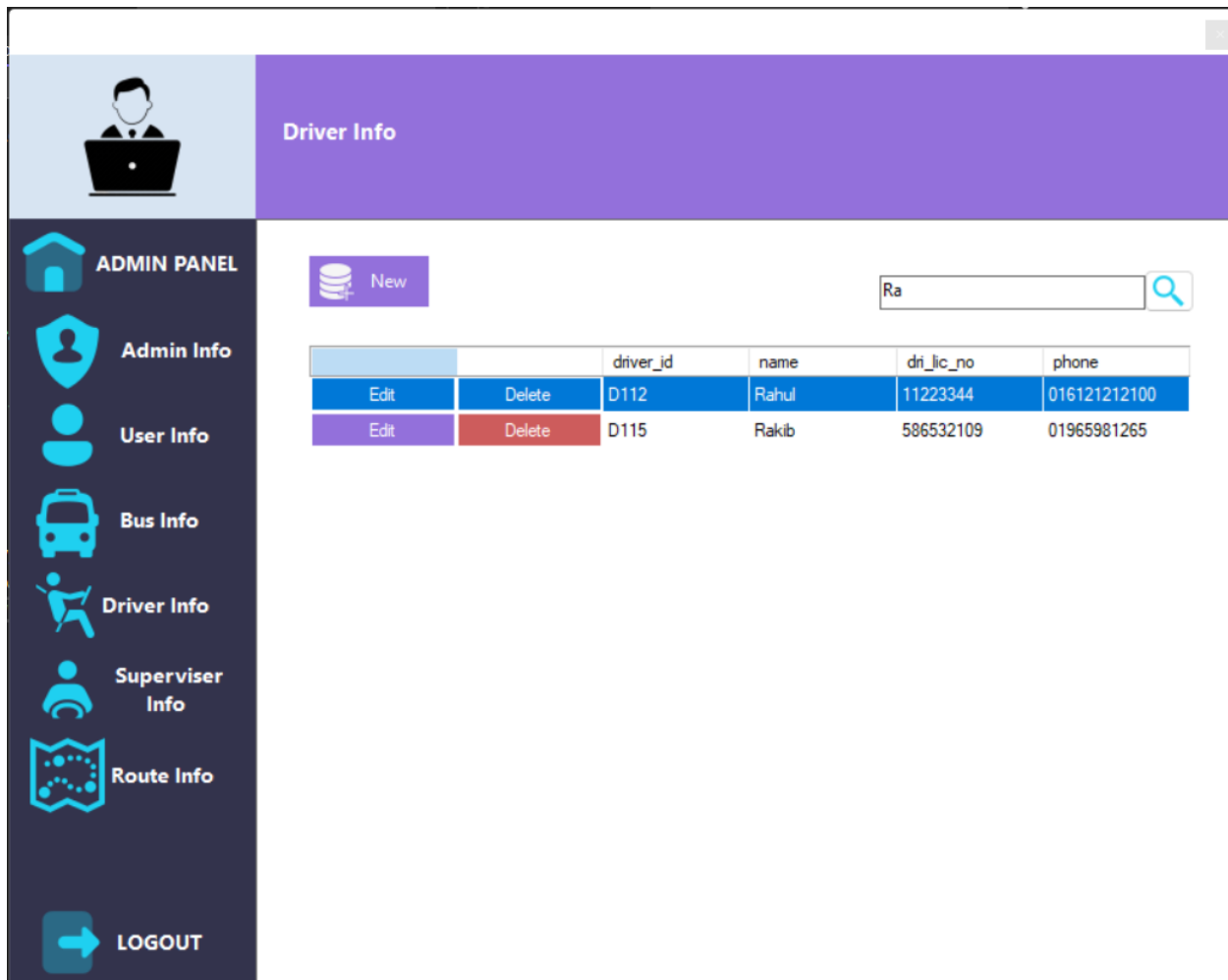
Code

Mail


Save Clear


Figure 2.31: Add new admin

The figure shows that user can add new data in any table except user table.



Driver Info

 New

Search: 

		driver_id	name	dri_lic_no	phone
Edit	Delete	D112	Rahul	11223344	016121212100
Edit	Delete	D115	Rakib	586532109	01965981265

Figure 2.32: Searching data from table

Here shown that data can be searched from any selected table.

The image shows a web application interface for editing route data. It features a purple header bar with the text "Edit Route". Below the header is a light gray border containing a white form area. The form contains six text input fields, each with a label above it: "Route.No" (value: R9), "From" (value: Abdullahpur), "To" (value: Khilkhet), "Fare" (value: 40), "Time" (value: 10 AM), and "Bus Code" (value: B102). At the bottom of the form are two purple buttons labeled "Save" and "Clear".

Field	Value
Route.No	R9
From	Abdullahpur
To	Khilkhet
Fare	40
Time	10 AM
Bus Code	B102

Figure 2.33: Update/Edit data

In figure 2.33 shown that admin can update data in any table except user table.

		from_where	to_where	fare	time	bus_code	route_no
Edit	Delete	Mirpur-1	Gabtolli	30	8 AM	B101	R1
Edit	Delete	Abdullahpur	Banani	40	10 AM	B102	R10
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R11
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R2
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R3
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R4
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R5
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R6
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R7
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R8
Edit	Delete	Abdullahpur	Khilkhet	40	10 AM	B102	R9

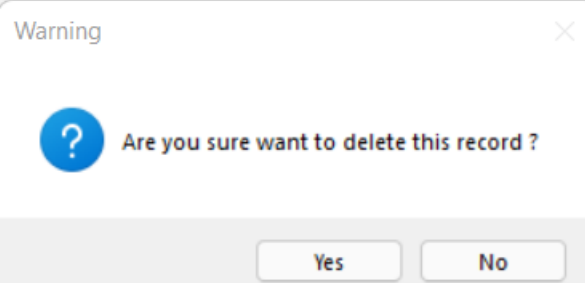


Figure 2.34: Delete data

The figure 2.34 shows that admin can delete data from any table.

That's is front end of our project here all feature shows serially.

Implementation of interactions

Implementation of interaction is the most important portion of framework. To make our application system we implement UI for better user experience and their opinion. we plan around carefully that the framework appeals to the user. We think the all sides of transport system user then we developed it. We construct each user's part with the utmost care that no matter what the user needs here. So, this is very user friendly and maintain easy.

Testing Implementation

When we test the specific function of software program that is also called testing. There are many types of software testing here we did two types of testing one is dynamic testing another is static testing. We test our project several times and that are produce batter performance for user. Our testing area user login, user registration, profile view, maintenance part, reset password, admin login, supervisor login, data (read, update, delete, create), comparison, download ticket etc.

CONCLUSION & FUTURE SCOPE

Discussion and Conclusion

By the graceful of Almighty ALLAH who is making us to create this project & documentation. After the long time thinking we think about this project to implement. After finishing this project, we also thankful to ALLAH for making us able to solve this. It will be very helpful to all. Our project is only a humble venture to satisfy the needs in course. The system can sufficiently and effectively handle day to day activities of the NOGOR PORIBOHON and when proper arrangements are met, the system will overcome all the current problems of the manual system. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

Scope for Further Developments

We have some extra curriculum to add in this City Transport Management system. Some of plans on this transport management system are

- Make market demandable transport management system for using all transportation system in this project.
- Make more secure, user friendly and easier.
- Add GPS on route in this City Transport Management System.
- Add more feature for make it more efficient.

APPENDIX

Project Reflection

In the second year last(6th) semester journey, we acquired more knowledge and experience to complete our second project. We are three group members in our team; all are support to complete our project successfully. Every group member is hard work to complete the final project and we huge time spend behind this project. When we start our project work, this time we did not know how to complete this project. But proper plan helps us to complete this project, when we complete our project 50% this time, we face big problem. We did not connect the database properly but we never demotivate when we go to our teacher, he supports us each and every time, and he helps all time and solve our problem easily. When we face any problem, we discuss together and solve this problem. Now I believe everything is possible, if we work together. After four months hard work, we complete our project properly. I believe this is not easy to complete before group work. Every time our teacher supports us when we face any problem. At last, we are grateful to Almighty ALLAH and our honorable sir **Shovon Roy** for his endless support and proper guideline throughout the session.

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