DIU Bus Speed Tracker and Pickup Point Services for Safety Concern

BY

TAUFIQUL ISLAM
ID: 162-15-7756

PALLAB PAUL PIAL
ID:162-15-7803
AND

JOHIRUL ISLAM
ID: 162-15-8169

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

Supervised By

Shah Md. Tanvir Siddique
Assistant Professor
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

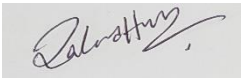
OCTOBER 2020

APPROVAL

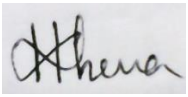
This Project titled " DIU Bus Speed Tracker and Pickup Point Services for Safety Concern, submitted by Taufiqul Islam (162-15-7756), Pallab Paul Pial (162-15-7803) and Johirul Islam (162-15-8169) to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on *7 October,2020*.

BOARD OF EXAMINERS

Dr. Syed Akhter Hossain — **Chairman**
Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Md. Zahid Hasan — **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Most. Hasna Hena — **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Dr. Mohammad Shorif Uddin — **External Examiner**
Professor
Department of Computer Science and Engineering
Jahangirnagar University

DECLARATION

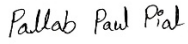
We hereby declare that, this project has been done by us under the supervision of **Shah Md Tanvir Siddique, Assistant Professor, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Shah Md. Tanvir Siddique
Assistant Professor,
Department of CSE
Daffodil International University

Submitted by:

Taufiqul Islam
ID: - 162-15-7756
Department of CSE
Daffodil International University



Pallab Paul Pial
ID: - 162-15-7803
Department of CSE
Daffodil International University

Johirul Islam
ID: - 162-15-8169
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to ours parents and thanks and gratefulness to almighty ALLAH. Our project would not have been possible without the blessing of them.

We are highly grateful to our respected supervisor **"Shah Md. Tanvir Siddique", Assistant Professor,** Department of **Computer Science and Engineering,** Daffodil International University, Dhaka, Bangladesh. Deep knowledge and his dynamic suggestions helps us to carry out of this project. His endless patience, scholarly direction, continual encouragement, constant and energetic supervision, constructive condemnation, valuable guidance, reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our sincere gratitude to **Dr. Syed Akhter Hossain, Professor and Head,** Department of **Computer Science and Engineering**, Daffodil International University, for his kind help to finish our project and also to other faculty member and the staff of **Computer Science and Engineering** department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

ABSTRACT

“DIU Bus Speed Tracker and Pickup Point Services for Safety Concern” is an android based project. This project helps to develop our transportation system more fluent. It can track every bus speed, make pick-up point to get bus easily, every student will know about bus fare and bus information. Basically, our project helps to create a healthy transportation system for our varsity students, teachers and employees. Daffodil International University is the fastest growing university of Bangladesh which have huge number of students, teachers and employees. Everyone knows our countries transportation system is very poor. It's hard to say that around 900 students are died in road accident in 2018.

TABLE OF CONTENTS

LIST OF FIGURES:

LIST OF TABLES

CHAPTER 1

INTRODUCTION

1.1 Motivation

Daffodil International University is the fastest growing university of Bangladesh which have huge number of students, teachers and employees. Everyone knows our countries transportation system is very poor. It's hard to say that around 900 students are died in road accident in 2018.

- To develop fluent transport system.
- To track speed limit.
- To make a pick-up point.
- To know about bus details.
- To know clear fear of bus.
- To create safety for DIU students.

1.2 Objective

- So, we will make an app which is mainly concern about reducing transport related problem for our University students, faculty and employees.
- Our system can able to track bus speed. Our application creates a limit of speed, if any bus cross that limit, we can get notification from this bus.
- Users can also track the position of buses through our application. Even users get the position information and about any bus how far from nearby bus stoppage when they are home.
- Users can get the actual bus fare specifically.
- Users can get the bus information (Drivers and helpers' number, Bus route, stating time etc.

6. To save time.

1.3 Expected Outcome

Our Application is android base. Nowadays almost everyone using Smartphone. So, our application can be used simultaneously by our expected users.

Some features of our application:

1. Bus speed tracking
2. Bus stoppage
3. Manual 'pick me-up' point by using E-currency from Identity card
4. Bus Information
5. Bus-fare (Current stoppage to Destination)

1.4 Report Layout

Chapter 1: Introduction

In this chapter we will talk about this project motivation, objective and expected outcome.

Chapter 2: Background Study

This chapter we will discuss literature review, comparative studies and scope of the problem of this project.

Chapter 3: Requirement Specification

This chapter we will brief our requirement for the system. Requirements are machine learning python libraries.

Chapter 4: Design Specification

This chapter is discussed about font end and back end design of this system.

Chapter 5: Implementing and Testing

This chapter contain the test result and implementing of this system.

Chapter 6: Conclusion and Future Work

This chapter we discussed about this project conclusion and future scope of work.

1.5 Future Scope

- We will create a website for all aspect bus service management**.**
- Recharge ID card Via Bkash, Nexus-pay etc.

CHAPTER 2

BACKGROUND

2.1 Introduction

Transportation is a very important things to the urban area of a country. It's very important to its big cities. Capital of a country is often very populated. Everyday many people have to reach their desire destination in time. So, transportation is very important in big cities, like Dhaka. Daffodil International University is one of the biggest universities of Bangladesh. We have more than 30,000 students and teachers in our university. And the university has three different campus in three different places. Our university has a big transportation system with many buses and cars. So, we are working on a project named "DIU Shuttle" that is mainly work along with the transportation system to make travels smooth and safe. By using our application one can easily travel from any route to the university or from one campus to other campus with "DIU" buses.

2.2 Related work

Bus management system application helps travelers in many ways. Such as in fare, comparison, conditions, routes etc. There are many bus managements related application throughout the world.

WanderU is mainly special in providing transportation service in north America. And also, it is provided service to the United States, Canada and Mexico. You can also book tickets for planes, trains, and hotels. WanderU let one choice wi-fi service, toilets, power outlets, extra legroom, air-conditioning etc.

BoltBus, formally known as Greyhound an intercity bus service that rivals Megabus and the "Chinatown-bus" services of the East Coast. These buses tend to be more efficient, modern and clean than typical greyhound service. With more amenities like wi-fi and power. These buses rivals between major cities in the USA. This application let one finds routes, book tickets etc. passengers can also find option for special needs if necessary.

FlixBus is a bus application which is mainly provided service in Germany. And it's provided affordable services for all. One can get special discount or vouchers if available. FlixBus typically offers multiple drop-oof/pickup locations in large cities. One can get routes alert through texts.

Busradar provides services in Europe and Great Britain. The apps let one find routes and view buses on a map. It shows destination location all time and one can extend destination point through the app.

redBus only serves a handful of countries, this app now covers buses in India, Singapore, Malaysia, Indonesia, Peru, and Colombia. One can search routes, and also one can select seats through the application.

Figured 2.1: Related applications.

2.3 Comparative Studies

Bus management system application has main target to help people in finding routes, concept about true fare, bus location tracking, seat managing etc. Most of the related work applications mainly work on that way. There is a application named “FlixBus”, with this application one can see the routes, track bus location, can get discounts etc. And the bus application show drop-off points and pickup points etc. in bus travel safety also very important things.

At this point our idea of speed tracking system is a system that can track bus speed. If one bus cross speed limit for 3 times it will notify the admin at once. So, the all people in the bus will safely reach their destination. Our university has huge number of teachers and students and their safety is our first concern through traveling so we add this feature to our bus managing system.

2.4 Challenges

To reach the primary goal, a quiet number of challenges can be found. This bus management application will so much complex that first time one may not use this app easily. But after using sometime it will be easy to them. For this application we need a big server and all the connection will be complex. So, the managing of server will complex. We need experts for this purpose. And she/he has to work so well. And all this cost much money.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business process modeling

The project is aimed to transport students and teachers of daffodil international university safe and soundly. All the process will start after login to the system. There are three types of login. One is "**User login**", (three are two types of user. Student users and teacher users). Two is "**Driver login**" and the three is "**Administration login**".

First of all, "User login". In "user login or rider login" user can directly login into the system. If the user is new to the system, he/she will have to registration first. Then he/she have to login to the system app. Firstly user will come on the real-time map page. After that, user can go into different options through a navigation bar. User can check fare, routes, stoppage, bus location, check notice, give feedback and most importantly can reserve a bus through reservation option. Then user can return into real-time maps page, then end task.

Secondly, at the "administration login" admin have to login into the system through a specially given email, password. For admin, he has to login into the system with a website. Firstly, admin will come on the main page of website. From where he can navigate all controls to run the system. He can add or delete driver, bus, stuff, user in database. He/she can check all the feedback, can give notice for all user and driver. Admin can grant or decline the reservation for buses. If he grants the reservation, he has to allocate a bus for the reservation and give a massage to the user who wish to reserve a bus. If admin dismiss the reservation a massage will also generate to the user. Then he/she can return to the main page and end task.

In third is "Driver login "option. Here a driver has to login first to enter the system. First the driver will come on the real-time map. After that he can navigate into different option through a navigation bar. He can see bus stoppage, check fare, check notice, give feedback, can logout to remove bus from the map, can see routes maps etc. If his bus is reserve for a day, he will be informed by a reservation time and place.

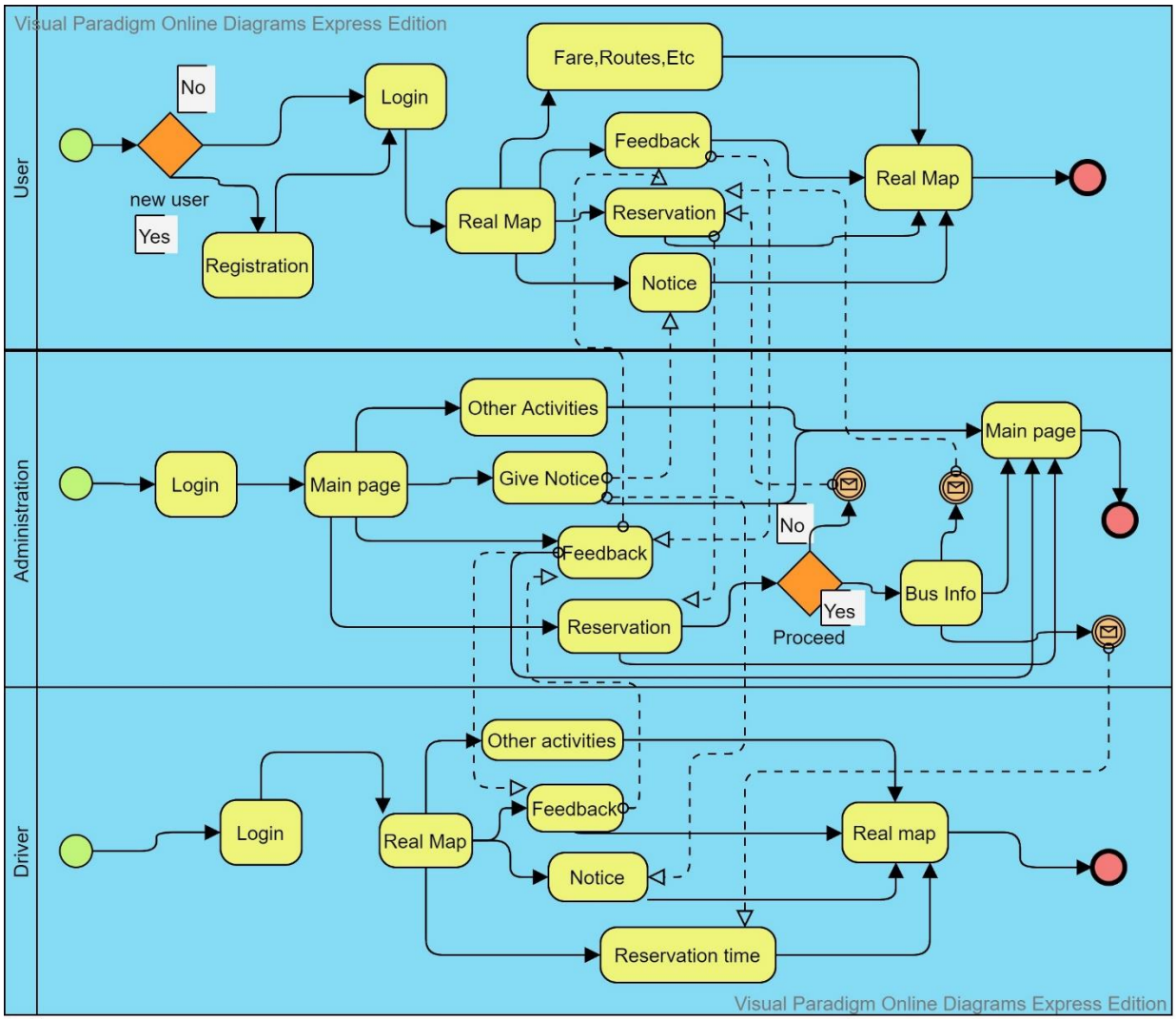


Figure 3.1: Business Process Model

3.2 Requirement Analysis And collection

3.2.1 Software Requirement

- Android Studio IDE: Android Studio is Android's official IDE. It offers tools custom-tailored for Android developers, including rich code editing, debugging, testing and profiling tools.

- Android Virtual Device: An Android Virtual Device (AVD) is a device configuration that runs on an Android emulator. It provides virtual device-specific android environment in which one can install and test our android application.

- Database (MongoDB and MySQL): we have to use two type of database for different purpose. We use MongoDB database for our real-time map. MongoDB is a most popular database provider for modern apps. It gives a very suitable database environment for android and iso apps. We also use MySQL database for stored other types of data. Like emails, passwords, location of stoppage, fare information etc.

- Adobe XD: Adobe XD is the Adobe prototyping tools for user experience and interaction designers. Adobe XD features are used for creating wireframes, prototypes and Screen designs for digital products such as websites and module apps.

3.2.2 Hardware Requirements:

- Operating system: Windows
- Android supported device
- Computer configuration:

  - RAM- 8GB (min)

  - Hard Disk 150GB (min)

  - Processor- 1.5GHz (min)

3.3 Use-Case Modeling and Description

A use case model is a graphic description of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. Figure-3.3 shows the use case modeling of the application.

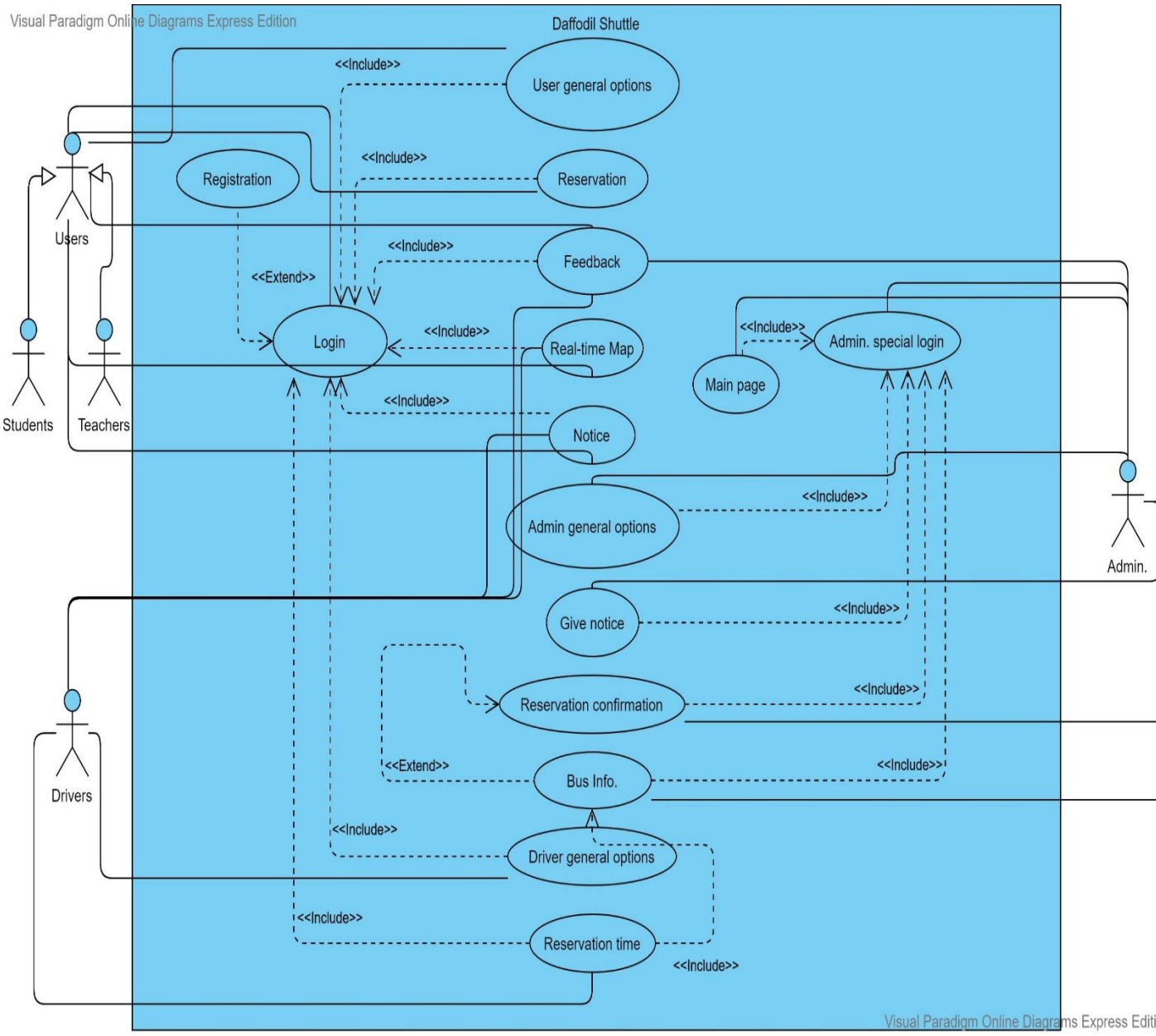


Figure 3.2: Use-case diagram

Use-Case Details

Use-case of Registration:

Table: 3.1

Use-case Name:	**Registration.**
Use-case details:	"User" has to registration first if they are new to the system.
Pre-condition:	
Actor:	"User or Rider" .
Post-Condition:	

Use-case for Login:

Table: 3.2

Use-case Name:	**Login.**
Use-case details:	Both "User" and "Driver" have to login to enter into the system application.
Pre-condition:	
Actor:	"User or Rider", "Driver" and "Admin".
Post-Condition:	

Use-case of User general option:

Table: 3.3

Use-case Name:	**User general option.**
Use-case details:	This use case has some for features to smooth the user experience. Like calculate fare, see stoppage, routes, profile, etc.
Pre-condition:	Login
Actor:	User or Rider.
Post-Condition:	

Use-case of Reservation:

Table: 3.4

Use-case Name:	**Reservation**

Use-case details:	This use-case diagram is for reserve a bus for the users.
Pre-condition:	Login
Actor:	"User or Rider"
Post-Condition:	

Use-case of Feedback:

Table: 3.5

Use-case Name:	**Feedback**
Use-case details:	This option of use-case diagram is use to give some travel experiences or objections, or some comments to the administration.
Pre-condition:	Login.
Actor:	"User or Rider" and "Driver"
Post-Condition:	

Use-case of Real-time Map:

Table: 3.6

Use-case Name:	**Real-time Map.**
Use-case details:	The option is mainly work to show live bus location, select destination, User location.
Pre-condition:	Login.
Actor:	"User or Rider" and "Driver"
Post-Condition:	

Use-case of Notice:

Table: 3.7

Use-case Name:	**Notice.**
Use-case details:	This option is mainly use for show any notice from the administration.
Pre-condition:	Login.
Actor:	"Rider" and "Driver"

Post-Condition:	

Use-case of Admin general options:

Table: 3.8

Use-case Name:	**Admin General Options**
Use-case details:	This option has some features which is control by the administration to manage the whole system. Like add or delete buses, routes, stuff, drivers, users etc.
Pre-condition:	Login.
Actor:	"Admin"
Post-Condition:	

Use-case of Give Notice:

Table: 3.9

Use-case Name:	**Give Notice.**
Use-case details:	This use-case option for giving any notice for the system.

Pre-condition:	Login
Actor:	Only “Admin” can use the option.
Post-Condition:	

Use-case of Reservation Confirmation:

Table: 3.10

Use-case Name:	**Reservation Confirmation.**
Use-case details:	This use case diagram option is for confirm reservation or decline the reservation. This option is only available for administration.
Pre-condition:	Login.
Actor:	“Administration”
Post-Condition:	If reservation is confirmed, Then, next use-case is “Bus Info.”

Use-case of Bus Info:

Table: 3.11

Use-case Name:	**Bus Info.**
Use-case details:	This option is used for allocate bus for the student, who is wished for a bus reservation.
Pre-condition:	"Reservation Confirmation"
Actor:	"Administration".
Post-Condition:	"Reservation Time"

Use-case of Driver General Option:

Table: 3.12

Use-case Name:	**Driver General Option**
Use-case details:	This option has some features which is used by the drivers only. Like see own bus, bus route, reservation time own profile etc.
Pre-condition:	Login.
Actor:	"Driver".
Post-Condition:	

Use-case of Reservation Time:

Table: 3.13

Use-case Name:	**Reservation Time.**
Use-case details:	This option is used for only when a bus is reserved for a day. Driver can visit this option and check his reservation time for that day.
Pre-condition:	"Login"
Actor:	"Driver".
Post-Condition:	

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end design

An android application is made by two parts. One is the front-end design (XML), and the other is back-end design, which is constructed with "JAVA" code and sometimes with "Database". All user interacts with front-end design of the app. So, the design of front-end part of the have to more charming and easy for the users.

4.1.1 Splash Screen

The app starts with a splash screen that contains the logo first.

Figure 4.1.1: - Splash Screen

4.1.2 Option for “Rider” or “Driver”

After the splash screen the app starts with option that ask the user if he/she use the app as “rider” or as” driver.” Then the login procedure will start. User can login with the email that university is provided. If he/she is new to the system then he/she has to register with the system.

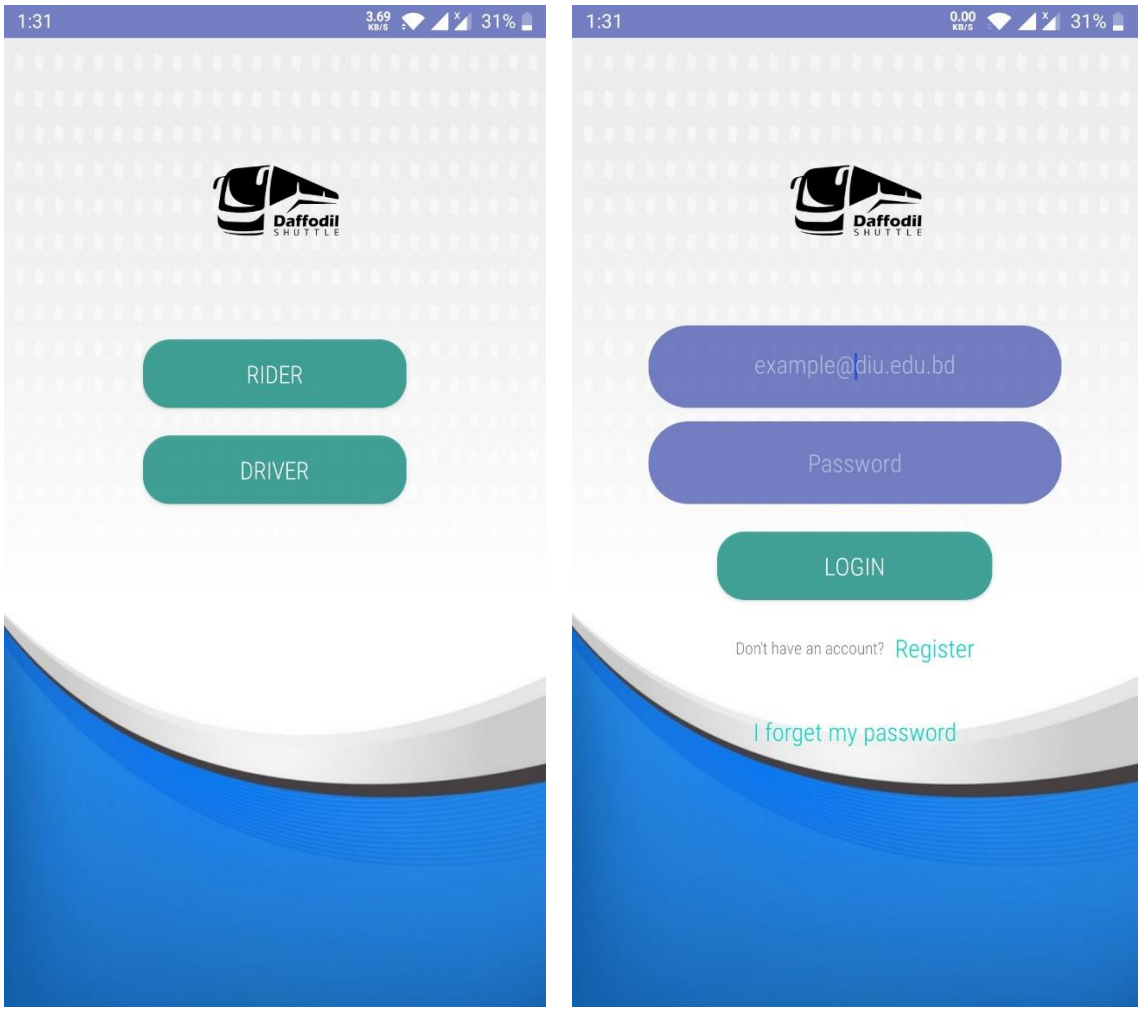


Figure 4.1.2: - Rider or Driver Option & Login Page.

4.1.3 Signup Form (Rider Interface)

To sign up to the system user has to put the verified email that university is given. Then there will be the signup page. Then he/she has to put correct information and password.

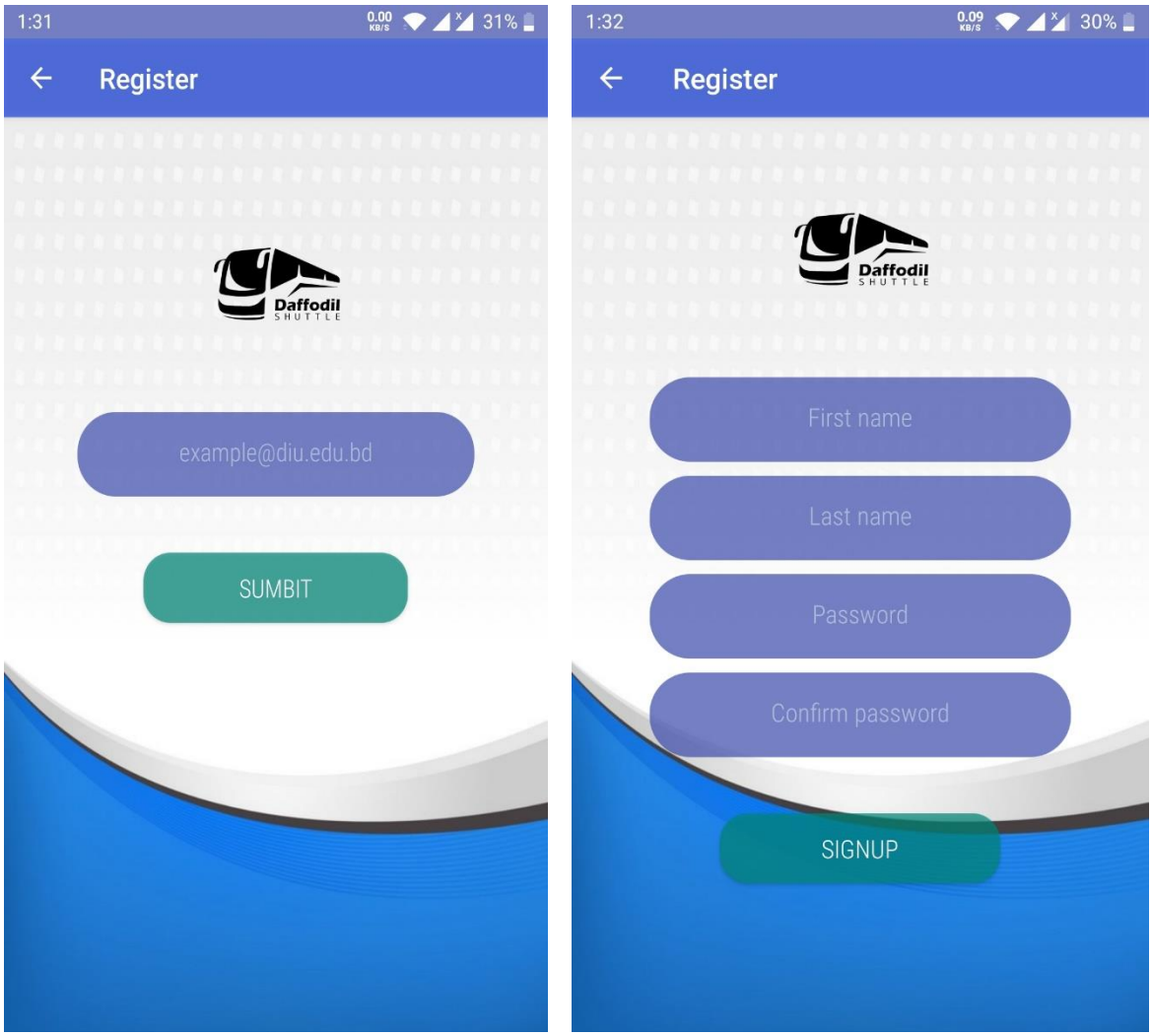


Figure 4.1.3: - Signup Form

4.1.4 First page view (Real-time Map) & Navigation Bar (Rider Interface)

Into the first page there will the real-time maps where user can see his position by the help of mobile "GPS". He can search the location. And can get bus. Then after clicking the navigation drawer button he can see a navigation tool bar. Where he can see all options available for using the app and control his profile.

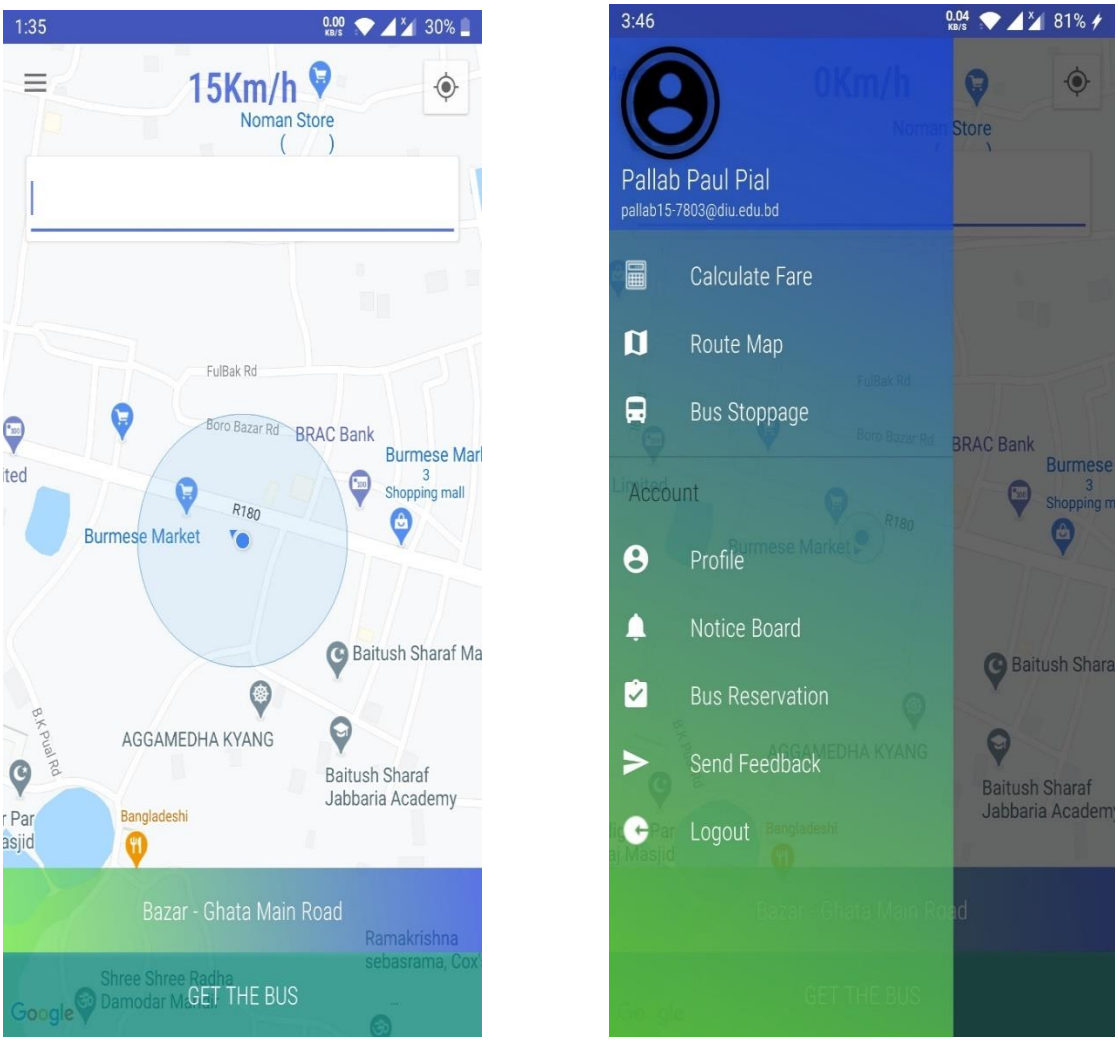


Figure 4.1.4: - Real-time Maps and Navigation Bar

4.1.5 Calculate Fare (Rider Interface)

In this section user can check bus fare from their stoppage to their destination. First they have to put their location bus stoppage name then put their destination stoppage. And click on calculate button. It will show the fare.

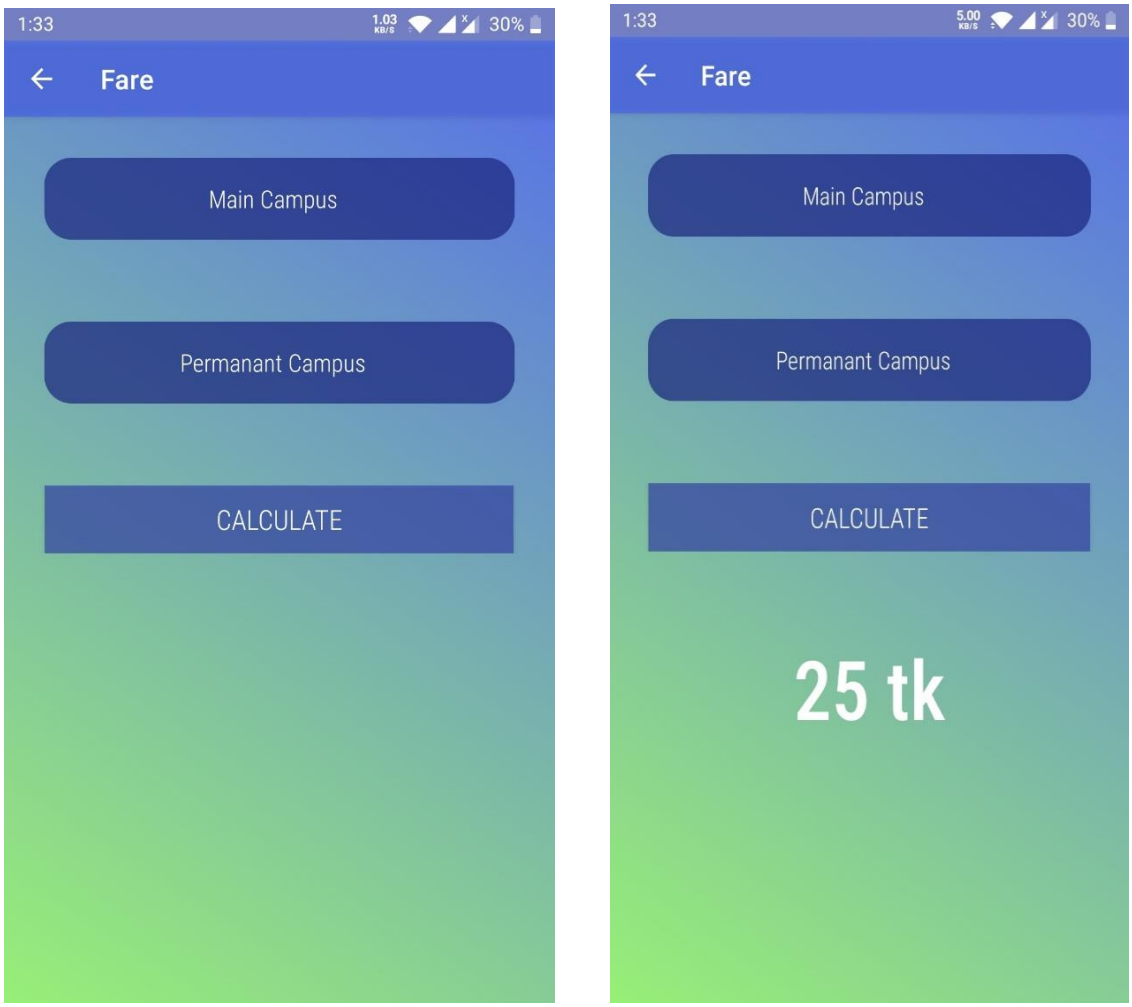


Figure 4.1.5: - Calculate Fare

4.1.6 Route Maps & Bus Stoppage (Rider Interface)

In **Route Maps** & **Bus stoppage** section rider can see all the routes where buses will travel. And in the bus stoppage point he/she can see all the bus stoppage points. So, they can wait there until the buses come.

Figure 4.1.6: - Route Maps & Bus Stoppage

4.1.7 Profile & Notice Board (Rider Interface)

In **Profile** section user can see his name and email address. And he can also change his old password. In **Notice Board** section user can see notice about the transport. The notice will be generated by administration. And it will broadcast to all user.

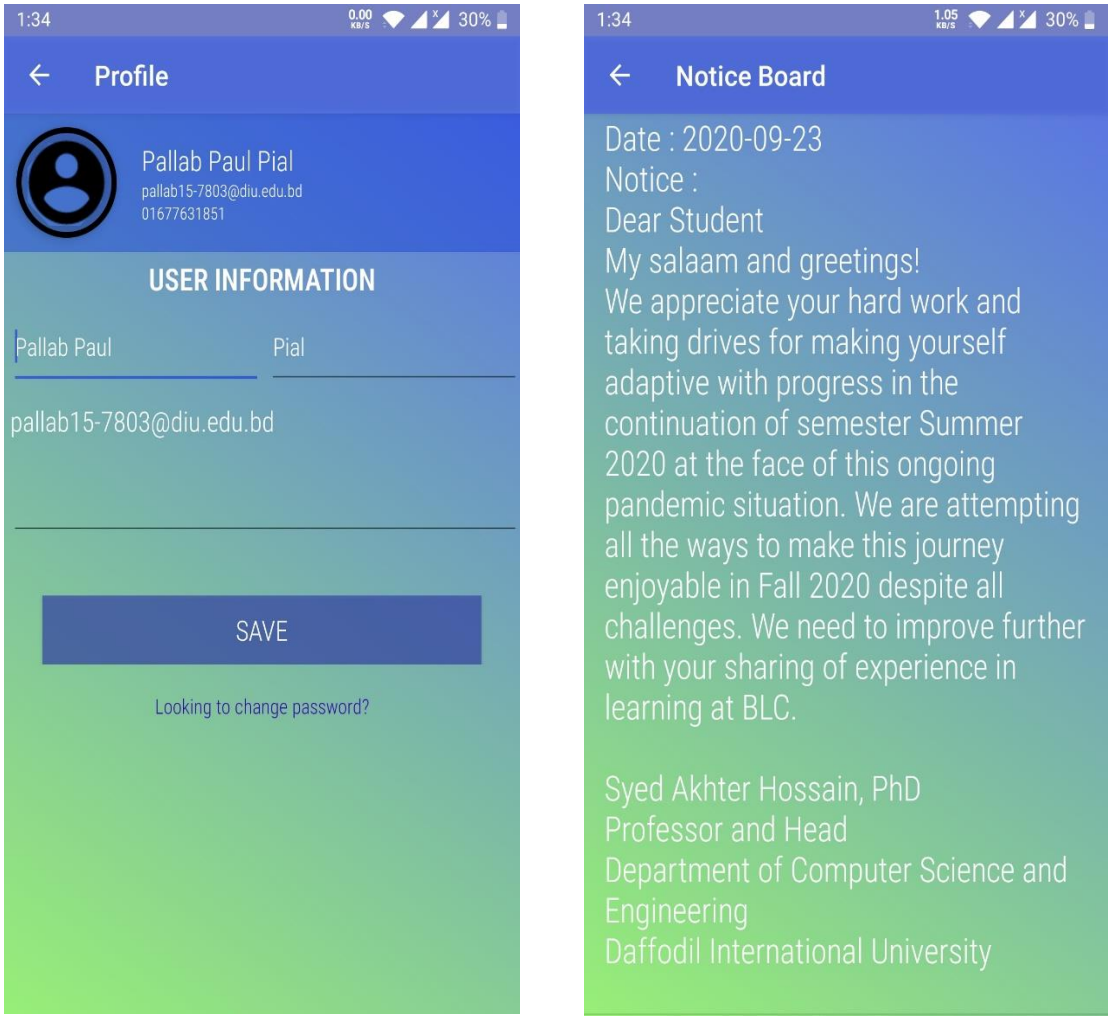


Figure 4.1.7: - Profile & Notice Board

4.1.8 Bus Reservation & Feedback (Rider Interface)

In **Bus Reservation** section one can reserve a bus for sometimes to go permanent campus or main campus. For that he/she has to fill up a reservation form with proper details of purpose. The reservation can be granted or declined by the administration. In **Feedback**

section one review the service he/she get. And can write something about anyone with proper details. The feedback will be directly shown to the admin.

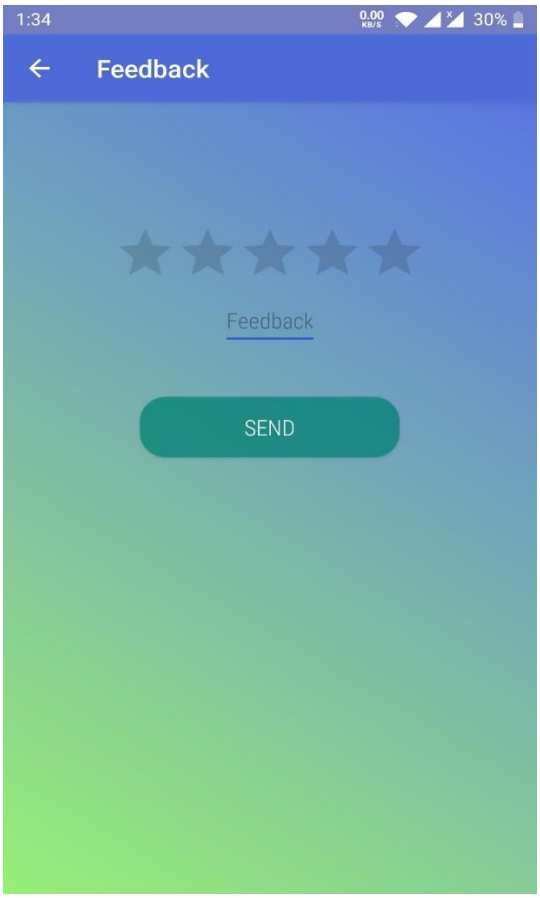
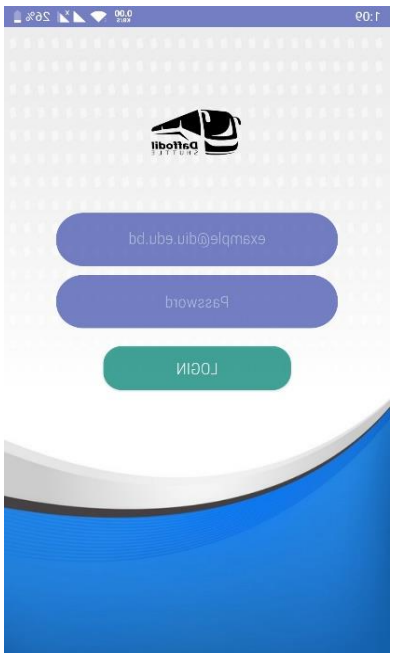


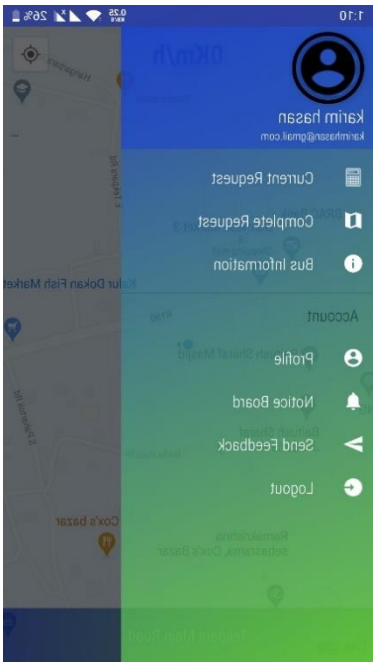
Figure 4.1.8: - Bus Reservation & Feedback

4.1.9 Driver Login Interface

In driver login option, driver can only login to his account with proper email and password given by “Admin.” After that firstly he can see the real-time map. After

clicking the navigation drawer button, he will see the all options available. In **Current Request** section he can see the request done by the users, if his bus is at minimum distant from the exact user. After taking the user he will click the **complete request** button. Also, he can see the **bus information**, edit his **profile**, can send **feedback** to the admin. In below section there are some driver login interface.





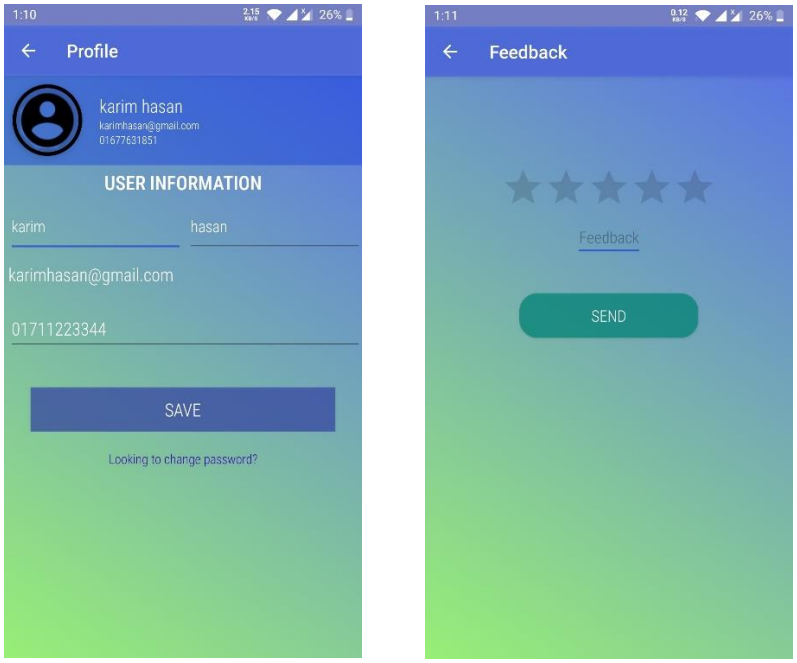


Figure 4.1.9: - Driver login and app interface

4.1.10 Admin panel

For (Figure 4.10) Admin panel we have a web-based page which only will access by Admin. Web page link is here DIU Shuttle Admin App and Gmail : admin@gmail.com password : 123456 . From this page an admin will see bus schedule, how many buses we have for today, if any bus is having trouble admin will notify by this page which all user will see through apps.

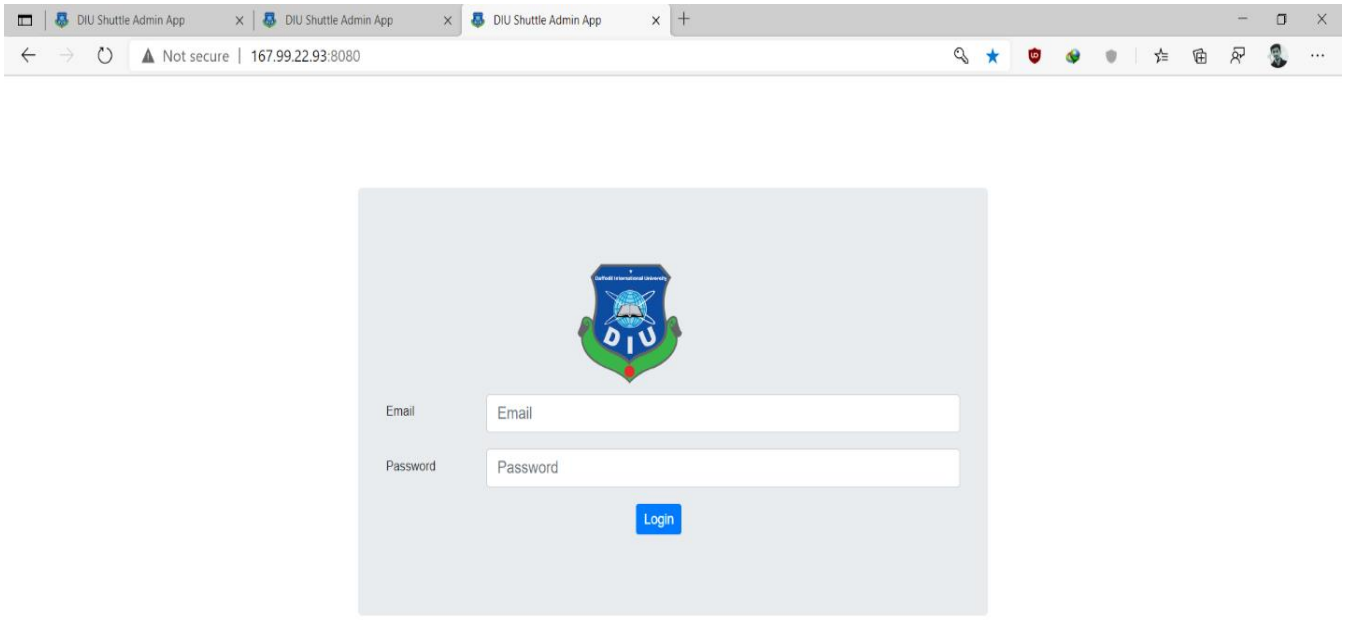


Figure 4.1.10: - Admin login

From this page Admin add schedule. If admin wants delete or add schedule they will.

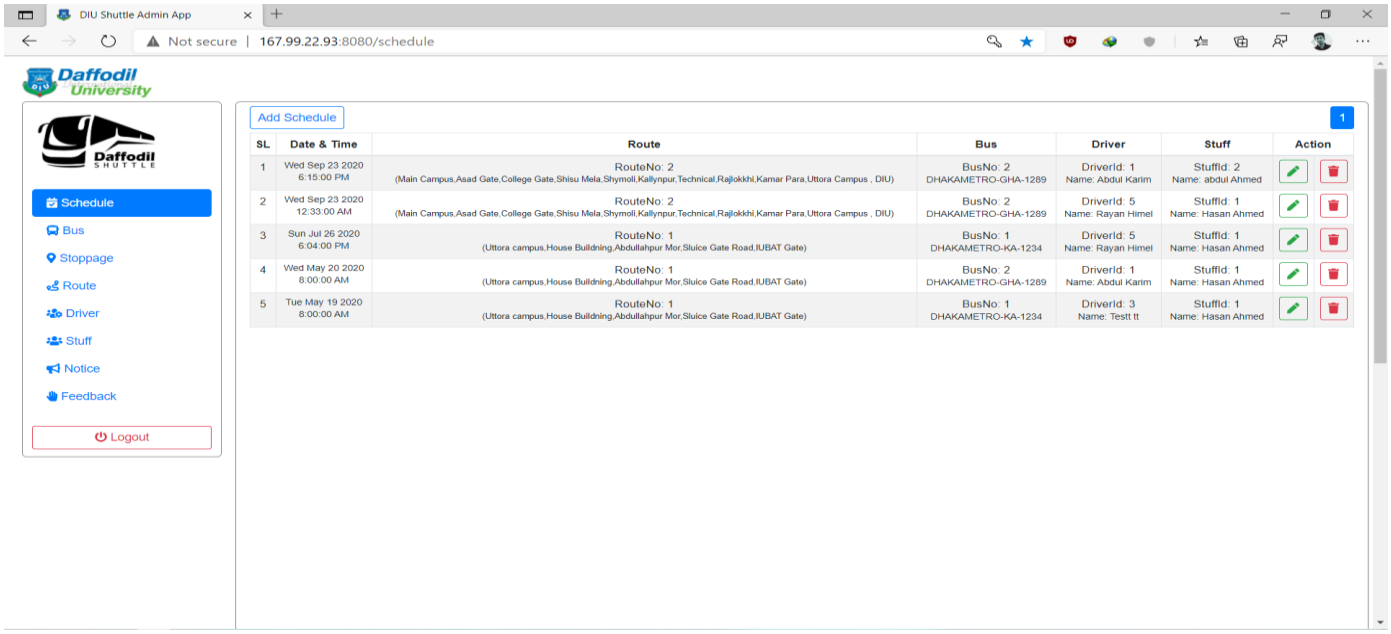


Figure 4.1.11: - Bus Schedule

Admin Add bus and will see notifications if there any trouble issues.

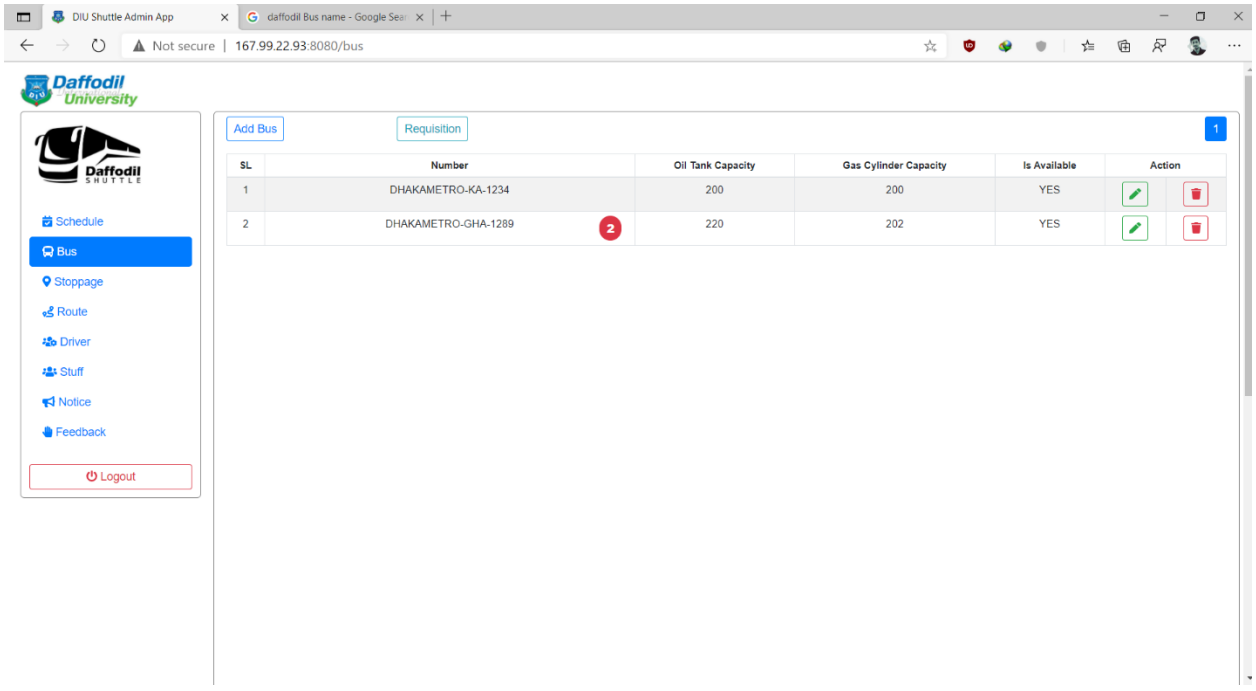


Figure 4.1.12: - Bus Details

Here all bus stoppage which control by admin. Admin add stoppage and delete stoppage if there is need.

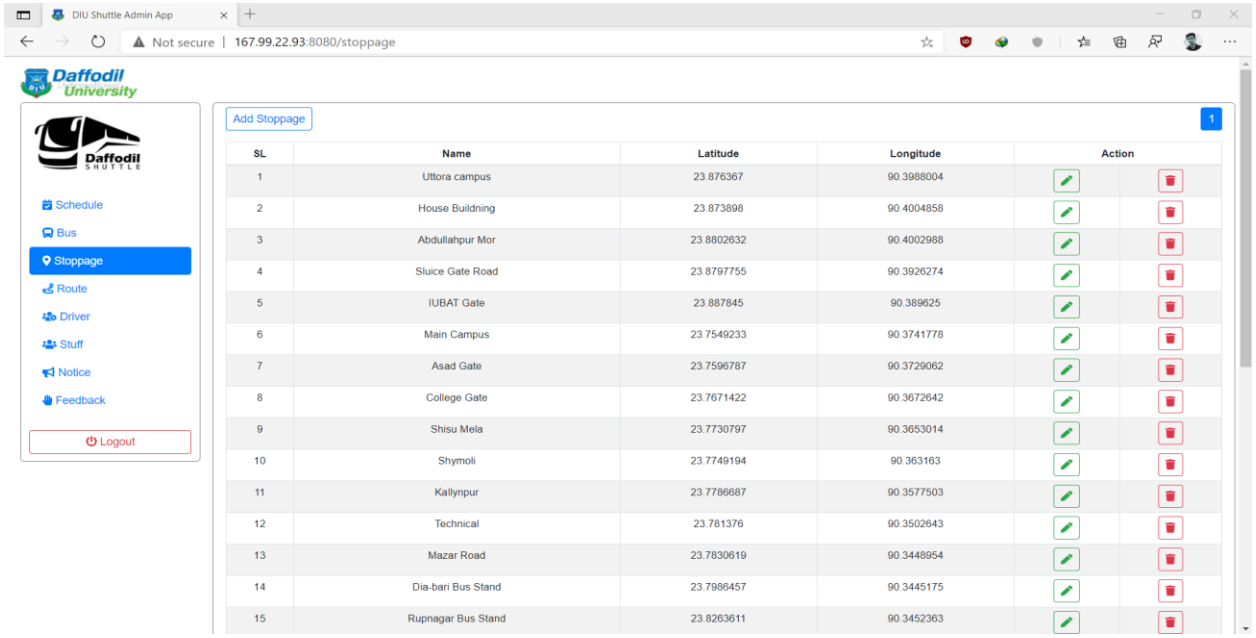


Figure 4.1.13: - Bus Stoppage

Add route by select bus stoppage.

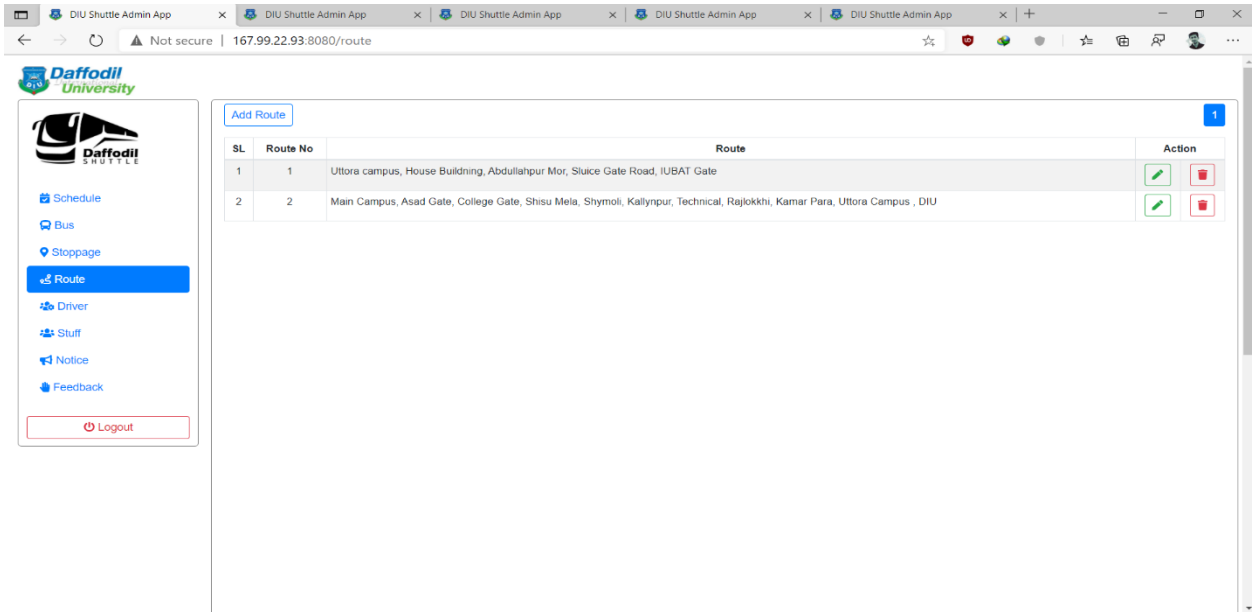


Figure 4.1.14: - Route List

Driver add UI. Admin adds new driver by adding first name, last name and their own email id.

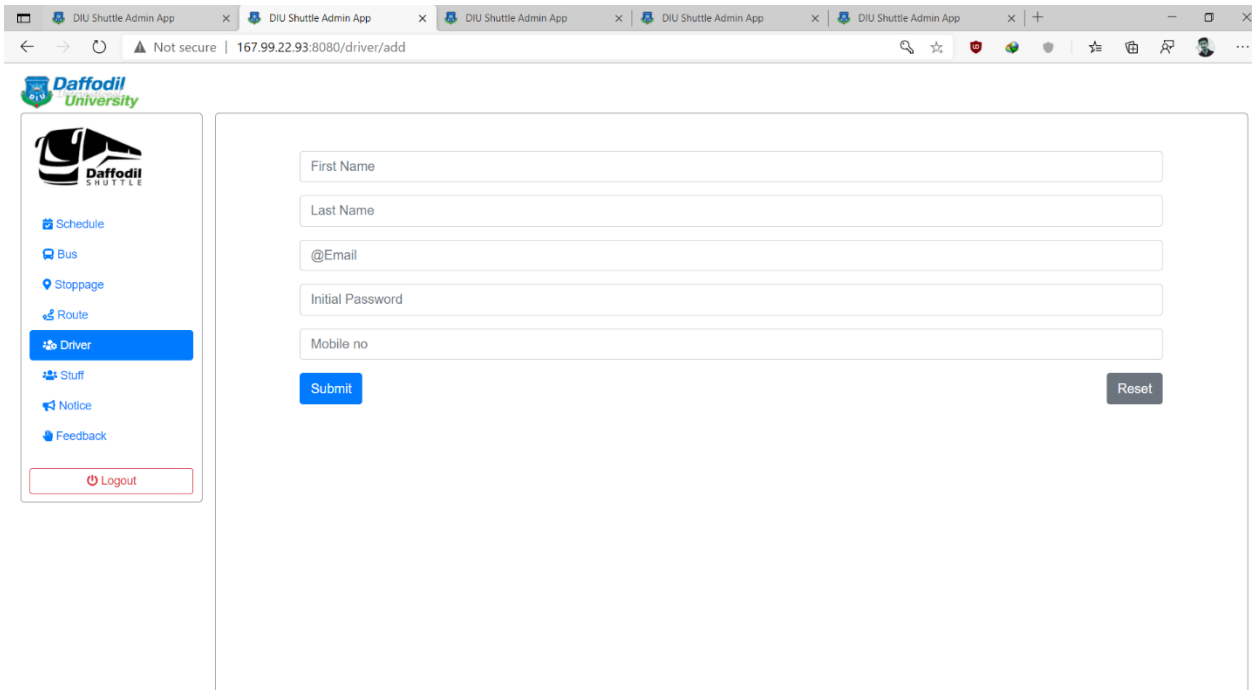


Figure 4.1.15: - Driver Add UI

Driver list here.

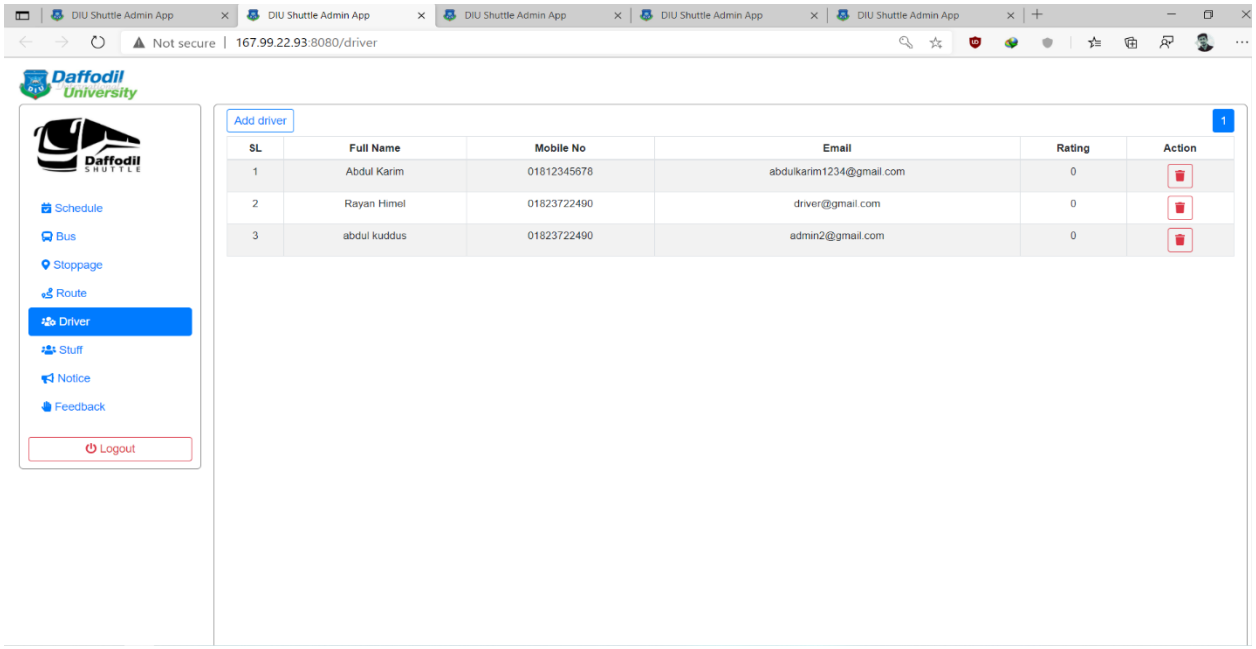


Figure 4.1.16: - Driver List

Admin add stuff. Every have two-member driver and stuff.

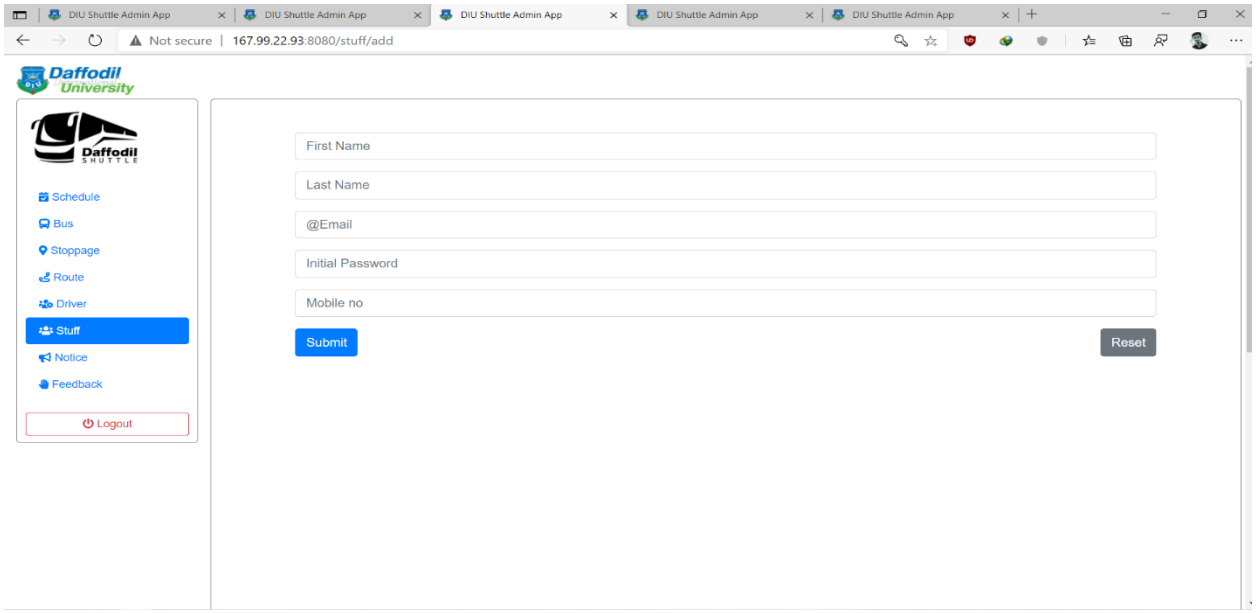


Figure 4.1.17: - Add Stuff

Admin will notify to user through this page. Admin will tag any types of notice which will see by users of our apps.

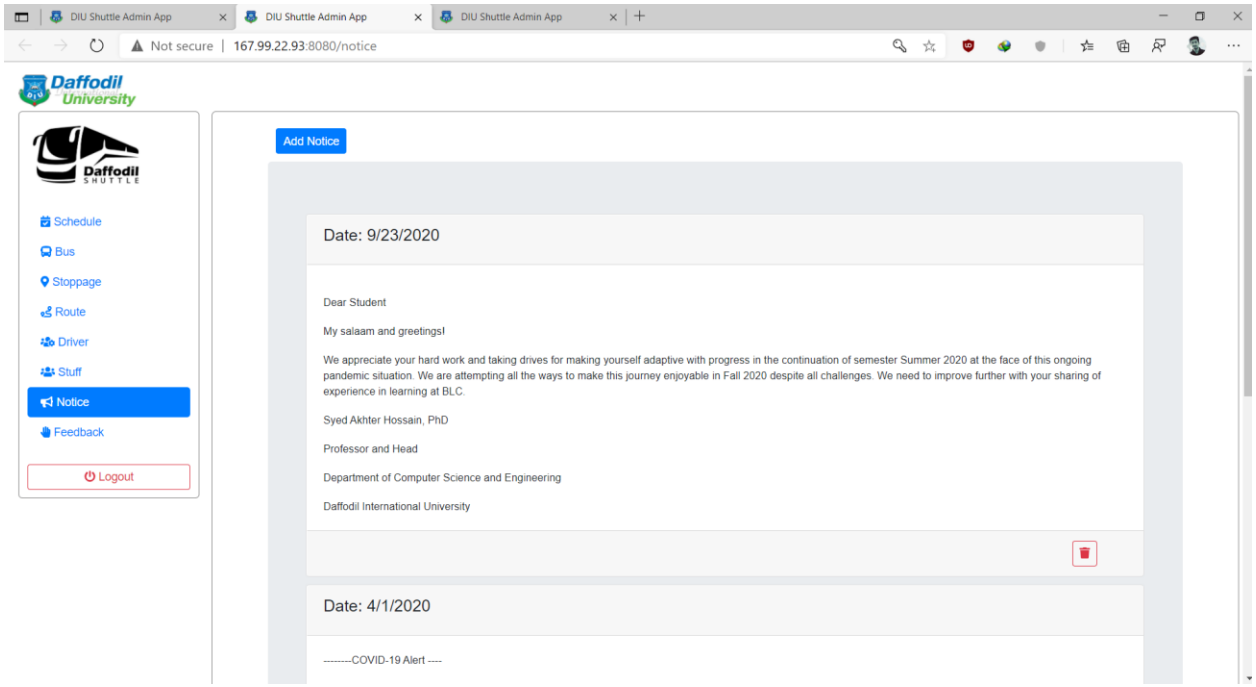


Figure 4.1.18: - Notice Board

User will give feedback by application which add on our panel. They will make a rating of driver and stuffs.

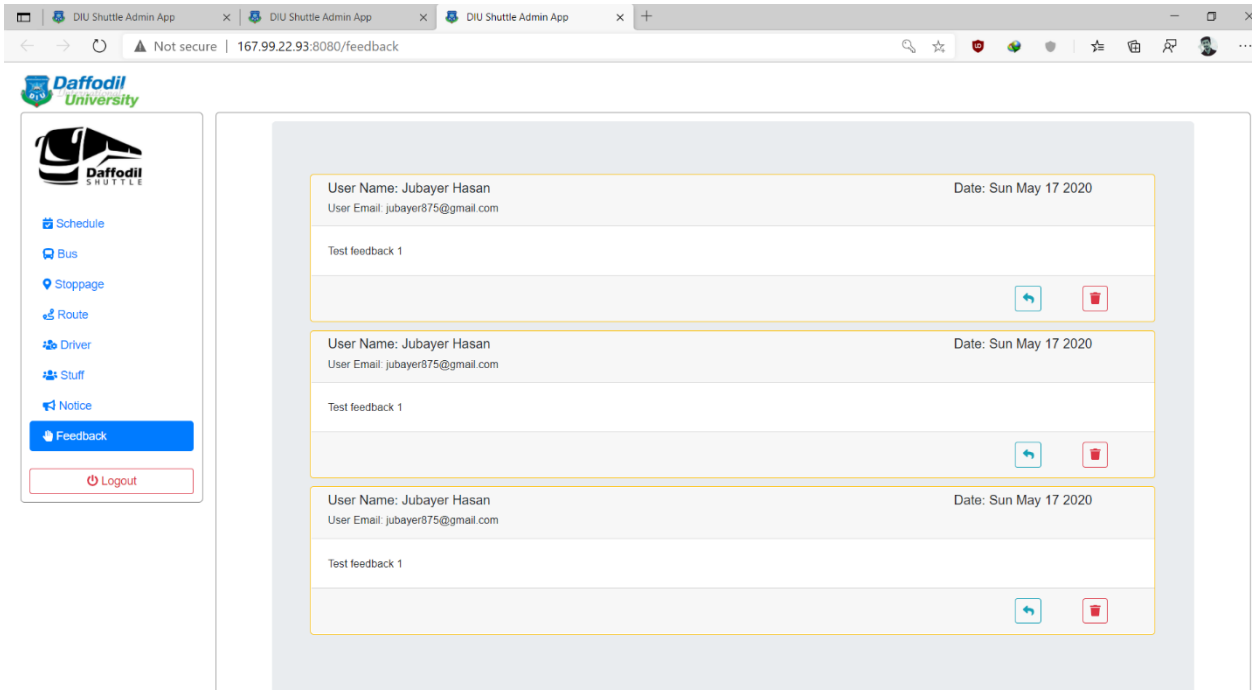


Figure 4.1.19: - Feedback

4.2 Back-end Design

Behind the UI, back-end works here where a user can't see that portion at all. Back-end allows implementing functionality such as backing up user data to the cloud, serving content to client apps, real-time interactions, sending push notifications through Google Cloud Messaging for Android (GCM), and more. Here we are using "**MySQL**" database.

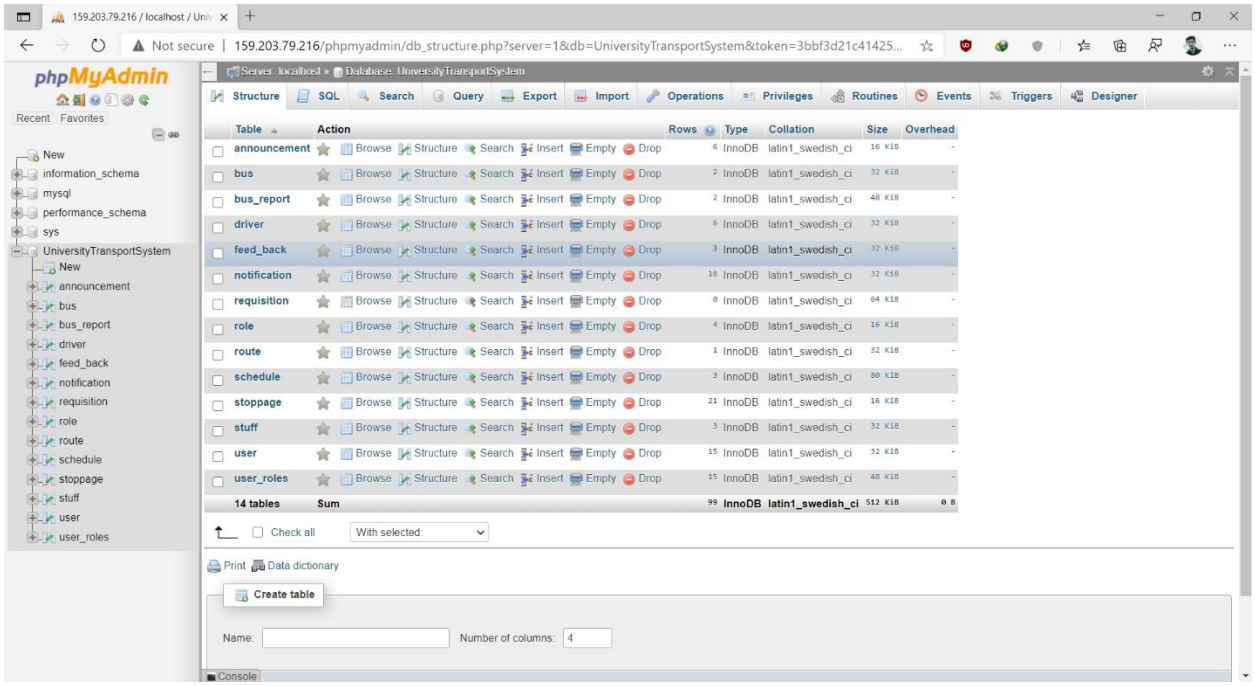


Figure 4.2.1: - Main Database Page.

The figure 4.2.2 is showing all the available options in the database. Here all options are accessible for the developer. All options can be modified or new options can be placed. In the below some figure will show some options database.

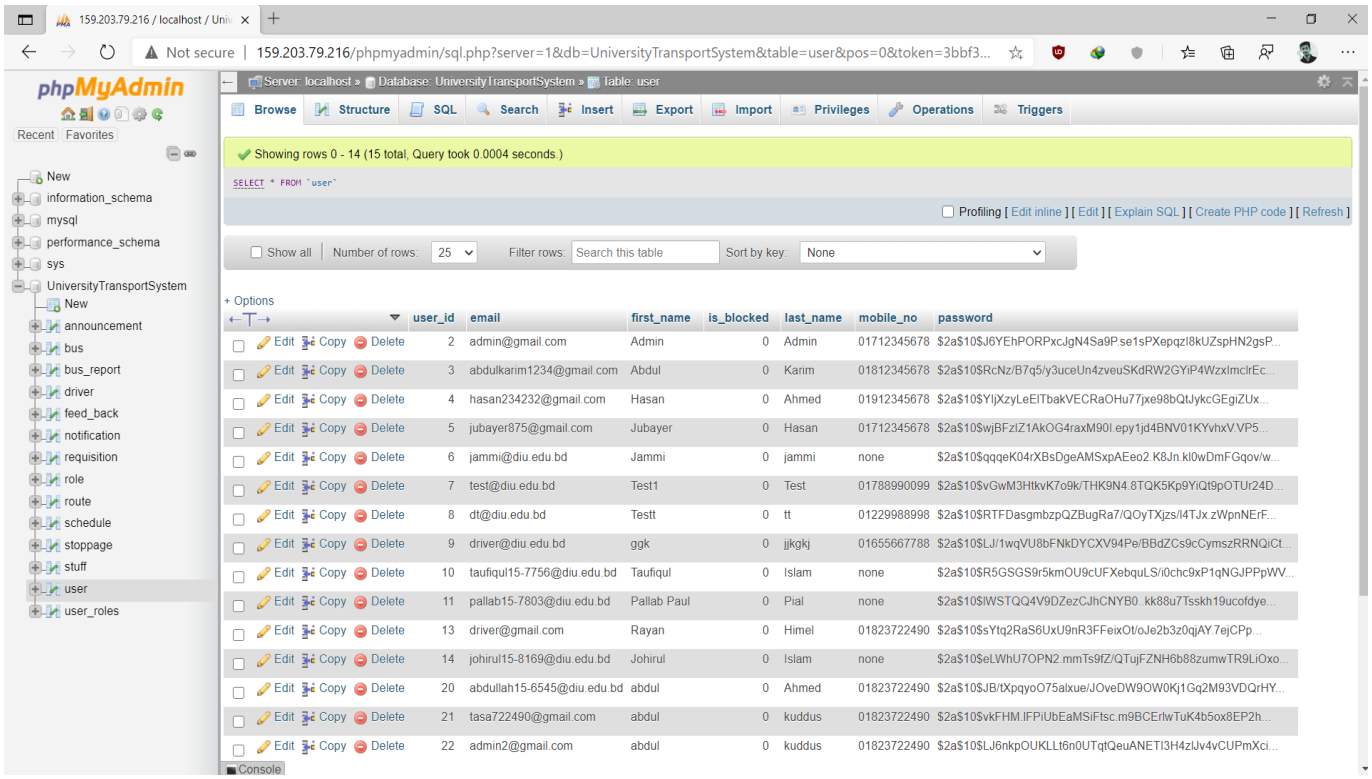


Figure 4.2.2: - User Table Database

The figure 4.2.3 is showing every user who are using our app. Developer can delete, add, edit the user.

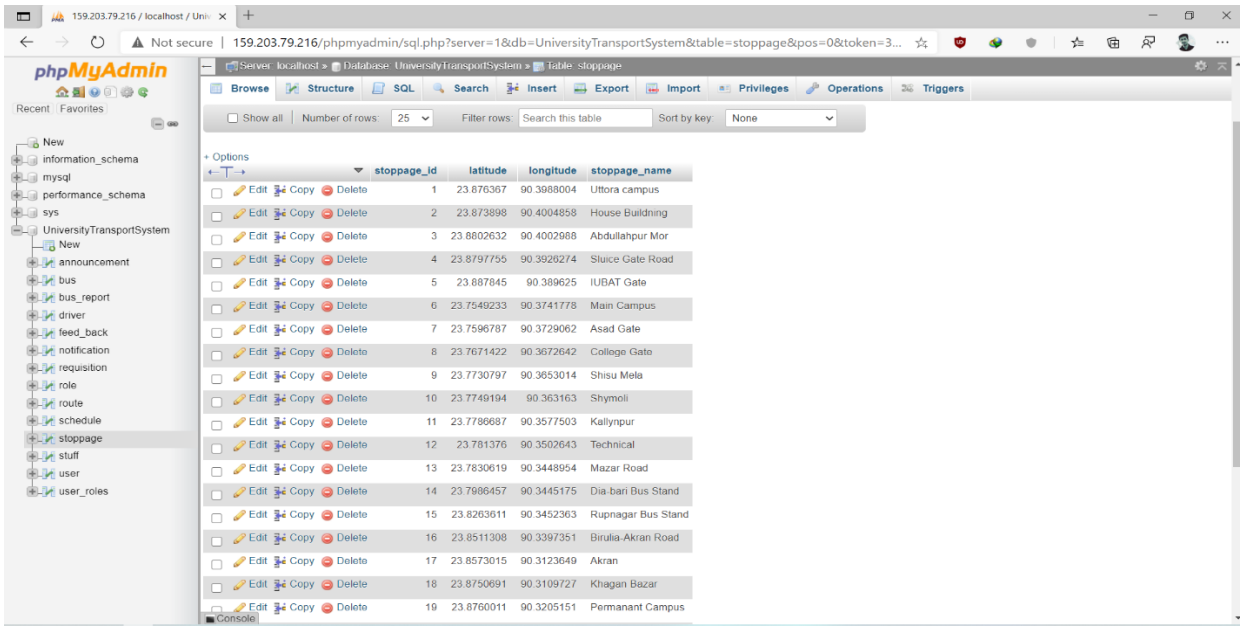


Figure 4.2.3: - Bus Stoppage Database

The figure 4.2.4 is showing all the bus stoppage point in the database. The developer can delete or add any stoppage from the database. But it is added or deleted by admin, from admin website.

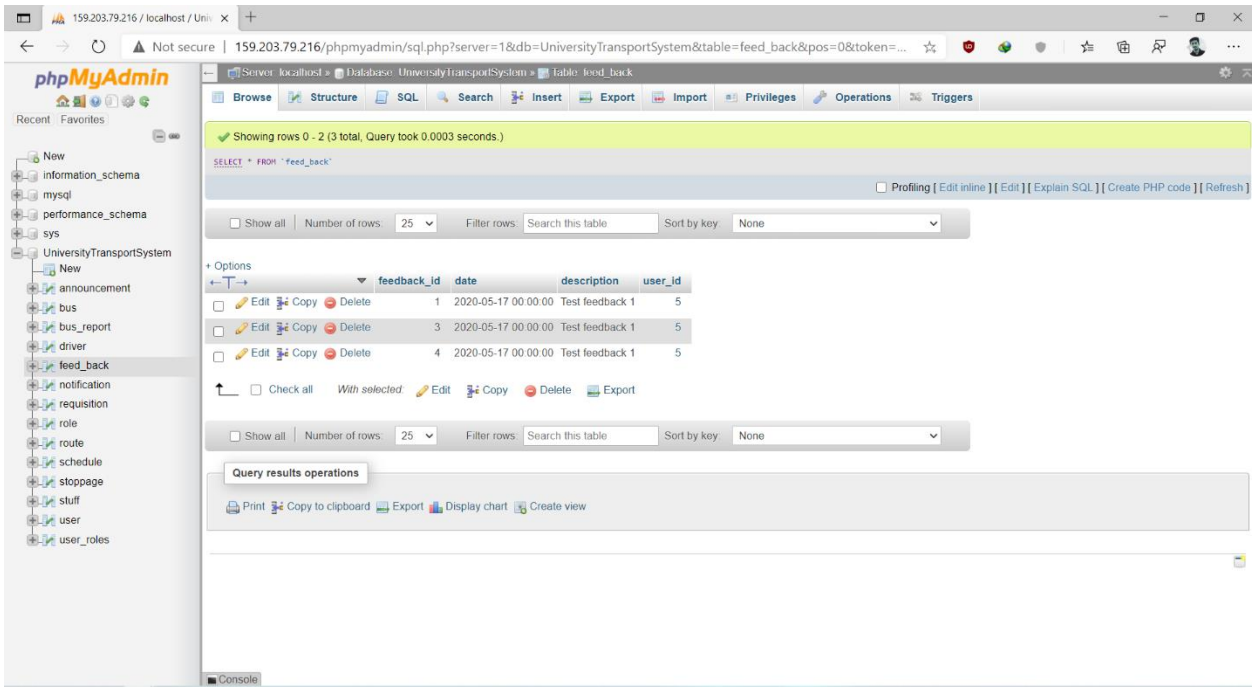


Figure 4.2.4: - Feedback Table

The figure 4.23 is showing database of feedback table. All the feedback generated by users are stored in this table.

4.3 Implementation Requirements

The technology used as follows:

Programming Languages: JAVA, XML.

Database: MySQL, MongoDB

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Dataset

For this project we

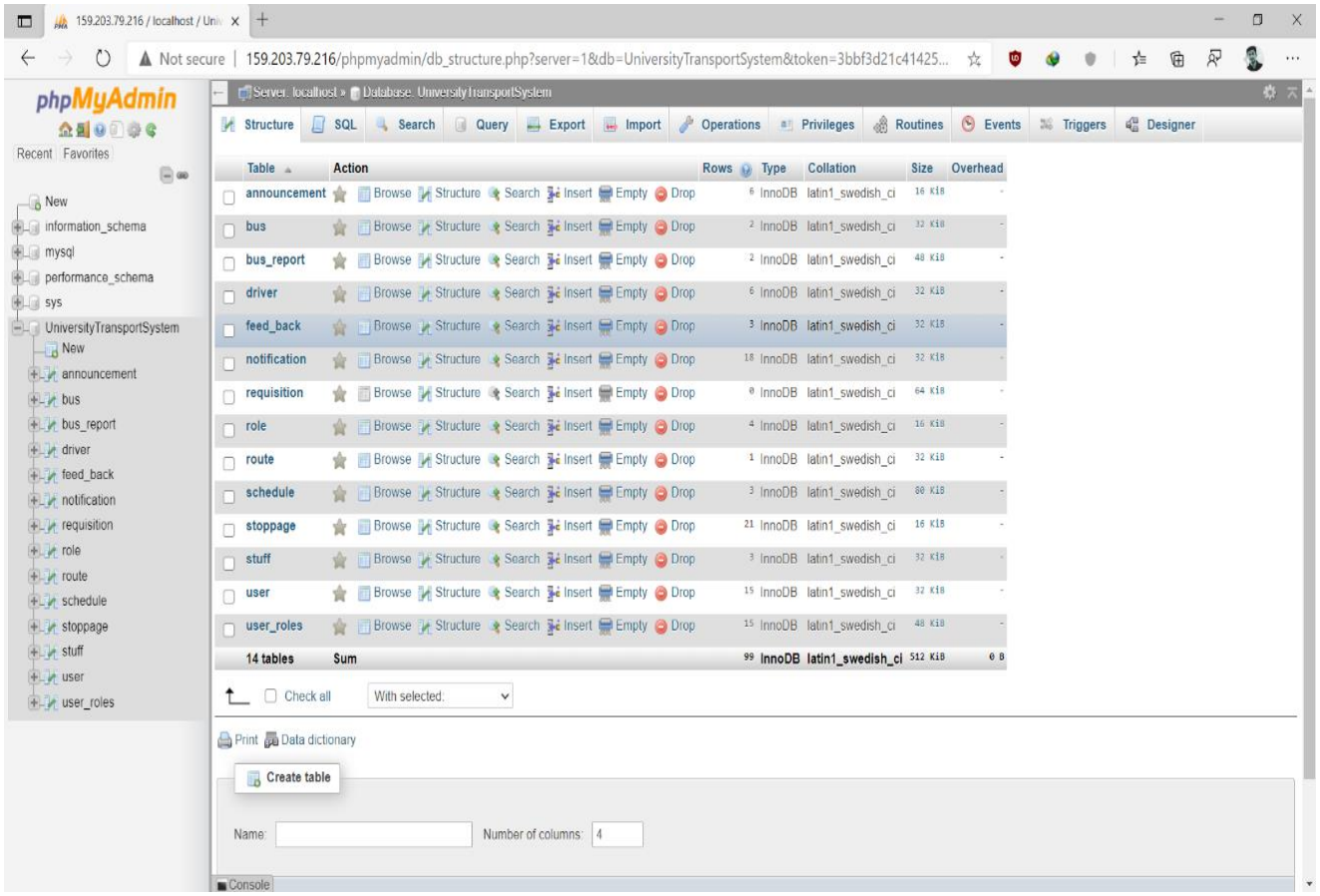


Figure 5.1: Full Database of Daffodil shuttle

(Figure 5.2) Here this is User collection section. When a user (it can be rider or user) login to our apps with their respective email and Password then our database will collect all user information.

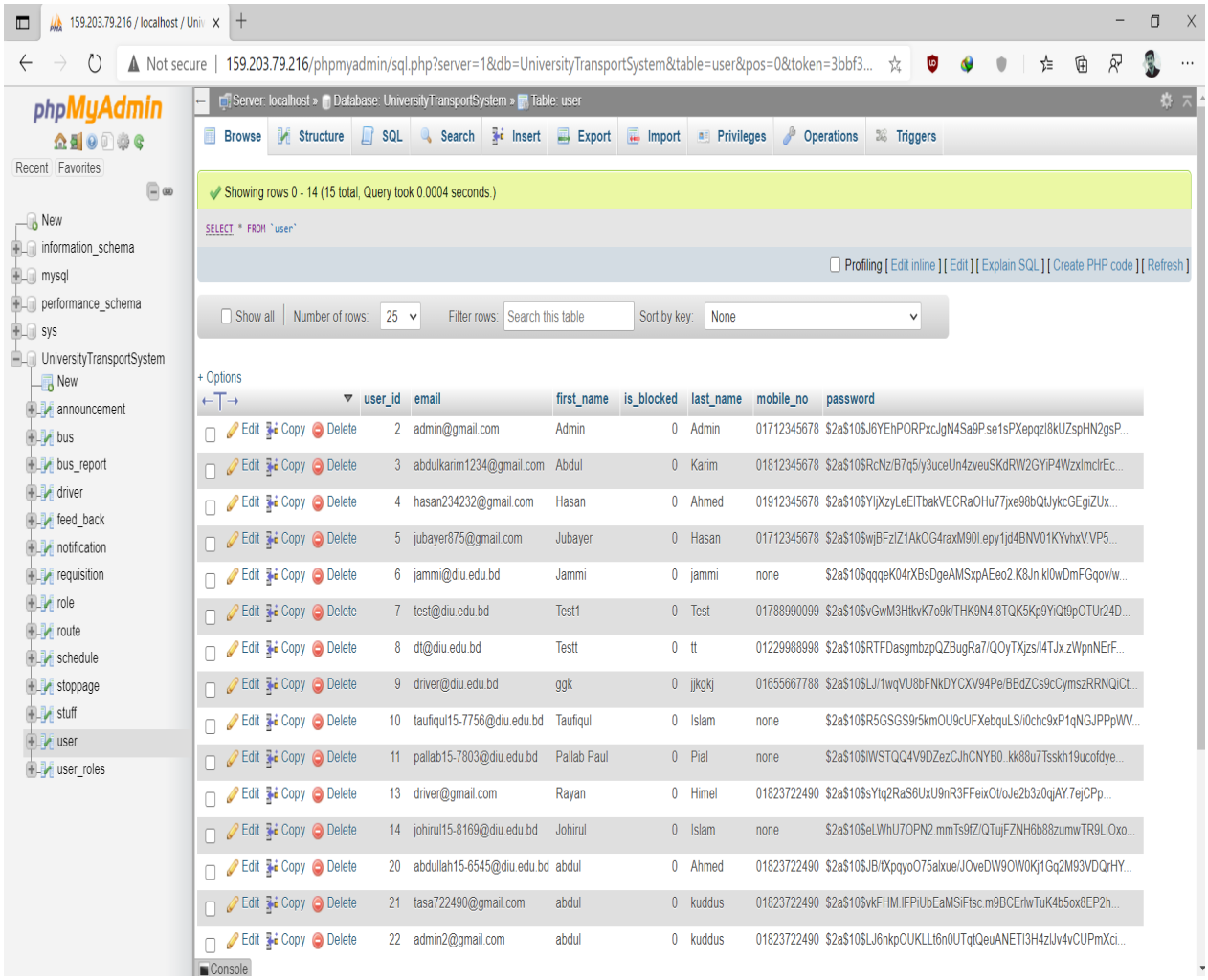


Figure 5.2: User Collection

(Figure 5.3) Here this is Stoppage section. When a user (it can be rider or user) login to our apps with their respective email and Password then they can be showed of our all stoppage. This all stoppage will make you easier to find one place to another place like Asad gate to Permanent Campus. All stoppage is adding by admin panel.

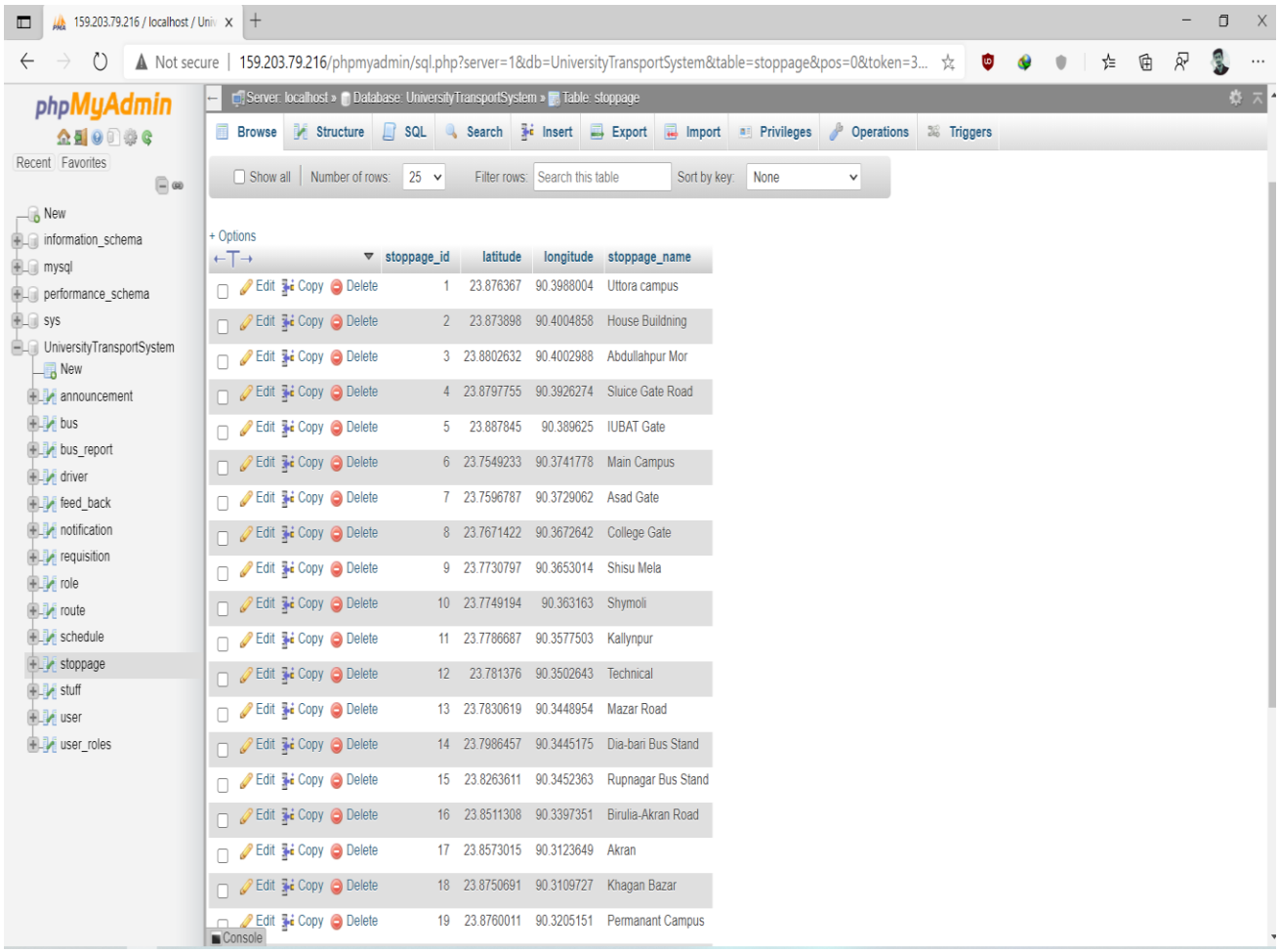


Figure 5.3: Bus Stoppage

(Figure 5.4) Here this is Bus section. From an admin panel select how many buses today will serve. Admin can be observed gas cylinder capacity. Driver can notify the problem to admin.

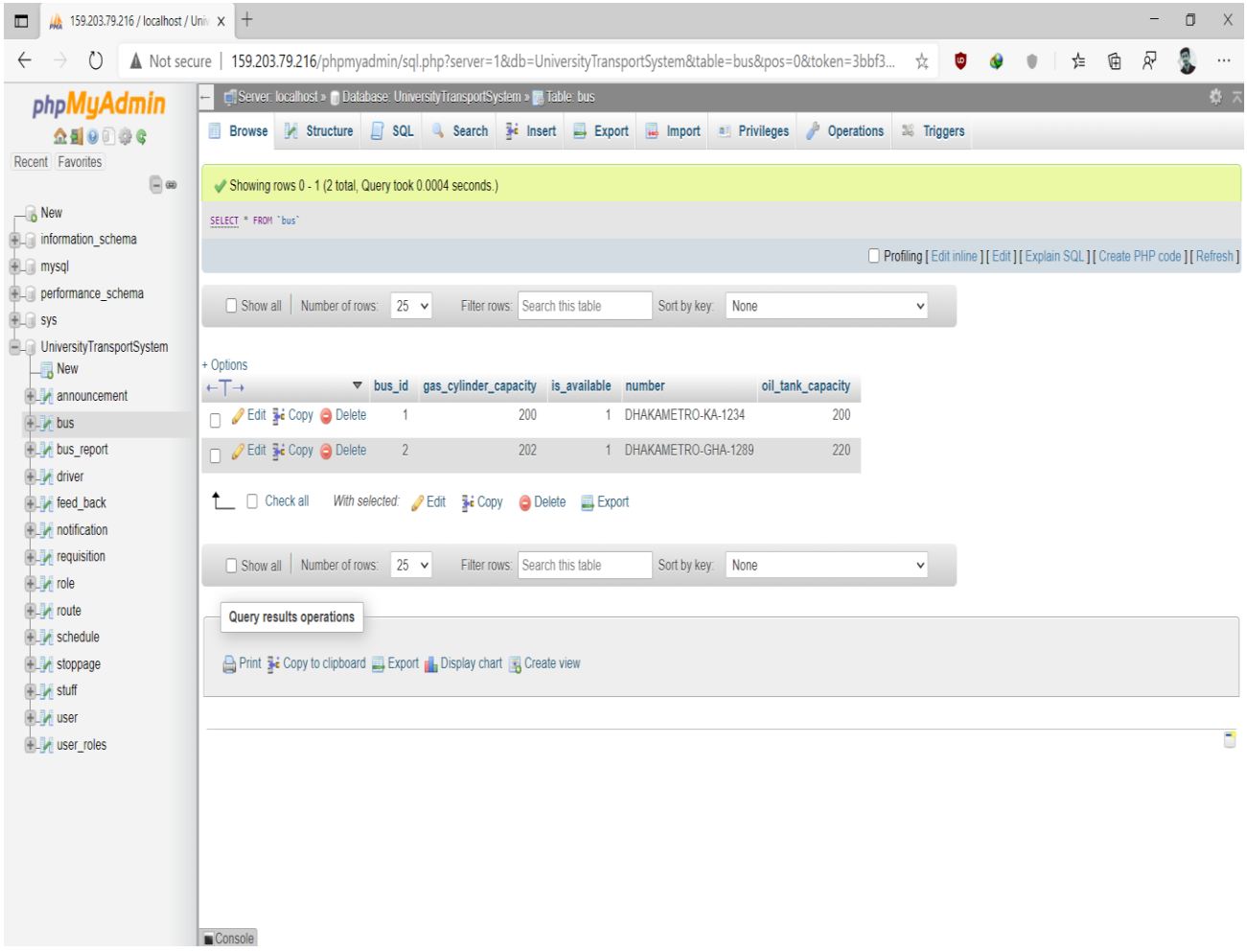


Figure 5.4: Add Bus

(Figure 5.5) Here this is announcement section. This section will control by an admin panel. Admin any types announcement will declare which is can be showed by rider and driver. Suppose todays is the public holyday that's why bus will not available from 6pm to next day 7am. This announcement will declare by admin.

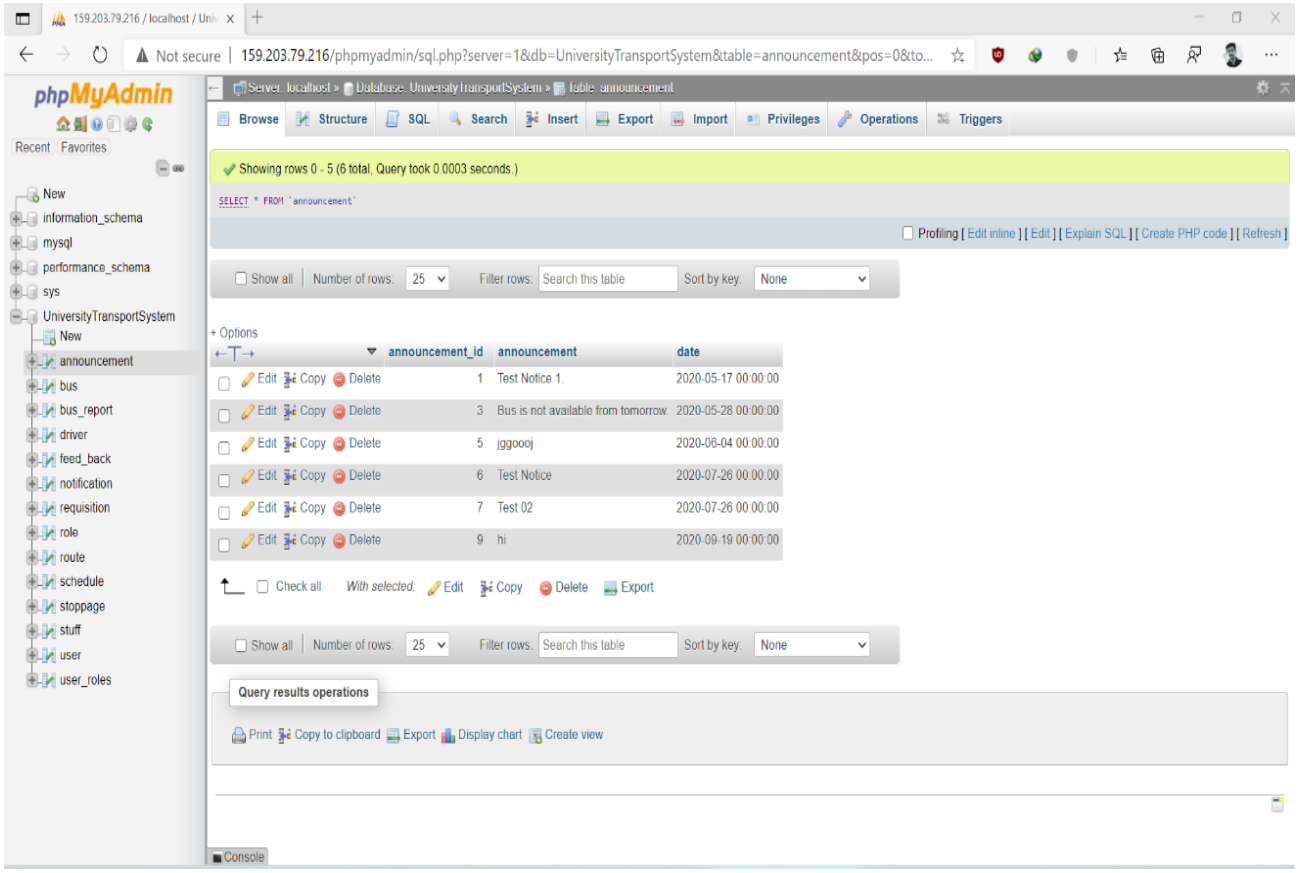


Figure 5.5: Announcement

(Figure 5.6) Here this is feedback section. Rider and Driver can feedback and which is control by admin panel.

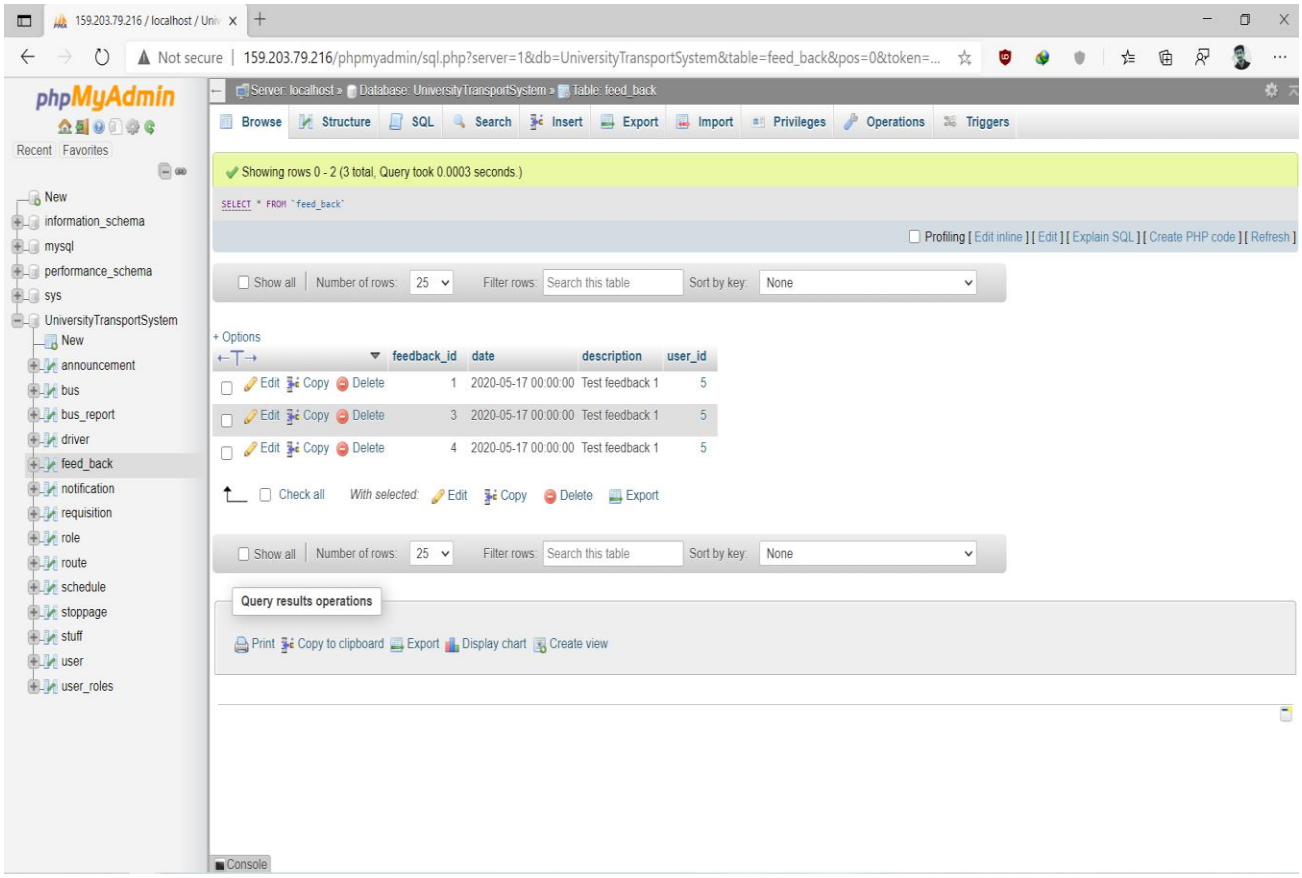


Figure 5.6: Feedback

5.2 Implementation of Interaction

Implementation of interaction means how easily a user can interact with the project. We have implemented our app system with a user-friendly UI. We used icons all are familiar

to user , text view and button is also user friendly, spinner also, etc. It would be a great apps for DIU students and who. As our app's admin panel is very much understandable so the users and admin will be able to communicate each other with the app easily.

5.3 Testing Implementation

In Android, there are three types of tests. Local Unit test, Instrumentation test, and Ui tests. A local unit test is run on your local computer on the machine that has an android studio installed on it, and they are using the JVM for short it's using Java on your computer they are very fast because you don't need an emulator or anything to do with. These are the type of tests used to test code logic (raw java code logic-based test). To extend your test capabilities by integrating test frameworks such as Mockito to test Android API calls in your local unit tests.

CHAPTER 6

CONCLUSION AND FUTURE WORK

6.1 Discussion and Conclusion

Our project ensures students safety. This project is done by XML, Java, and Mysql database. Teachers, Students and Employs can get help by using a smartphone with the help of an internet connection. The system designed with the aim of helping Daffodil International University students' teachers and employee's safety purpose. With this app they can get info, fare, bus position and obviously it ensures safety of user.

We have three types of user (Rider, Driver and Admin). For Admin panel we have admin page. DIU Shuttle Admin App (Email: admin@gmail.com and Password: 123456). For Rider and Driver everyone has to login by their own email id and password which is given by Daffodil International University.

6.2 Further Plan

Our project system will upgrade day by day for better experience. This era machine learning upgrading rapidly. We wish one day our project will detect user face and open the bus door auto and by showing card we can pay bus fare.

We are thinking we should make a website for better experience. We trying to cooperate with Bangladesh online banking system for paying bus fare with their help.

Reference:

From: - https://toomanyadapters.com/best-bus-apps/

From: - Google

Shuttle

ORIGINALITY REPORT

13%	12%	0%	11%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Daffodil International University Student Paper	5%
2	dspace.daffodilvarsity.edu.bd:8080 Internet Source	4%
3	experienceleaguecommunities.adobe.com Internet Source	1%
4	Submitted to University of Southampton Student Paper	1%
5	docshare.tips Internet Source	1%
6	www.studytonight.com Internet Source	1%
7	socialledge.com Internet Source	1%
8	developer.android.com Internet Source	<1%
9	Submitted to Universiti Teknologi Malaysia Student Paper	<1%

10	www.archive.org Internet Source	<1%
11	Submitted to Manchester Metropolitan University Student Paper	<1%
12	pure.rug.nl Internet Source	<1%
13	dspace.library.daffodilvarsity.edu.bd:8080 Internet Source	<1%

Exclude quotes	Off
Exclude bibliography	Off