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Dedication

There are so many people we want to thank who have stood with us through tough and troubled times. Among them the people who have played the biggest role in inspiring us are our parents who stood with us through thick and thin, never making us feel alone and always by our side.

We dedicate this project to them.

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Acknowledgment

We want to thank ALLAH SWT, Who blessed us such great parents and it is due to Him, we were able to do momentous task of the project. We thank our project advisor Sir Asif Subhani & co advisor Sir Abubakr Sedique with gratitude and respect, who made it possible by guiding and mentoring us all along the project from the very first step to the last step. All of the teachers who taught us have a role in developing our skills through which we are now able to do tasks we were never able to do so. We would also like to thank people who were helpful to us and shared their experience.

This application will guide the citizens and tourist to get a route to there respective

Statement of Plagiarism

This document and project was written and developed by us. We acknowledge the fact that this is our own work. We have been working on it from scratch and have been doing our best to make it as we have conceptualized. We are conscious of the fact that any incorporation of outside material without acknowledgement would be considered to be plagiarism. The source of any picture, map or other illustration is also indicated, as is the source, published or unpublished, of any material not resulting from our own experimentation, observation or specimen-collecting.

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Project Title:

Android Application – Mera Sehar LAHORE

Objective:

To provide and enhance the usage of Lahore's local transport and targeting the local Citizens of Lahore.

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Starting Date:

January 2015

Completion Date:

March 2016

Tools Used:

Adobe PhotoShop CS 6, XAMPP ,PHP Myadmin, MySql, Android Studio, PHP Storm,

Operating System

Windows 10 - Professional

Abstract

This document is being written for the Android application which we have been developing by the name of Mera Shehr Lahore. Mera Shehr Lahore is basically an Android App which would make Local Citizen and tourist who are In Lahore to travel through local transport and explore and learn about Lahore and its place from a single application.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

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1. INTRODUCTION

Pakistan is among world's fastest growing economies and where in technology has made world more globalized it has made revolutionary advancements in our lives. Technology has made information available in quickest of ways and easily accessible to everyone with just a click / touch and made people live much more easily than before. It has brought revolutionary changes in almost every aspect of life be it communications, social networking, online commerce, education Traveling and much more. In a matter of seconds we get in touch with people or any other information of remotest origins. If we had to get on a place we can search it easily on the maps which are available almost every smart phone.

a mobile app development firm has released a new info graphics that details the usage patterns of smartphones in Pakistan.

It reveals that:

- **35%** of the smartphone users in Pakistan carries a low cost phone on them for safety reasons.
- **68%** of the smartphone users in Pakistan are on Android.
- **77 %** of smartphone users are just 21 to 30 years old
- **60%** of the Pakistani's use more than one cell phone.
- **52%** of the Pakistanis have access to edge 3G and GPRS
- **20%** percent market-share.
- According to info graphic, **16%** smartphone users regularly buy paid apps while remaining **84%** contents with free apps.

Moving forward, along with the growing technology travelling and tourism is also on its peak in Pakistan, the transportation in Pakistan is extensive and varied and serving a population of over 191 million people. Construction of new airports, roads, railway lines and introducing new localized transport as bus services, metro and now orange train, have made travelling much more efficient and easy. Tourism industry in Pakistan is growing rapidly day by day.

Like for now only talking about Lahore, it is the second largest city of Pakistan as is known to the Cultural Heart of Pakistan. The Mughal Empire left behind the Lahore Fort and Shalimar Gardens which are now recognized World Heritage Sites. The Walled City of Lahore, Badshahi Mosque, Wazir Khan Mosque, Tomb of Jahangir and Nur Jahan, Tomb of Asaf Khan and Chauburji are other major sites visited by tourists each year. The tomb of Qutb-ud-din Aibak from the Delhi Sultanate is located in the historical market of Anarkali Bazaar in Lahore. The Samadhi of Ranjit Singh and Hazuri Bagh Baradari are prime example of Sikh architecture during the rule of the Sikh Empire. There a number

of other sites within Lahore such as Minar-e-Pakistan, Lahore Museum, Data Durbar Complex, Tomb of Muhammad Iqbal, Bagh-e-Jinnah, Lahore Zoo, Tomb of Shah Jamal, Sukh Chayn Gardens, Gaddafi Stadium which all create a large number of visitors annually.

1.1 Project Overview

In this application we have provided all the Information regarding Lahore we have provided all the all the ancient places, famous places , restaurants, hotels and other common places for the local people like schools hospitals etc;

To encourage people to use local transportation we have provided all the bus routs along with stops, which will guide the user to reach its destination by using bus services the application will take the users current location (that where is he/she right now) and will guide him to reach the users destination by using bus services also informing him from where he/she needs to change the bus to get to the correct rout.

1.2 Problem Statement

Now a days in Pakistan specifically in Lahore traffic load on road is increasing day by day due to increasing transportation our motive is to persuade and encourage people to use the local transport, as it is cheap and efficient also guide and persuade tourists to visit the famous places of Lahore and update them about the ongoing and events in Lahore

1.3 Customer

As mentioned earlier our main intention is to target the local citizens, people from outside of Lahore, mainly the tourists and people who want to explore Lahore.

1.4 Goals

Our main goals and objectives are:

- To facilitate and encourage the users to get to their desired destination using local transport.
- To inform users about the ongoing and upcoming events in Lahore
- Give the location to various place like schools, hospitals, restaurants, hotels etc.
- To inform about the ongoing food deals and offers in restaurants in Lahore

To meet the current customer demands and to make the application attractive we have used easy to use and compact design so that every desired client and customer can use our application in the best way possible.

2. STAKE HOLDERS

The stake holders of our application would be the one who wants to give their place on map and want to give deals and offers about their restaurant or any other place.

To further elaborate the stake holders we can categorize them in primary and secondary stakeholders.

2.1 Primary Stakeholders:

Primary stake holders would be the bus companies who want to promote their transport companies like Daewoo, Niaz, etc. and want a part in this application.

2.2 Secondary Stakeholders:

Secondary stake holder will be the restaurants, hotels, and other entertainment places who want to promote themselves and give their offer on our application.

3. SCOPE & TECHNOLOGY

As mentioned earlier we are looking forward to develop an android app for travelling and guide. Our project encompasses and incorporates almost all of the modern technology which has been in use. Due to the nature of the project we have used many of the new features and languages which are being used and are currently in demand in the android field.

List of languages for further elaboration and clearance are as follow:

- a) Java
- b) XML
- c) PHP
- d) Bootstraps
- e) HTML
- f) CSS
- g) MYSQL

3.1 JAVA:

All our application is based on JAVA language. Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to byte code that can run on any Java virtual machine (JVM) regardless of computer architecture.

3.2 XML:

Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. It is defined by the W3C's XML 1.0 Specification and by several other related specifications, all of which are free open standards. XML design goals emphasize simplicity, generality, and usability across the Internet. It is a textual data format with strong support via Unicode for different human languages. Although the design of XML focuses on documents, it is widely used for the representation of arbitrary data structures such as those used in web services. In our application XML is used to make the user interface of the admin panel and user interface of application

3.3 PHP

We have used PHP to make our application dynamic. In our app it is mainly used to handle the database and server. PHP is used to give the functionalities to the application, it is

primarily used as a back end language which determines all of the functionalities and commands which user give.

3.4 Bootstraps

It is an html, css, javascript framework that you can use as basis for creating web sites or web applications. The official bootstrap website is updated and includes a clear definition. "Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web." We have used it the front end for our admin panel in which database is handled.

3.5 HTML

We have used HTML to make the front end of our web admin panel HTML standardized system for tagging text files to achieve font, color, graphic, and hyperlink effects on World Wide Web pages

3.6 CSS

For designing and using the backgrounds CSS is used. We have used most of external CSS as all of the background colors and images are displayed through it. CSS file was created with which all of the backgrounds of the website were implemented using jpeg images and back ground colors

3.7 SQL

In our application we have used sql to fetch and store data from database to be used in our application.it basically handles the data stored in database and help provide data to the application.

4. FUNCTIONALITY AND USER INTERFACE OF APPLICATION

In order to better understand the nature of our product and work we have sorted down the functional and no functional requirements of our project. As it is publically related project its main functional requirements and nonfunctional requirements are very much pre-defined.

4.1 Functionality / GUI:

Functional requirements are usually the features of the product which are expected by the end users to be present in the application to meet the specific and designated functionalities. The functional requirements of our project are described below

4.1.1 Front End Features:

As our project is basically a web related. The front end features are basically all of the content which is seen by the user on the front. All of the graphic user interface of the website which needs to work as the users expect. Website features all of the best features and front end functionalities with a proper design and theme.

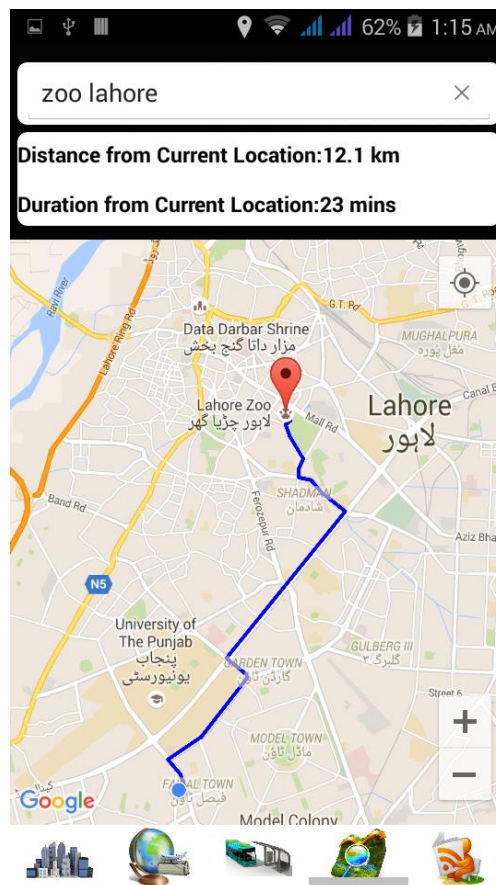


Figure 1 Maps Segment view

It is very suitable for the application as it offers the users a compact and to the point design with all of the necessary information which is needed by the users.

4.1.2 GUI

All of the buttons and the tabs are set accordingly with the database of the project. The front end features include the categories and options of places like restaurants hotels schools etc; .user will be able to select the place from the given database or will be able to get on his own custom place from the map by using local bus transport.

The front end functionalities make the user to make his own choices wither he can choose a place from the given list, learn about historical places of Lahore from the history section ,find the place from the map , see newsfeed that what's new going on in Lahore

Apart from other thing we have made the color scheme and splash screen attractive that the user will not get bored using the app.

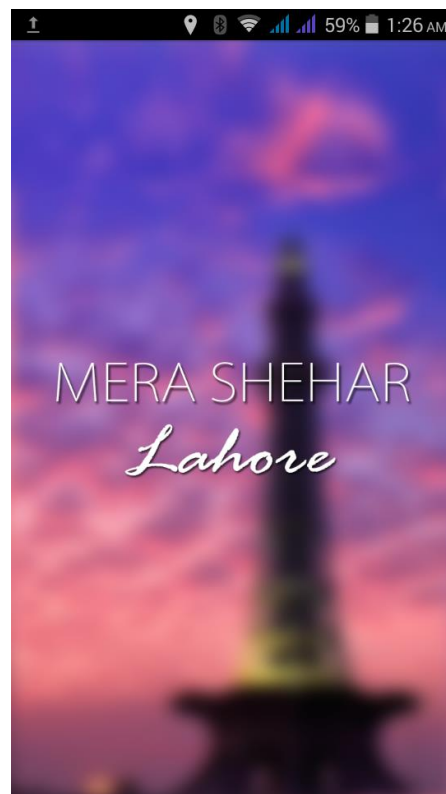


Figure 1 Applications splash screen

4.1.3 Google maps API

Our application is mainly using the google maps api to show the locations and paths to the user of their specific destination and also provides the current location of the user so

that it gets easier for the user to know where is he at the moment and to reach the users destination the application draws the way point by using the data (Lang lots) of the bus stops given in database. It also shows the location of various restaurants hotels schools colleges etc;

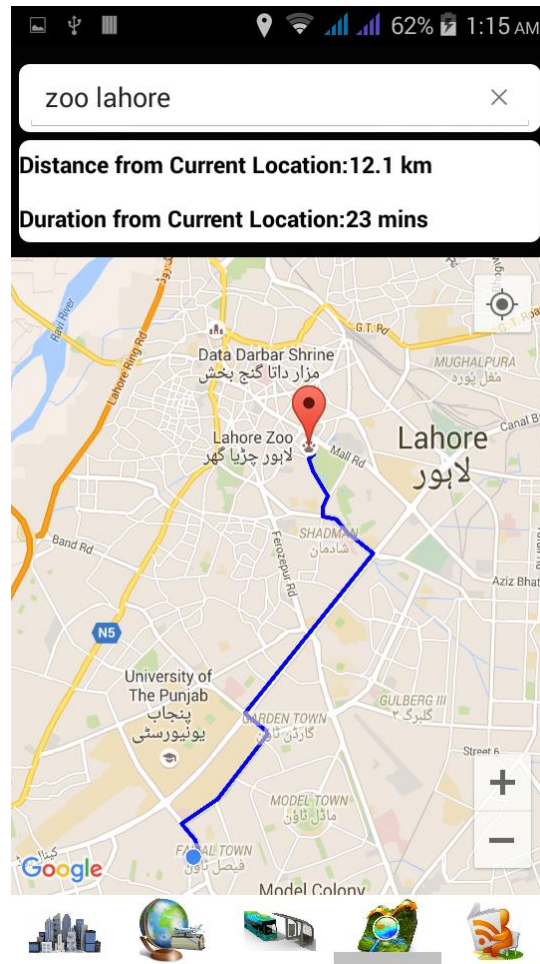


Figure 4 Google Maps API

4.1.4 Admin Panel for Database

We have given the Admins a complete Admin Panel as we have mentioned earlier. The Admin Panel would be controlling all of the aspects of the functionalities and data of application that are required by the user in order to use the functions of the application that are needed.

4.2 Non-Functional Requirements

Nonfunctional requirements are those requirements which are not necessary and have not much importance when dealing with the main features which are needed. As this is a Android Application and web Admin panel the main nonfunctional requirements we have used are much related to the design and Admin domain / database. It will also deal with the overall working of the Application. In order to make the design more attractive and efficient for the users we have entered some features which are very helpful in making the whole working process of the application fast.

4.2.1 Maintainability

This application MSL App is designed to be a very flexible application where we have coded it in more simple and easier way, using the java commands that are according to the standards. The application is very maintainable and very easy to update keeping in view the admin features, which are very useful in updating the whole database.

4.2.2 Accessibility

Although our application is only accessible from any android OS running phone although it is not accessible from the desktops or laptops because the design has to be modified after a website is to be made.

But our admin panel is accessible from both Android and Desktop.

4.2.3 Map Details

We have added Google maps API for the routing places and bus stops by using its long lats. embedding the Google maps plugin in our application which would make the location available for user know there exact location .

4.2.4 Error Handling Specially during no conection

Often servers of Application tend to trip due to significant activity. Admin panel has been made with simple block of HTML codes which we have written in simple and compact manner so the browsers can easily read them and the response time of the website becomes favorable for the users. Due to this we have made our best efforts to make the admin panel more error free with external CSS backed up by PHP which is then backed up by MYSQL database.

5. SEQUENCE DIAGRAM

As our application doesn't need any kind of login for the users to use but we need to handle the application from an admin panel so we need to login and register new admins for the application. Below is the sequence diagram of the Admin registration. After the sign up process the admin would be given the whole functionalities to add the places, update database, stops, location, news feed almost everything.

All of the logic is written in the diagram which shows when an admin visits the admin panel he/she proceeds further when whole registration and login process is finished and validated successfully. Here the Boolean function is used to determine whether the customer or user is registered or not. If the process is successful he/she will be given access to admin panel. If a user logs in the he/she is verified by the database and the information is present in the database the user enters as a registered admin. The status is first checked under the database which determines if the admin is a registered user or not.

The sequence diagram makes the whole process of the interaction of the front end of the application with the back end admin panel very understandable. By using it we can visualize the process and look at the details that how is data being managed.

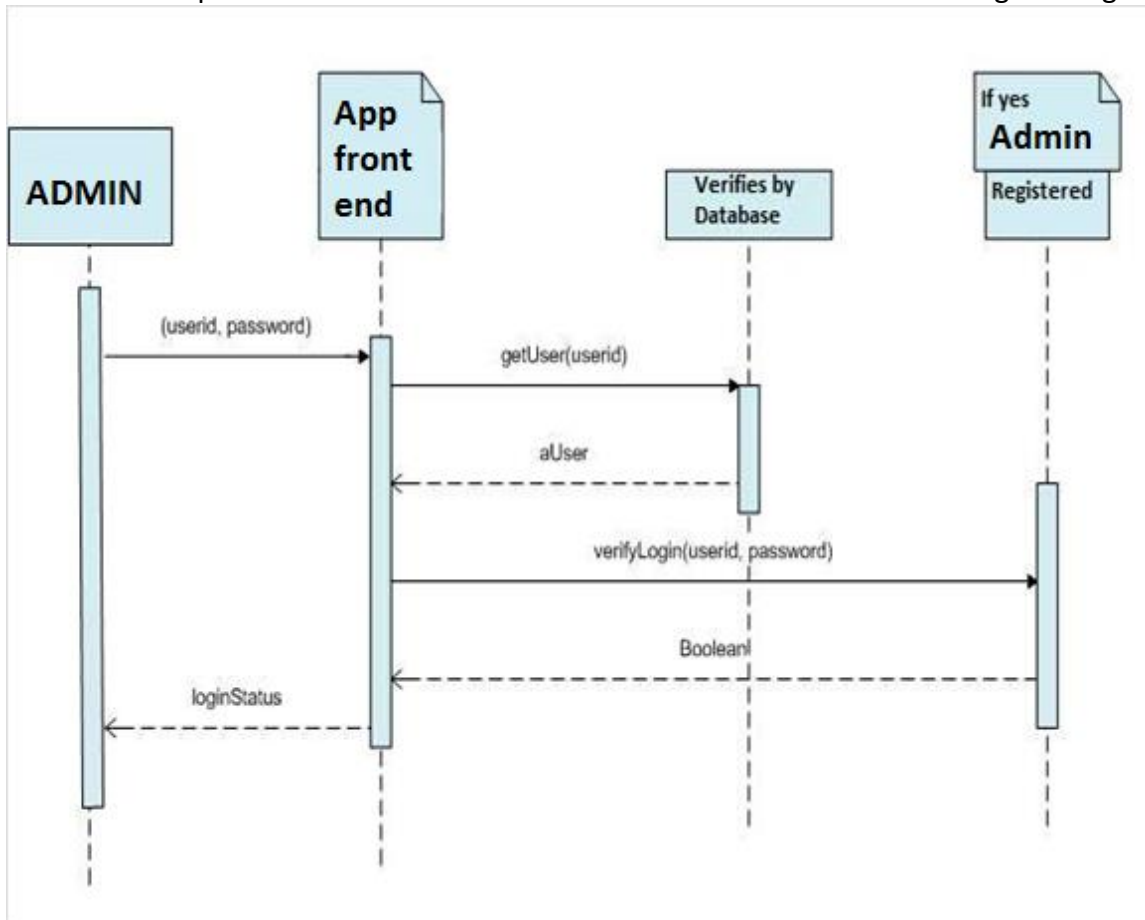


Figure 2 Admin registration Sequence diagram

6. DATA FLOW DIAGRAM

In order to better assimilate the working of the application and the data flow we have created data flow diagrams of 2 levels ranging from Level 0 to Level 2.

Each diagram shows the level of data flow from the most basic information to higher level of information.

6.1 Data Flow Diagram Level 0

Below is the DFD which we have made for the level 0 data flow which involves and describes the main functions which are implemented.

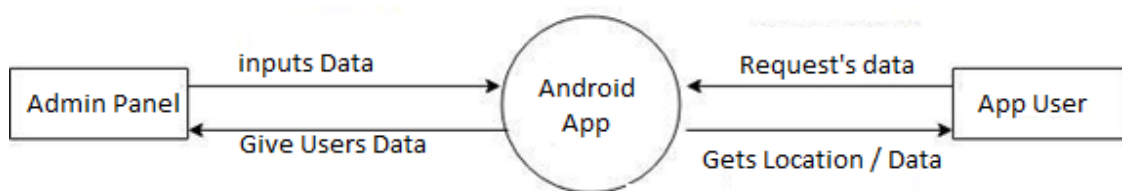


Figure 3 Level 0 DFD

6.2 Data Flow Diagram Level 1

After the user have opened the app they are allowed to search for their desired location and get bus routes to it.

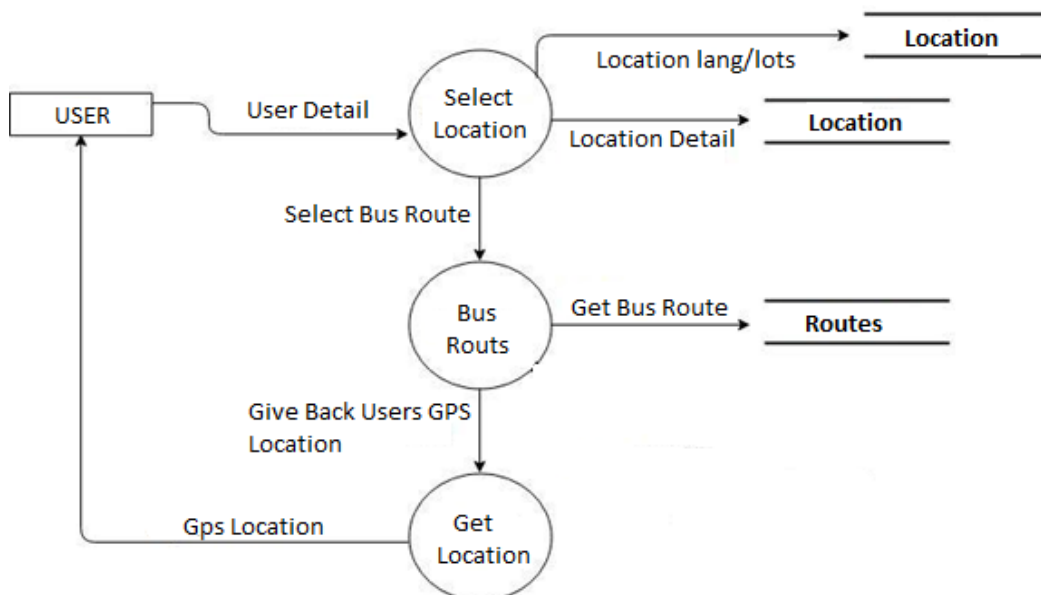


Figure 4 Level 1 DFD

6.3 Data Flow Diagram Level 2

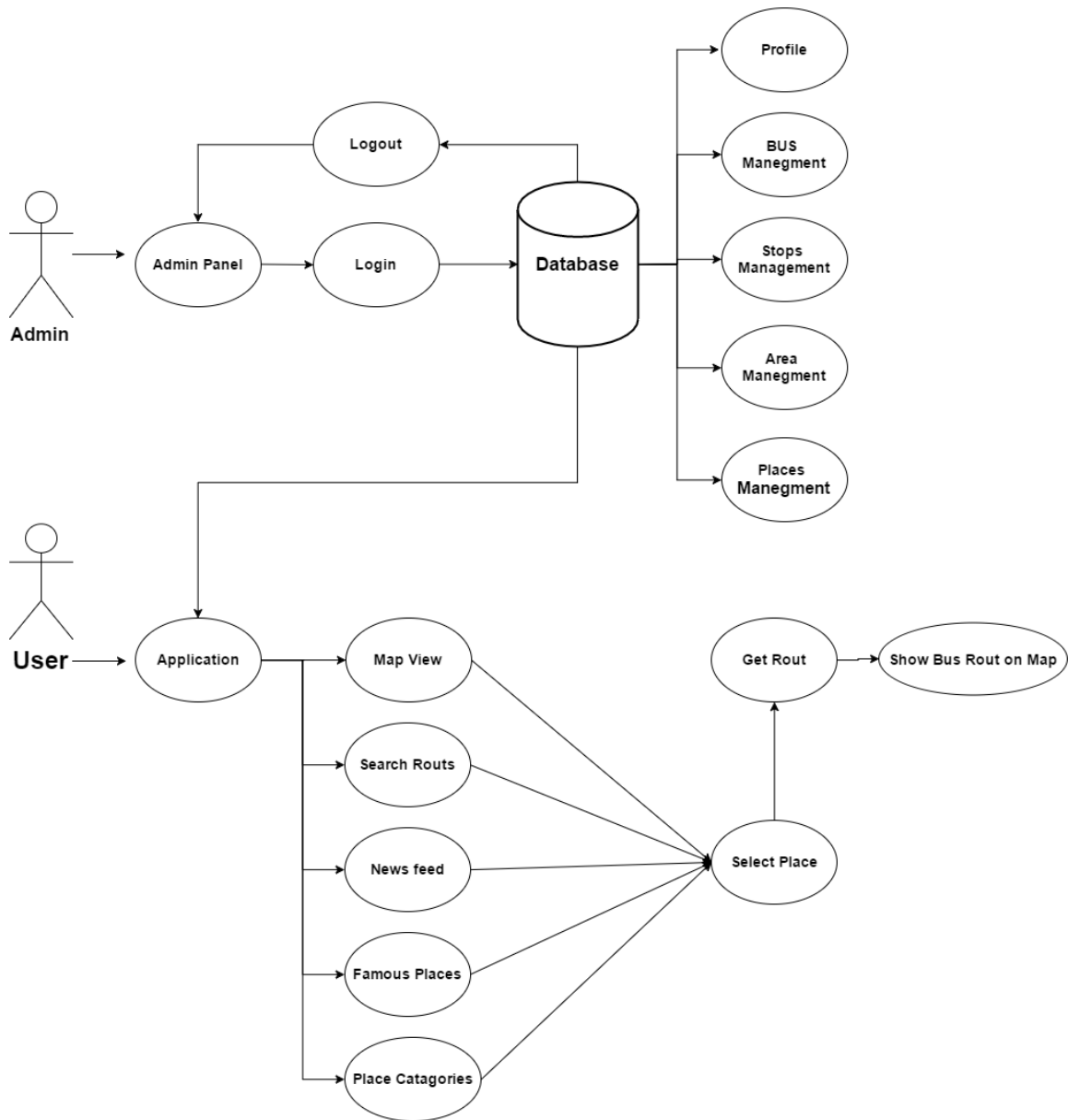


Figure 5 Level 2 DFD

7. USE CASE MODEL

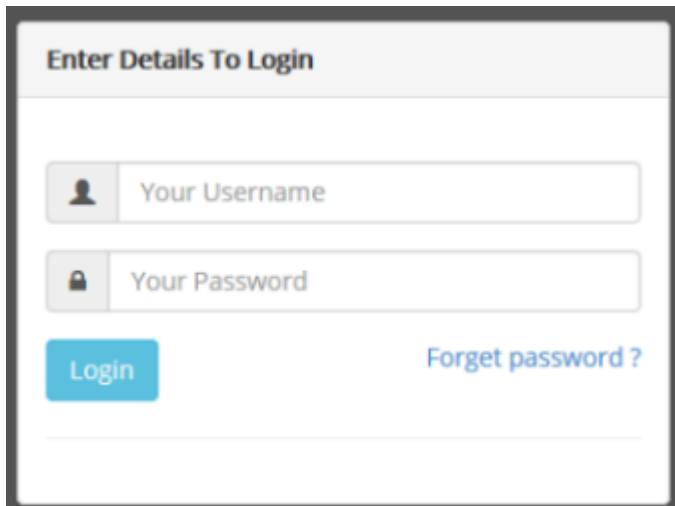
In the use cases section we would be discussing about the use cases of the project with As it is mentioned in the scope of the project this website will act as a web store using the concept of shopping cart. In the use cases section we would be discussing about the use cases of the project with the primary actors.

As mentioned above in the document the primary actors are:

- i) Admin
- ii) Users

7.1 Admin

7.1.1 Login



Use Case ID:	11
Use Case Name:	Login
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes how the admin can manage the admin panel by signing in into his/her account.
Trigger:	The Admin will attempt to login to the admin panel
Preconditions:	The user should enter the url to go to the admin panel login page and should be connected to the internet
Post conditions:	User will be given access to the admin panel after entering the correct set of username and password.
Normal Flow:	User would open the admin panel by entering the url and will be retrieved on the login page

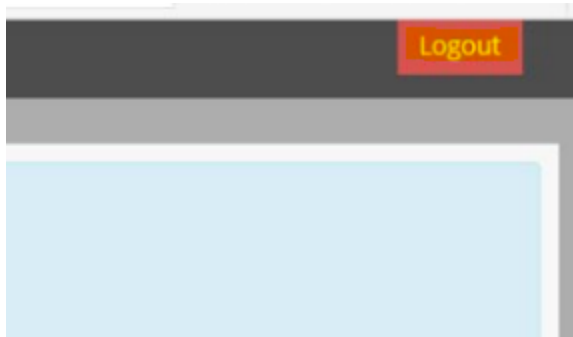
Alternative Flows:	If the require information will be correct then the admin will login an account and given access to the database. Otherwise if user enter wrong set of username and password the system will give error of wrong username or password.
Exceptions:	In step 1 of the normal flow, if the admin login account invalid 1. Message to admin to re-enter username 2. Admin enters incorrect password
Includes:	Steps 1-4 in the normal flow would be required for all types of login. A Use Case could be written for these steps and “include” in all website Use Case.
Frequency of Use:	Admin continuously attempt incorrect username and password give warring message
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Admin must give to user must one username and password for the website.

7.1.2 Forgot Password

Use Case ID:	13
Use Case Name:	Forgot password
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has forgotten the password and wants to recover it.
Trigger:	A recovery email would be sent to users provided email.
Preconditions:	User should enter the username and password user has forgotten his password he will click on forgotten password

Post conditions:	After clicking on forgotten username and password the system will gent
Normal Flow:	<ol style="list-style-type: none"> 1. Login account 2. Update an account 3. All account user's list 4. update account password
Alternative Flows:	If the require information will be correct then the database will automatically send an recovery email to the users recovery email
Exceptions:	<p>In step 1 of the normal flow, if the admin login account invalid</p> <ol style="list-style-type: none"> 3. Message to admin to re-enter username / Forgotten password 4. Admin enters incorrect password
Includes:	Steps 1-4 in the normal flow would be required for all types of recovery. A Use Case could be written for these steps and "include" in all website Use Case.
Frequency of Use:	Admin enter his recovery email address in the specific field if the email is matching with his recovery email it will accept and send email for new password and verification.
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language and must remember his recovery email.
Notes and Issues:	Admin must give to user must one username and password for the website.

7.1.3 Logout



Use Case ID:	14
Use Case Name:	Logout
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to logout form the admin panel.
Trigger:	The Admin has to logout after clicking the logout button website will the user back to the login page.
Preconditions:	1.Dashboard 2.Main site 3.Must be logged in
Post conditions:	All data changes must be saved before logging out of the account
Normal Flow:	The user have to Save changes if any. Click logout to come on login page
Alternative Flows:	Admin must be signedin in order to logout.
Exceptions:	Admin has not saved its data so he can't logout
Includes:	Steps 1-4 in the normal flow would be required for all types of recovery. A Use Case could be written for these steps and "include" in all website Use Case.
Frequency of Use:	Admin enter his recovery email address in the specific field if the email is matching with his recovery email it will accept and send email for new password and verification.
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language and must remember his recovery email.
Notes and Issues:	Admin must give to user must one username and password for the website.

7.1.4 Edit Profile

The screenshot shows a mobile application interface for updating a user profile. A modal window titled 'Update Your Profile' is displayed, featuring six input fields: 'Your Name' (with a person icon), 'Your Email' (with an envelope icon), 'Your Address' (with a house icon), 'Your Phone' (with a phone icon), 'Your Username' (with a person icon), and 'Your Password' (with a lock icon). Below these fields are two buttons: 'Update' and 'Cancel'. To the left of this modal, on the main screen, there is a blue button labeled 'Edit Profile'.

Use Case ID:	14
Use Case Name:	Edit Profile
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit his profile in the admin panel. Or to update his/her information
Trigger:	The Admin has to edit profile or update information of his / her profile.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	For user to update profile he / she should go to profile tab and click edit tab and has to enter the following things in the column to update his/her data 1.Name 2.email 3.Address 4.phone 5.username 6.password
Normal Flow:	The user will select the field in the edit profile page in order to edit field and after selection the user has to enter the required data in the selected field.
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (in email there should be @ and .com in it) or (phone should only contain integers).
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data

Includes:	Appropriate edits must be made which only includes alphabets and integers as required in the specific field.
Frequency of Use:	Admin data system gives error continuously attempt incorrect
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.5 Edit places

Place Registration Form

Place Number

Place Name

Place Discription

Place Address

Place Contact

Use Case ID:	15
Use Case Name:	Edit Places
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit places in the database by editing information about place in required text field.
Trigger:	The Admin to edit places and its information in database by clicking the edit button it will open a edit page for the specific selected field.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	After editing the user has to save the edited data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	Edit places data by entering data in respected fields. 1.place number 2.place Name 3.Place description

	4.place Address 5. Place Contact 6.Place longitude/latitude
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (in phone / location should only contain integers).
Exceptions:	Admin needs to be logged in to his account. Valid data should be entered.
Includes:	Appropriate edits must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.6 Edit stops

The screenshot shows a web application interface for managing bus stops. On the left is a dark sidebar with navigation links: 'Stops Managment', 'Area Managment', and 'Places Managment'. The main content area is titled 'Bus Stops Managment Form'. It features a 'View Record' button in the top right. Below this is a 'Number' input field. Underneath is a 'Bus ID' dropdown menu, which is currently open, displaying a list of numbers from 1 to 9. A large white arrow points from the text 'Buses IDs' to the dropdown menu. At the bottom of the form are two buttons: 'Manage Bus Stops' and 'Cancel'. The browser's address bar shows the URL 'localhost/MeraSheharLahoreAdminPanel/bus_stop.php'.

Use Case ID:	15
Use Case Name:	Edit stops
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit stops in the database by editing information about place in required text field.

Trigger:	The Admin to edit stops and its information in database by clicking the edit button it will open a edit page for the specific selected field.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	After editing the user has to save the edited data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	User clicks on edit stops tab to Edit the stops data by entering data in respected fields. 1.place number 2.place Name 3.Place description 4.place Address 5. Place Contact 6.Place longitude/latitude After editing click save to save users editing on database
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	Admin needs to be logged in to his account. Valid data should be entered.
Includes:	Appropriate edits must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.7 Edit buses

The screenshot shows a web application interface for bus management. On the left is a dark sidebar with navigation links: 'Bus Management', 'Stops Management', 'Area Management', and 'Places Management'. The main area is titled 'Buses Registration Page' in a light blue header. Below this is a 'Bus Registration Form' with three input fields: 'Bus ID', 'Bus Name', and 'Bus Compnay:'. The 'Bus Compnay:' field is a dropdown menu currently displaying a list of bus companies: LTC, Daewoo, Local Van, and Bindal Bus Company. A large black arrow points from the text 'Data Coming from Database (Bus Company Table)' to the dropdown menu, indicating that the data is sourced from a database table.

Use Case ID:	15
Use Case Name:	Edit Buses
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit buses in the database.
Trigger:	The Admin to edit buses database
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	After editing the user has to save the edited data by clicking save data .it will save data to database and bring user back to main page.
Normal Flow:	Edit buses data by entering data in respected fields.
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	Admin needs to be logged in to his account. Valid data should be entered..
Includes:	Appropriate edits must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

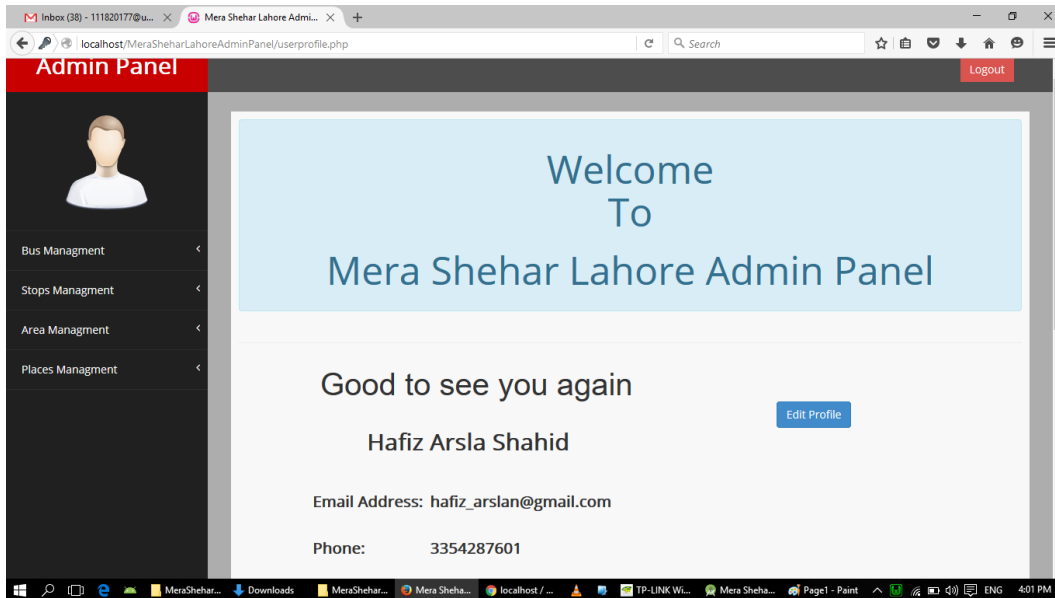
7.1.8 Edit areas

Use Case ID:	15
Use Case Name:	Edit Areas
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit areas in database.
Trigger:	The Admin to edit areas in database
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	After editing the user has to save the edited data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Edit areas field data by entering data in respected fields.to needs to be edited
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	Admin needs to be logged in to his account. Must have access to edit the data in database.
Includes:	Appropriate edits must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.9 Edit subcategories

Use Case ID:	15
Use Case Name:	Edit Subcategories
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to edit the subcategories in database.
Trigger:	The Admin to edit subcategories.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to edit
Post conditions:	After editing the user has to save the edited data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Edit sub catagouries field data by entering data in respected fields.to needs to be edited
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data
Includes:	Appropriate edits must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.10 Add profile



Use Case ID:	16
Use Case Name:	Add profile
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to add a profile.
Trigger:	The Admin to make new profile.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add
Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data
Includes:	Appropriate add must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.11 Add places

Use Case ID:	15
Use Case Name:	Add Places
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to add a place in the database.
Trigger:	The Admin to add places
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add
Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data
Includes:	Appropriate Adds must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.12 Add stops

Use Case ID:	15
Use Case Name:	Add stops
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to add stops in the admin panel.
Trigger:	The Admin to Add stops
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add

Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	After Adding user have to save changes
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data.
Includes:	Appropriate Adds must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.13 Add buses

Use Case ID:	15
Use Case Name:	Add Buses
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Add buses in the database.
Trigger:	The Admin to Add buses database
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add
Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data.
Includes:	Appropriate Adds must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course

Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.14 Add areas

Use Case ID:	15
Use Case Name:	Add Areas
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Add areas in database.
Trigger:	The Admin to Add areas
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add
Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data
Includes:	Appropriate Adds must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.15 Add subcategories

Use Case ID:	15
Use Case Name:	Add Subcategories
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Add the subcategories in database.
Trigger:	The Admin to Add subcategories.
Preconditions:	1.The user must be logged in 2.The user must be connected on database 3.The user must have the proper rights to add

Post conditions:	After adding the user has to save the added data by clicking save data .it will save data and bring user back to main page.
Normal Flow:	The user will click on Add sub categories field data by entering data in respected fields.to needs to be added
Alternative Flows:	If the user enters any invalid data in the specific field the system will give error to enter the correct data in the selected field (phone No. and location should only contain integers.
Exceptions:	1.Admin needs to be logged in to his account. 2.user is not entering valid data
Includes:	Appropriate Adds must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.16 Delete profile

Use Case ID:	16
Use Case Name:	Add profile
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to add a profile.
Trigger:	The Admin to make new profile.
Preconditions:	<ol style="list-style-type: none"> 1. User should be logged in admin panel 2. User should have proper rights 3. A valid data should be available to delete
Post conditions:	<ol style="list-style-type: none"> 1. User will select any profile to delete in database 2. User will click delete button 3. After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	<p>The user will go to the profile</p> <p>Go to settings</p> <p>Delete profile</p>
Alternative Flows:	After deleting user have to save changes

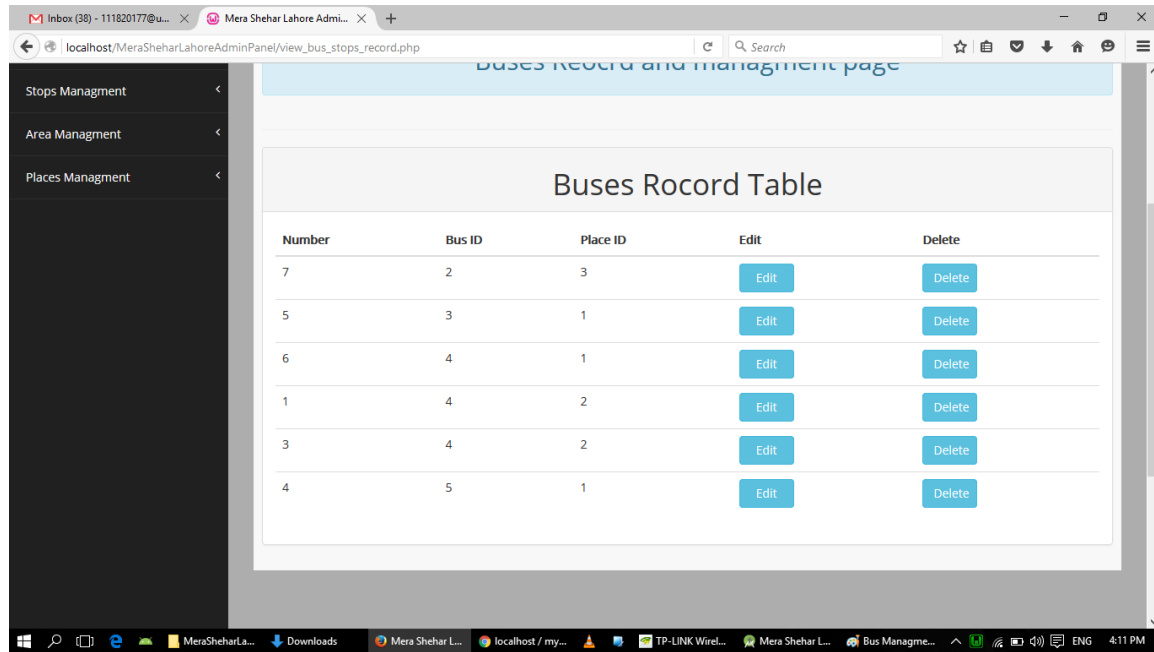
Exceptions:	Admin needs to be logged in to his account.
Includes:	Appropriate add must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

Use Case ID:	15
Use Case Name:	Delete Profile
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Delete his profile in the admin panel.
Trigger:	The Admin to Delete profile
Preconditions:	<ol style="list-style-type: none"> 1.User should be logged in admin panel 2.User should have proper rights 3. A valid data should be available to delete
Post conditions:	<ol style="list-style-type: none"> 1. User will select any profile to delete in database 2. User will click delete button 3. After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	<ol style="list-style-type: none"> 1. The user will go to the item 2. Select item 3. Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate Deletes must be made.
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.17 Delete places

Use Case ID:	15
Use Case Name:	Delete Places
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Delete a place from the database.
Trigger:	The Admin to Delete places
Preconditions:	1.User should be logged in admin panel 2.User should have proper rights 3. A valid data should be available to delete
Post conditions:	User will select any profile to delete in database User will click delete button After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	The user will go to the item Select item Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate Deletes must be made
Frequency of Use:	Admin continuously attempt to select incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.18 Delete stops



Use Case ID:	15
Use Case Name:	Delete stops
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to add stops in the admin panel.
Trigger:	The Admin to Delete stops
Preconditions:	1.User should be logged in admin panel 2.User should have proper rights 3. A valid data should be available to delete
Post conditions:	User will select any profile to delete in database User will click delete button After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	The user will go to the item Select item Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate deletes must be made
Frequency of Use:	Admin continuously attempt incorrect data system gives error

Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.19 Delete buses

Use Case ID:	15
Use Case Name:	Delete Buses
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Delete buses in the database.
Trigger:	The Admin to Delete buses database
Preconditions:	1. User should be logged in admin panel 2. User should have proper rights 3. A valid data should be available to delete
Post conditions:	User will select any profile to delete in database User will click delete button After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	The user will go to the item Select item Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate Deletes must be made
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.20 Delete areas

Use Case ID:	15
Use Case Name:	Delete Areas

Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to Delete areas in database.
Trigger:	The Admin to Delete areas
Preconditions:	1.User should be logged in admin panel 2.User should have proper rights 3. A valid data should be available to delete
Post conditions:	User will select any profile to delete in database User will click delete button After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	The user will go to the item Select item Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate Deletes must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.1.21 Delete subcategories

Use Case ID:	15
Use Case Name:	Delete Subcategories
Actors:	Actor of this use case is the admin of the website
Description:	This use case describes the admin has to delete the subcategories in database.
Trigger:	The Admin to delete the subcategories.
Preconditions:	1.User should be logged in admin panel 2.User should have proper rights 3. A valid data should be available to delete
Post conditions:	User will select any profile to delete in database User will click delete button

	After the data which has been deleted system will give message that data successfully deleted.
Normal Flow:	The user will go to the item Select item Delete item
Alternative Flows:	After Deleting an item user have to save changes
Exceptions:	Admin needs to be logged in to his account and any deletes will be approved only by the admin of the database.
Includes:	Appropriate Deletes must be made which only includes alphabets and integers
Frequency of Use:	Admin continuously attempt incorrect data system gives error
Special Requirements:	The system shall be able to provide a collaboration environment in a course
Assumptions:	Admin must understand English language.
Notes and Issues:	Only alphabets and integers allowed, steric and symbols not allowed

7.2 Application Use Cases

7.2.1 Get route

Use Case ID:	21
Use Case Name:	Get route
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has demanded a bus route to a certain location from this current location.
Trigger:	The user has to get a route
Preconditions:	Application Database connection GPS Destination selection
Post conditions:	The user selects get route button in application to get bus route to any place This will show bus route on the map along user's current location.
Normal Flow:	First user will select any place or destination from the application

Alternative Flows:	No route found to the destination Get other route
Exceptions:	NO routs available to the specific place
Includes:	Gets route from the database and shows on the map
Frequency of Use:	User give location out of city.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Rout show be shown on map.
Notes and Issues:	Some stops would be missing or out of route.

7.2.2 Search

Use Case ID:	22
Use Case Name:	Search
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has to search for the fallowing: <ol style="list-style-type: none"> 1. Routs 2. Places 3. Stops 4. Area
Trigger:	The user needs to search from the database
Preconditions:	<ol style="list-style-type: none"> 1. Application must be on 2. Database must be connected 3. GPS should be on 4. Destination selection
Post conditions:	After the search the new page will open which will be Showing the search results from database and Google maps.
Normal Flow:	User will select search bar and searches for a place or stop or any other thing the search will find the place from maps and show the results.
Alternative Flows:	No alternative flow
Exceptions:	No exceptions.
Includes:	Gets all results from the database and shows.
Frequency of Use:	User search unpredictable.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Results be shown
Notes and Issues:	No issues.

7.2.3 Get News feed

Use Case ID:	23
Use Case Name:	Get news feed
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has demanded to see the news feed and events.
Trigger:	The user has to see the news feed
Preconditions:	<ol style="list-style-type: none">1. Application must be on2. Database must be connected3. GPS should be on
Post conditions:	The newsfeed will show the upcoming and in going events offer and news about Lahore The Internet connection and database.
Normal Flow:	The user will select the news feed bar from the application the news feed will fetch the data from internet rss feeds and show them on a new page Showing the news feed.
Alternative Flows:	In some places there are options to see the offers and on the specific places restaurants hotels etc:
Exceptions:	No Exceptions.
Includes:	News and ongoing events in city
Frequency of Use:	Touch the news feed tab.
Special Requirements:	GPS and internet connection should be available
Assumptions:	News feed would be shown.
Notes and Issues:	No issues.

7.2.4 Custom Location on map

Use Case ID:	24
Use Case Name:	Custom location on map
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has given a custom location on map by pin pointing
Trigger:	The user has given a manual location on map
Preconditions:	<ol style="list-style-type: none">1. Application must be on2. Database must be connected3. GPS should be on

Post conditions:	After giving a custom location on map the app will give a way path from your current location to your given location and it will suggest a bus route to the location.
Normal Flow:	A user will touch any point on the map and the application will suggest a way path to the specific point from your current location.
Alternative Flows:	No alternate flow.
Exceptions:	No Exceptions.
Includes:	Getting custom long lats
Frequency of Use:	Touch and location on map.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Rout would be given
Notes and Issues:	Not 100% accurate

7.2.5 selection of catagouries

Use Case ID:	25
Use Case Name:	Selection of catagouries
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has to select one of the fallowing: 1 places > Sub places 2 stops 3 areas 4 location
Trigger:	The user has selected a category
Preconditions:	<ol style="list-style-type: none"> 1. Application must be on 2. Database must be connected 3. GPS should be on
Post conditions:	The user will select any sub category After selection it will ask for action of the selected category.
Normal Flow:	Selecting an action.
Alternative Flows:	No alternate flow.
Exceptions:	No Exceptions.
Includes:	Includes noting
Frequency of Use:	Touch to select an action.

Special Requirements:	GPS and internet connection should be available
Assumptions:	Action would be taken for the selection.
Notes and Issues:	Not 100% accurate

7.2.6 select famous place

Use Case ID:	26
Use Case Name:	Select famous places
Actors:	Actor of this use case is the user of application
Description:	This use case describes the user has to select any famous place from the famous places list.
Trigger:	The user has selected a place
Preconditions:	<ol style="list-style-type: none"> 1. Application must be on 2. Database must be connected 3. GPS should be on
Post conditions:	After selecting a place from the database the app will give a way path from your current location to your given location and it will suggest a bus route to the location.
Normal Flow:	A user will touch category and place the application will suggest a way path to the specific point from your current location.
Alternative Flows:	No alternate flow..
Exceptions:	No Exceptions.
Includes:	Includes noting
Frequency of Use:	Touch to select an action.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Action would be taken for the selection.
Notes and Issues:	Not 100% accurate

7.2.7 about place

Use Case ID:	27
Use Case Name:	About place

Actors:	Actor of this use case is the user of application
Description:	This use case describes that the user has to get to know the information about that place
Trigger:	The user has selected a place
Preconditions:	Application must be on Database connection is needed GPS should be on
Post conditions:	After selection it will show the information about place and its location and will provide a button to get location after pressing get location app will provide route to that location from user current location.
Normal Flow:	User will go to any place on any fragment in app then the will select the place. After selecting the app will show the information about place and its location and will provide a button to get location.
Alternative Flows:	Select place directly from map or news feed and then select the place. After selecting the app will show the information.
Exceptions:	No Exceptions.
Includes:	Includes information and location about place
Frequency of Use:	Touch to select an action.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Action would be taken for the selection.
Notes and Issues:	Not 100% accurate

7.2.8 select sub category

Use Case ID:	28
Use Case Name:	Select Sub catagouris
Actors:	Actor of this use case is the user of application
Description:	This use case describes that the user has selected a sub category for the category page
Trigger:	The user has selected a sub category
Preconditions:	Application must be on Database connection is needed GPS should be on Should have passes the categories tab
Post conditions:	After selection the user will select any place from the sub categories tab and will get the location and info

Normal Flow:	User will go to any place on any fragment in app then the will select the place. After selecting the app will show the information about place and its location and will provide a button to get location
Alternative Flows:	No alternate flow..
Exceptions:	No Exceptions.
Includes:	Includes information and location about place
Frequency of Use:	Touch to select an action.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Action would be taken for the selection.
Notes and Issues:	Not 100% accurate

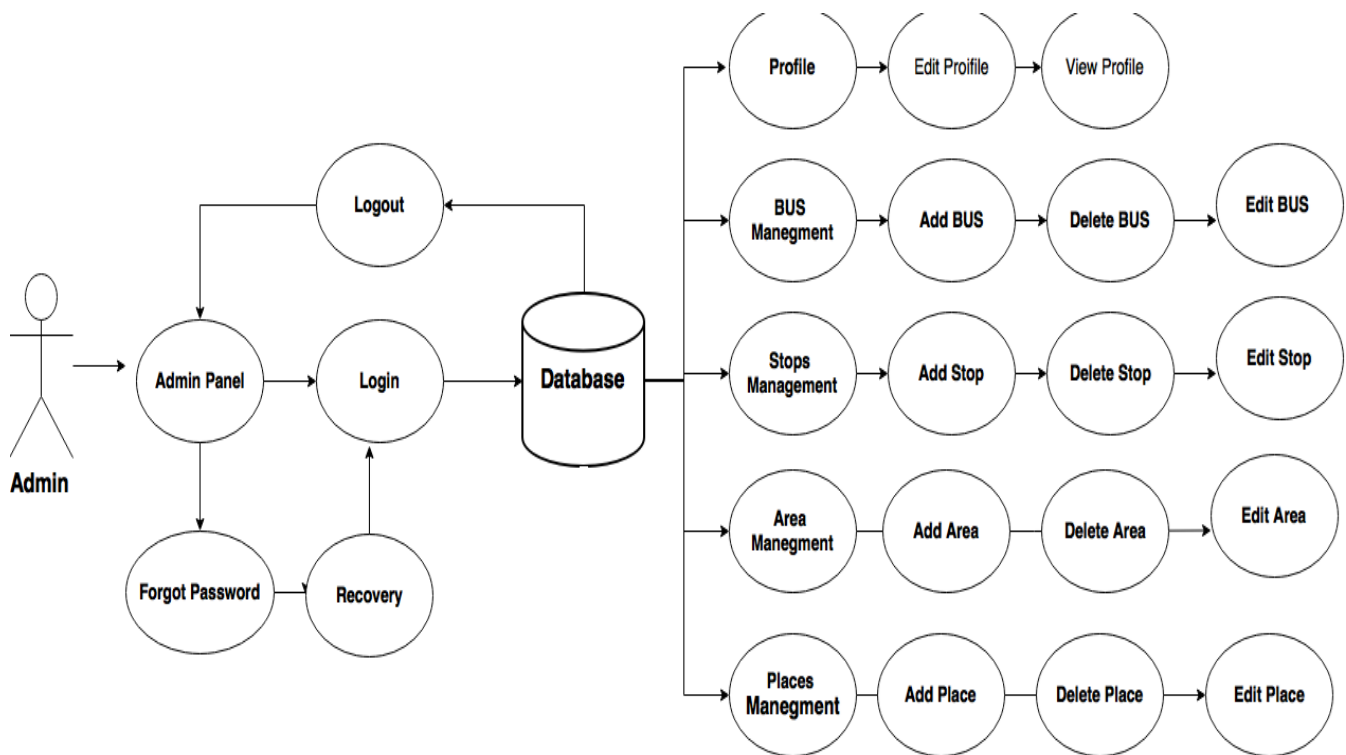
7.2.9 show bus route

Use Case ID:	29
Use Case Name:	Show bus route
Actors:	Actor of this use case is the user of application
Description:	This use case describes that the user has demanded to see the bus route
Trigger:	The user has selected an action to select bus route.
Preconditions:	Application must be connected to the database Database connection GPS running Destination selection
Post conditions:	After selecting a place there will be button which will ask to show the bus routes to the selected place from our current location
Normal Flow:	The user selects a place or stop in application from any point and selects show bus route option to show the bus route on map.
Alternative Flows:	No alternate flow..
Exceptions:	No Exceptions.
Includes:	Includes information and location about place
Frequency of Use:	Touch to select an action.
Special Requirements:	GPS and internet connection should be available
Assumptions:	Action would be taken for the selection.
Notes and Issues:	No issues

7.3 Use Case Diagram

The use case diagram which we have implemented is follow:

7.3.1 Admin Panel use case diagram



7.3.2 Application use case diagram



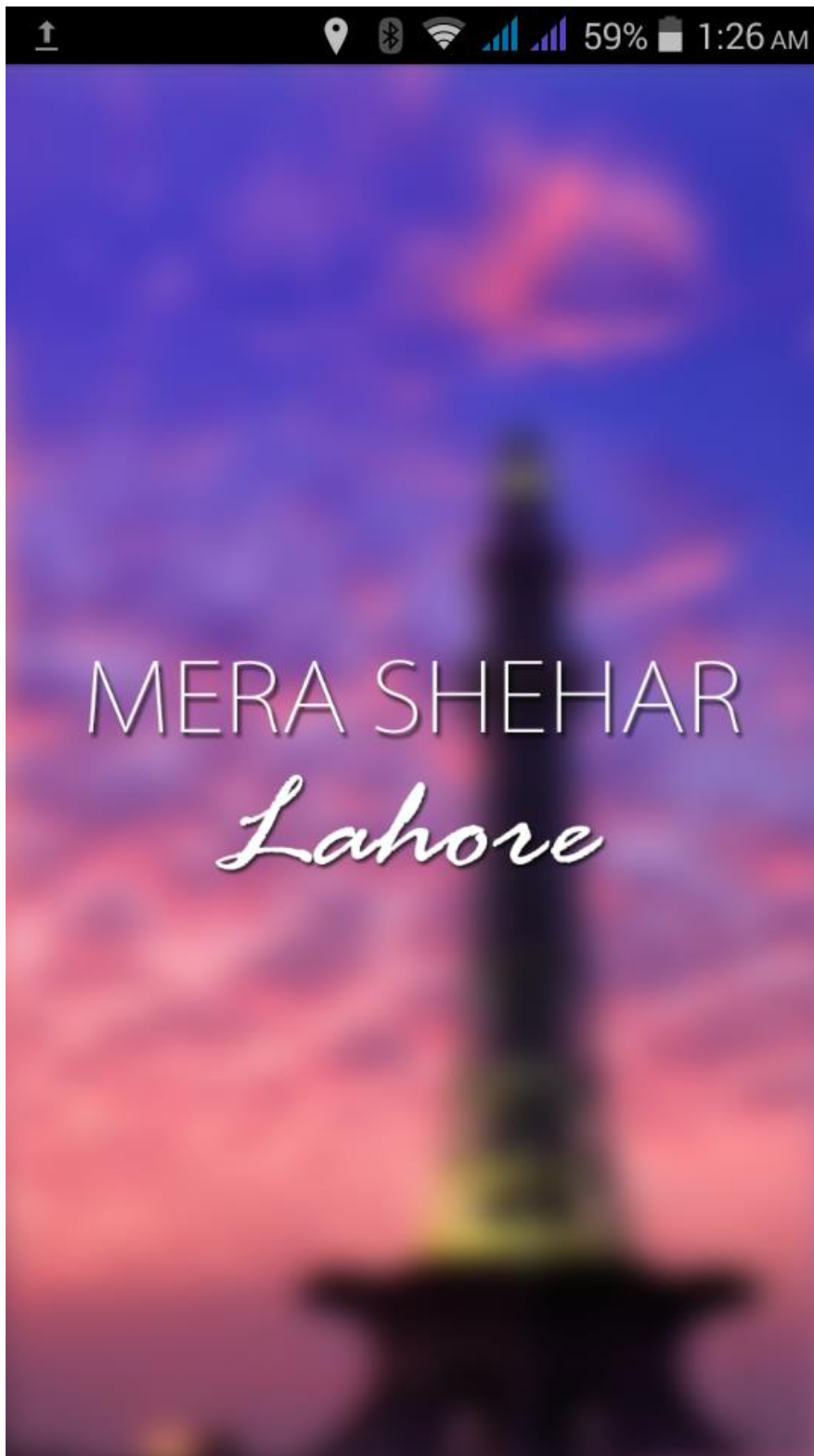
8. GRAPHIC USER INTERFACE

The user interface is comprised of the website which displays all the information and functionalities which are related to the website for the users. On Shop is developed with a simple and readable design. In this section we would be providing essential screenshots of our project's GU interface.

Below given screenshots are best way to explain the interface which we have developed. We have tried to cover every detail of the Application and admin panel and take screen shot of it the user interface can be categorized in two, one is the admin panel interface which would be displayed for the Admin and other is application which will be used by user.

8.1 MSL Application UI

8.1.1 Splash Screen:



8.1.2 Category (Main Page):



Sub Category.



ChinessFood



Continental



DesiFood



IndianFood



JapaneseFood

THAI FOOD

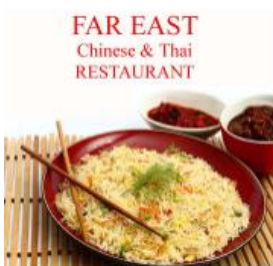


Restaurants List.



Dynasty

Avari Hotel
87 Shahr-e-Quaid-e-Azam
Lahore, Pakistan.



Far East

M. M. Alam Rd, Lahore



Palillos

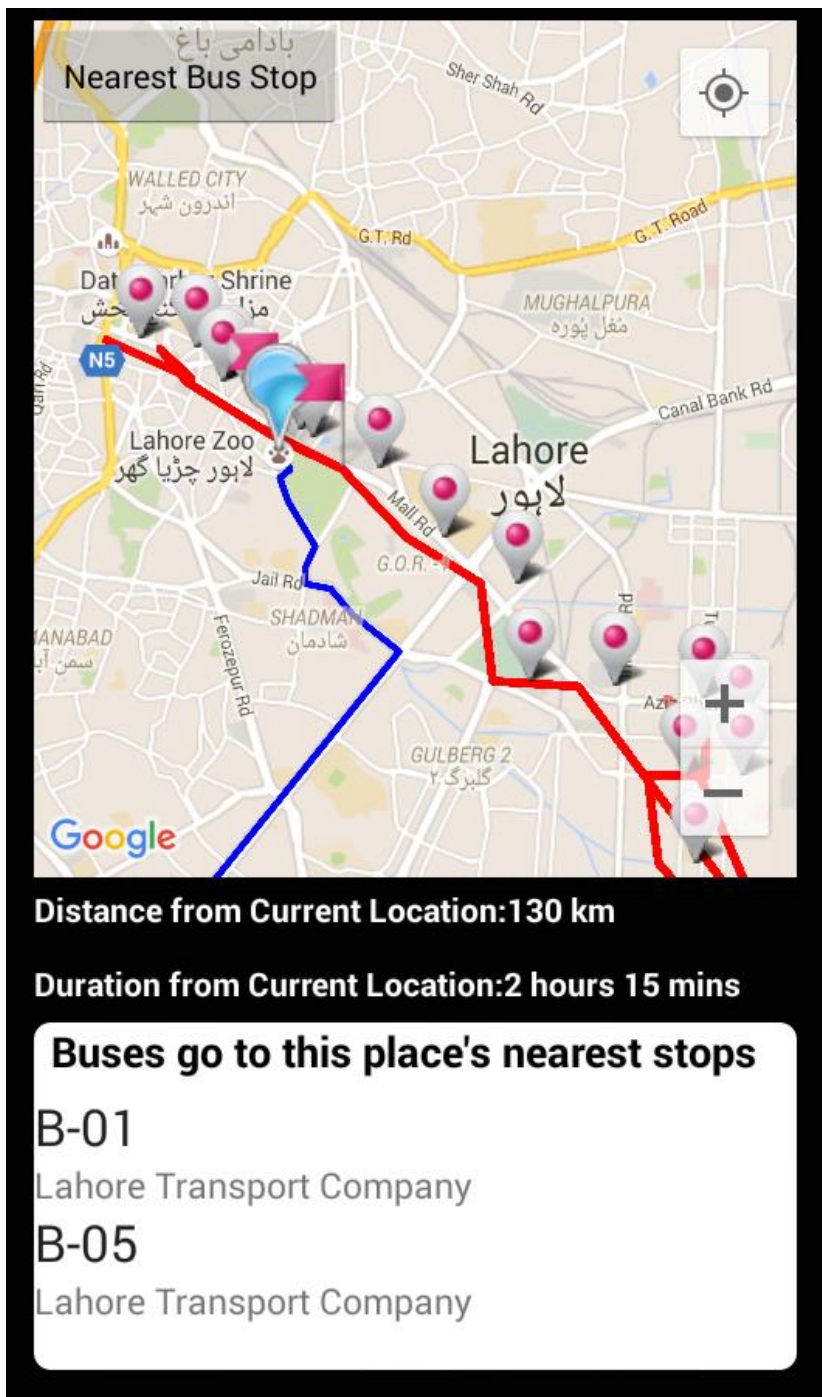
103-B1,, M. M. Alam Rd, Lahore,
Pakistan




New Beijing Chinese Restaurant


Block A, Lahore

Route and buses suggestions screen.




8.1.3 Famous Places:






Fakir Khana Lahore

Old City Near Hakiman Bazar.




Anarkali Bazar

Mall Road Lahore.




Badshahi Mosque

Old City near Minnar-e-Pakistan




Data Darbar

Jilani Road








Lahore Zoo

90 Shahrah-e-Quaid-e-Azam, Mall Road



Lahore Fort

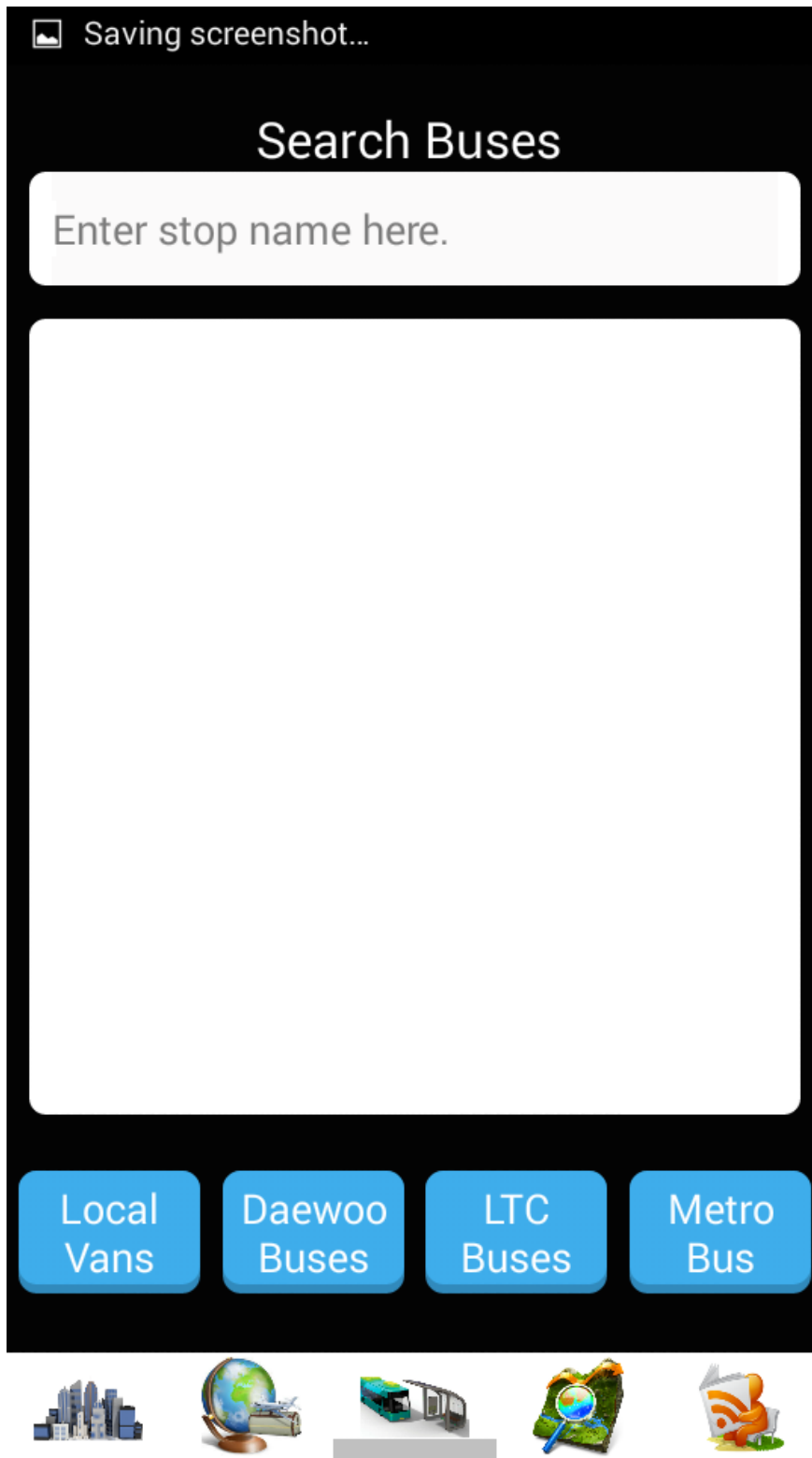
Walled City Fort Rd



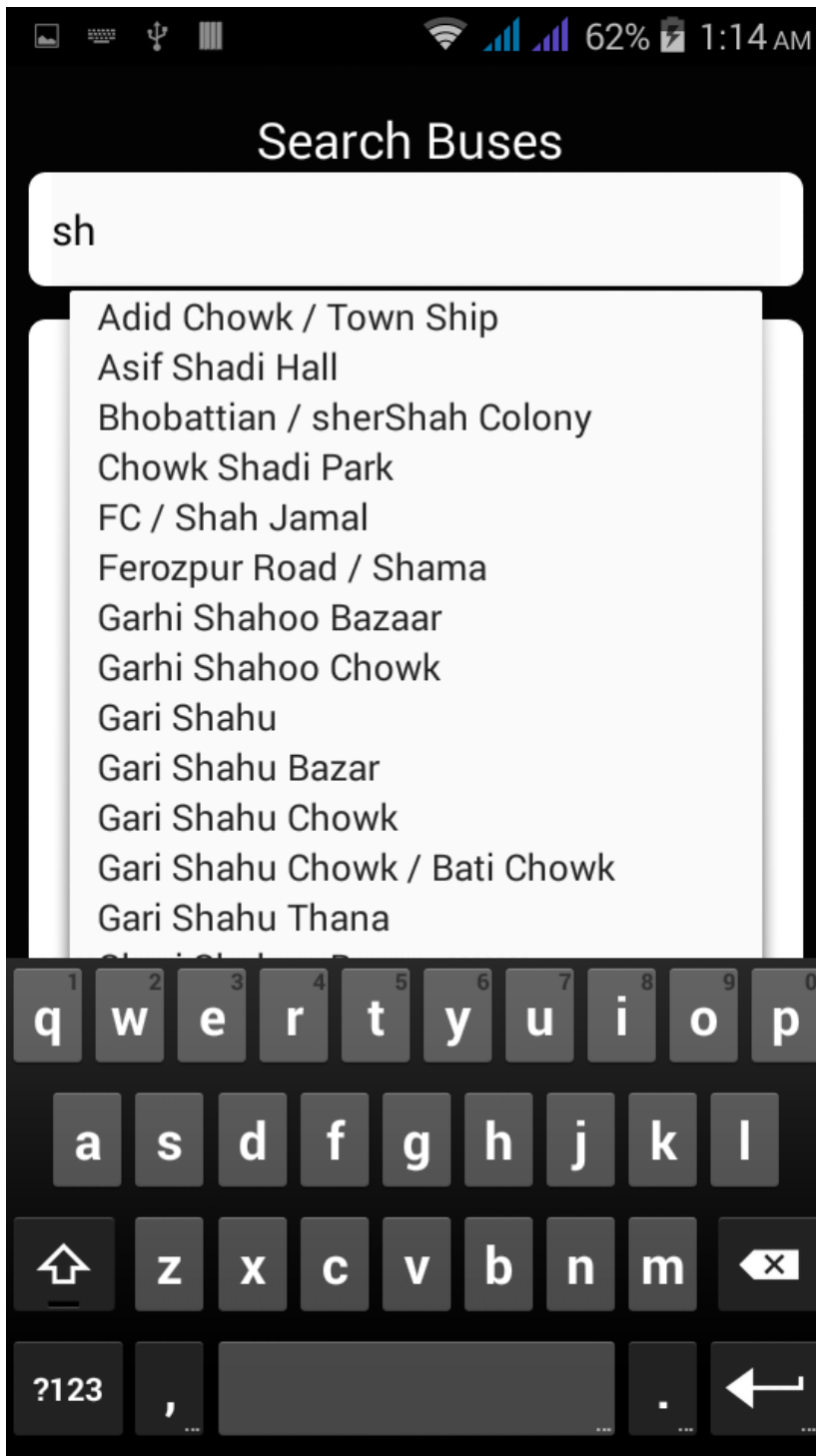
8.1.4 Place Description:



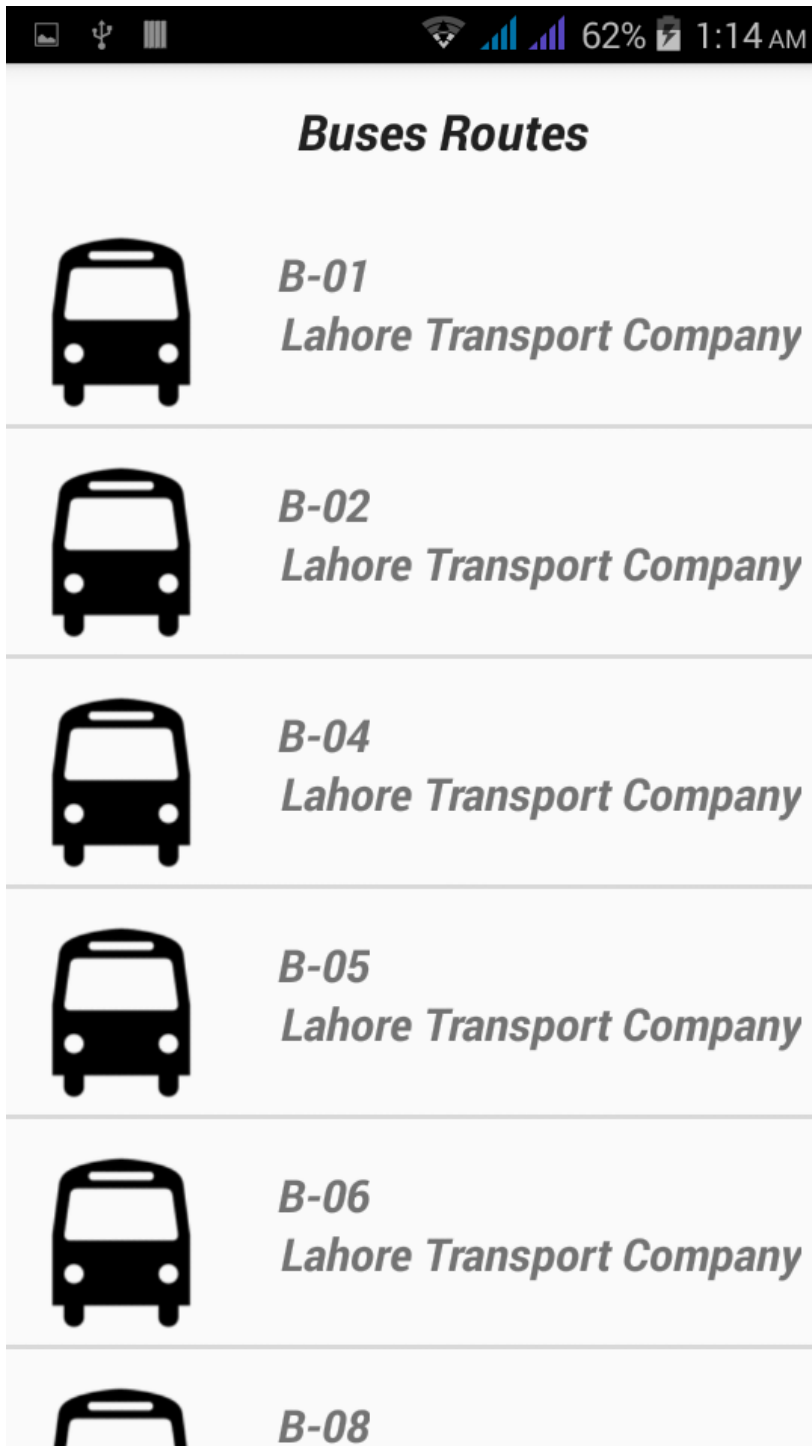
8.1.5 Search Bus:



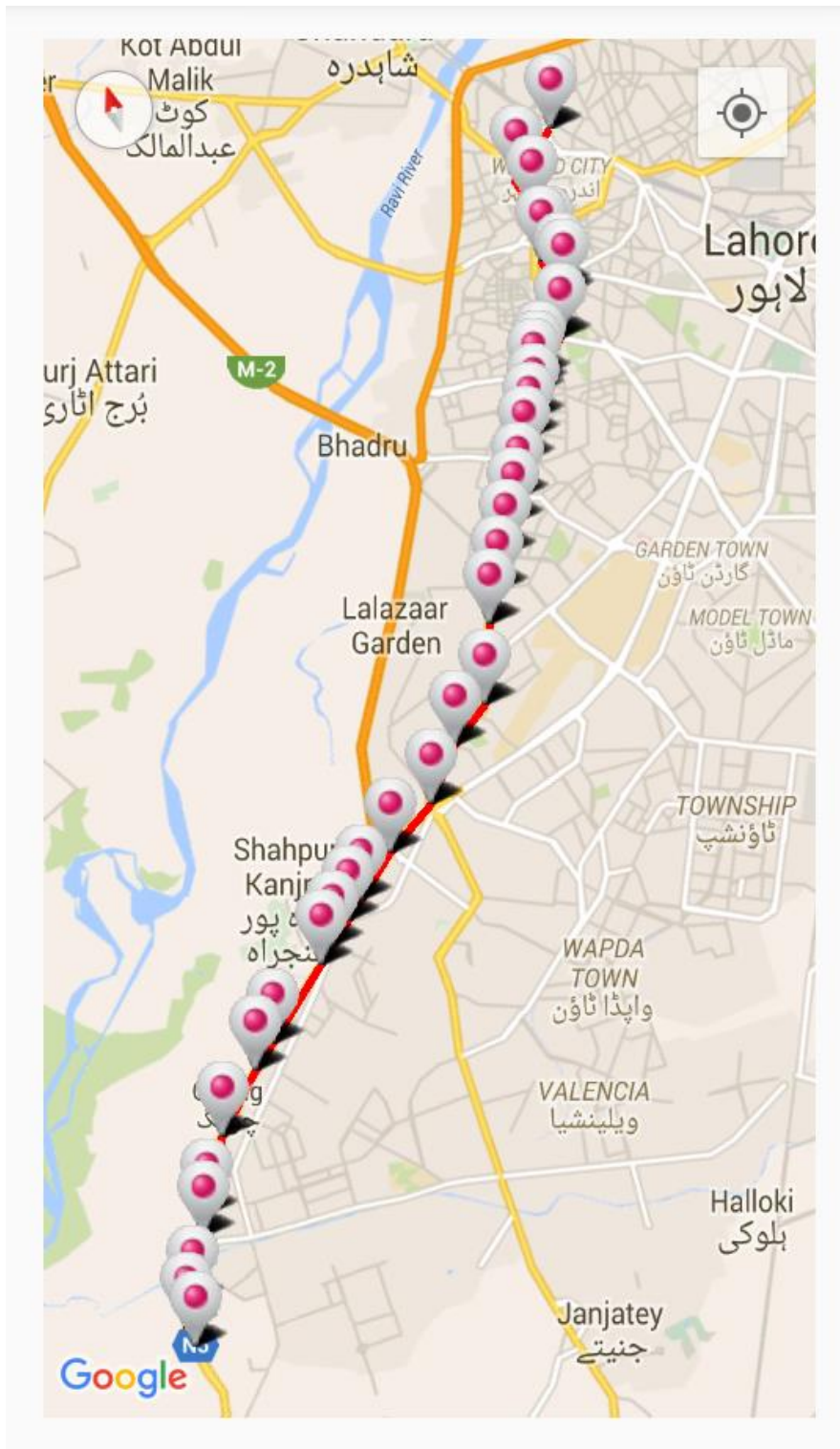
8.1.6 Search Bus > Select Bus:



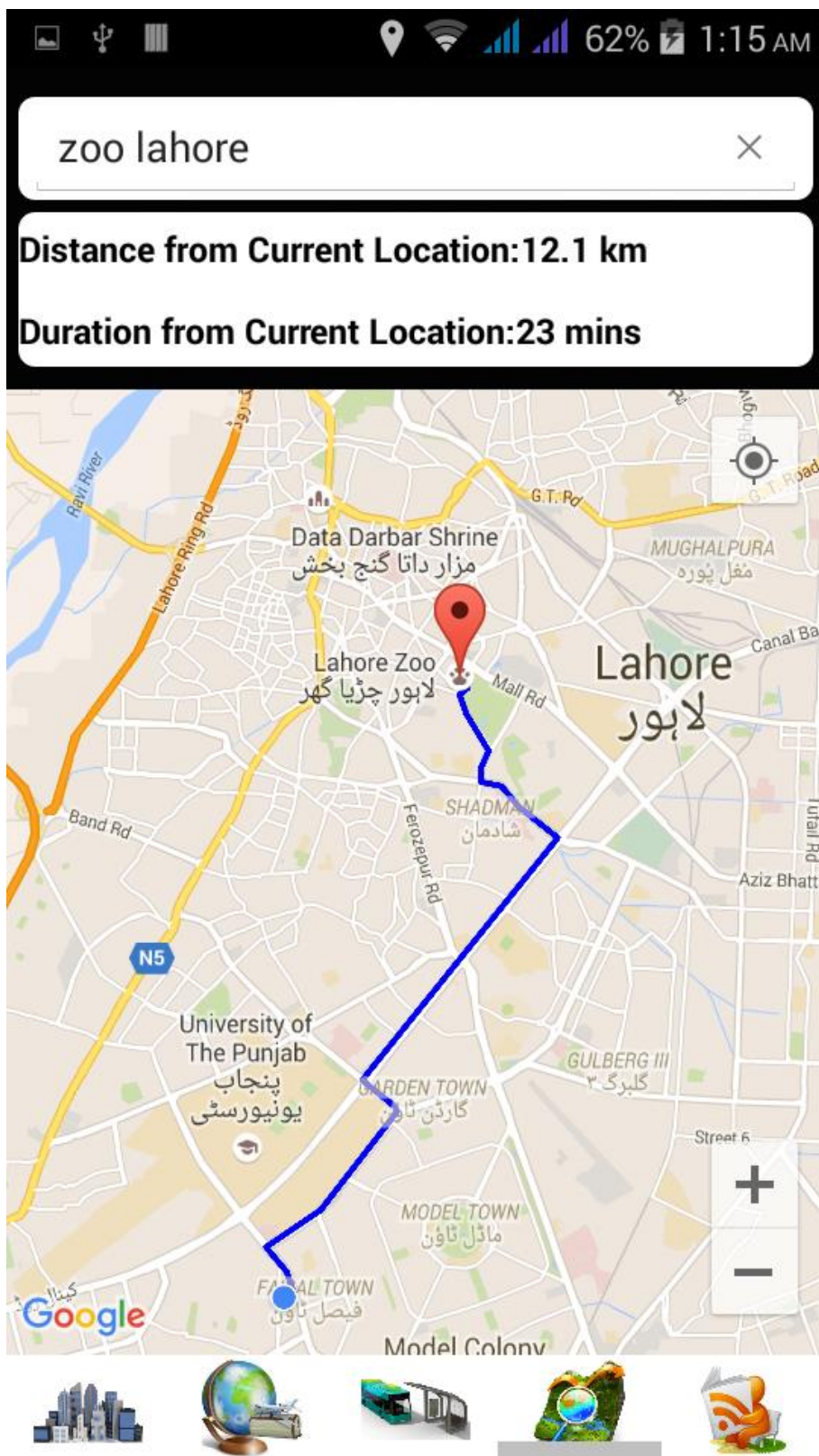
8.1.7 Select Route:



Complete Bus Route.



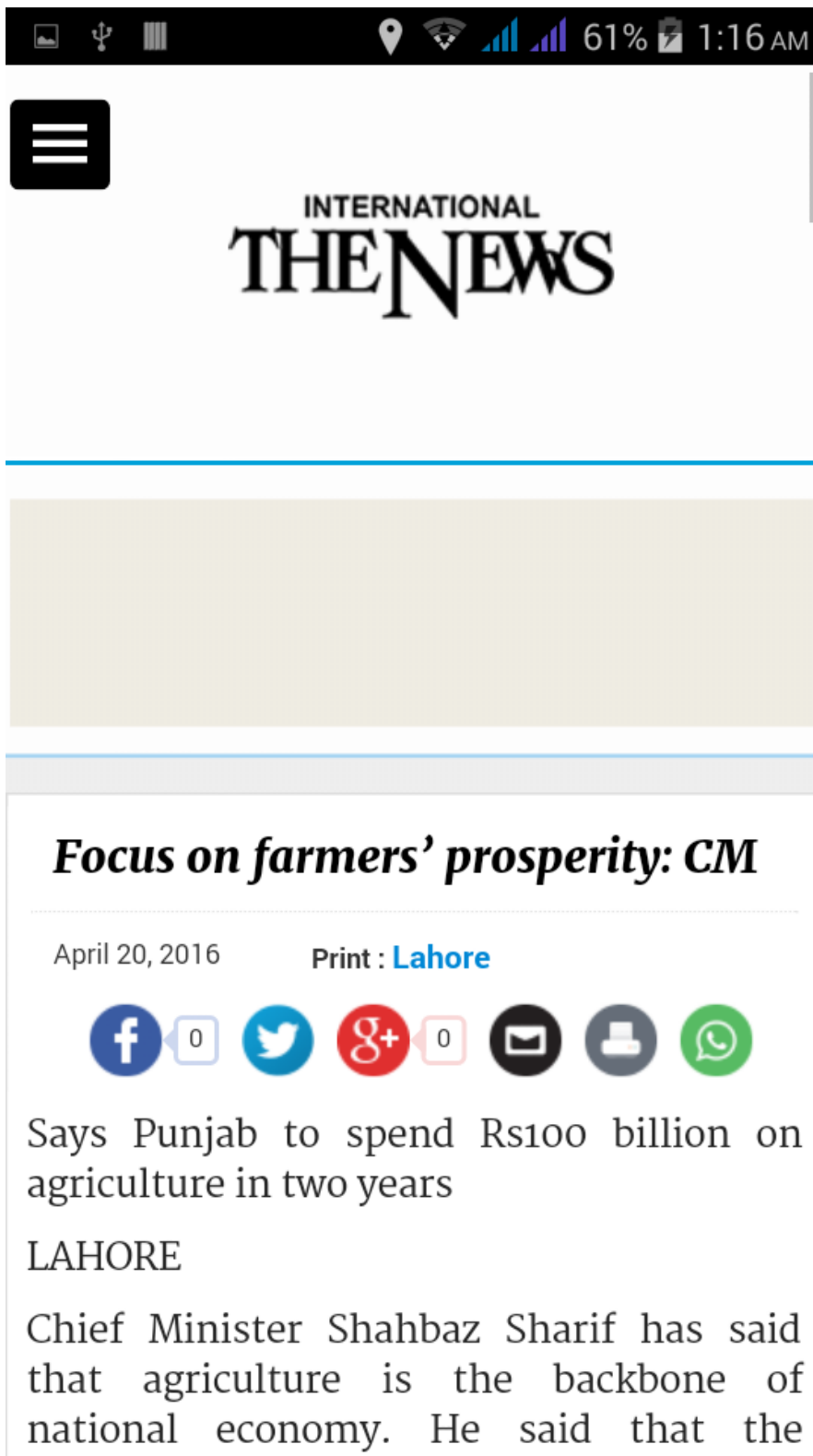
8.1.8 Map View:



8.1.9 News Feed List:

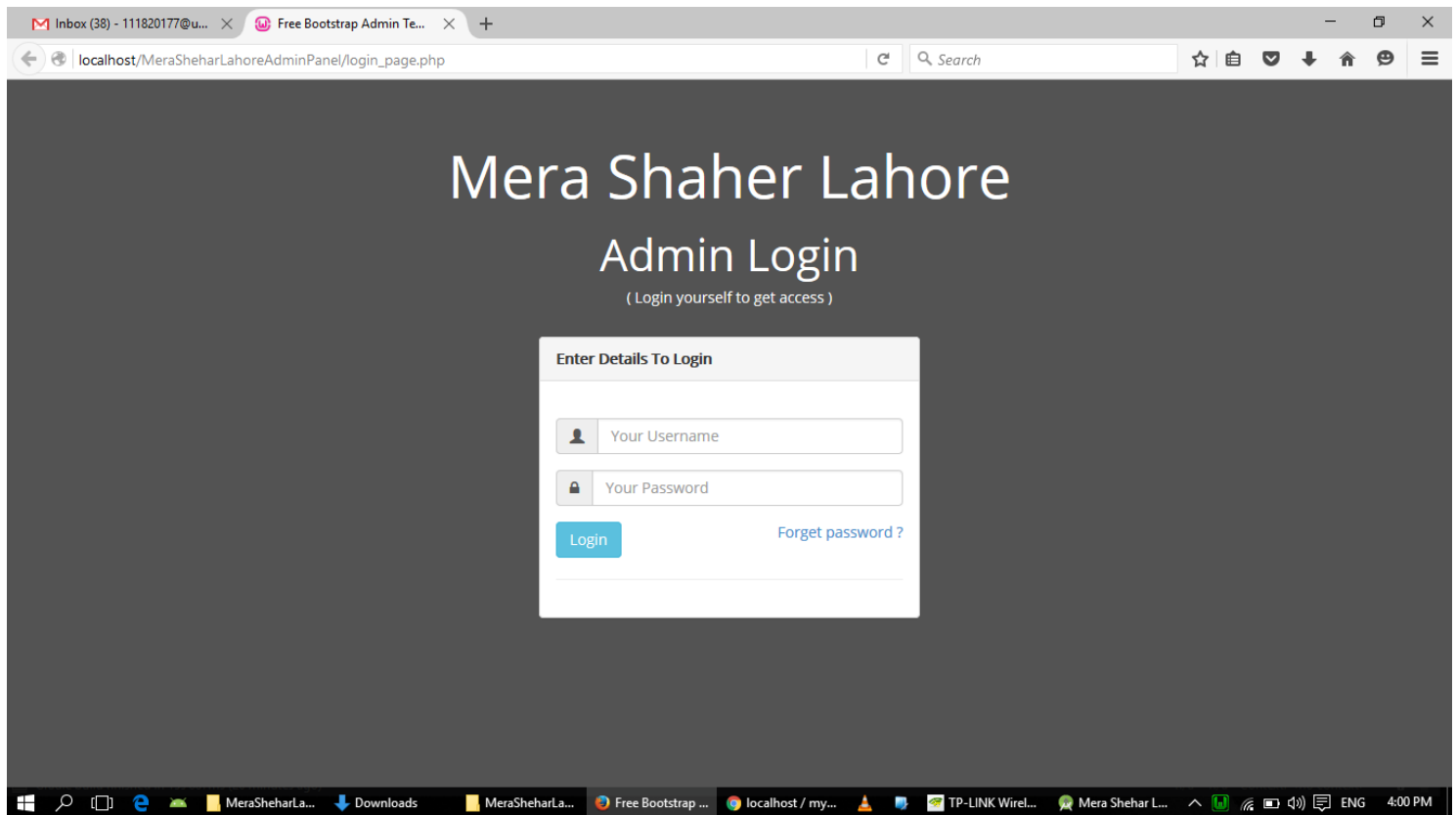


8.1.10 News Feed:

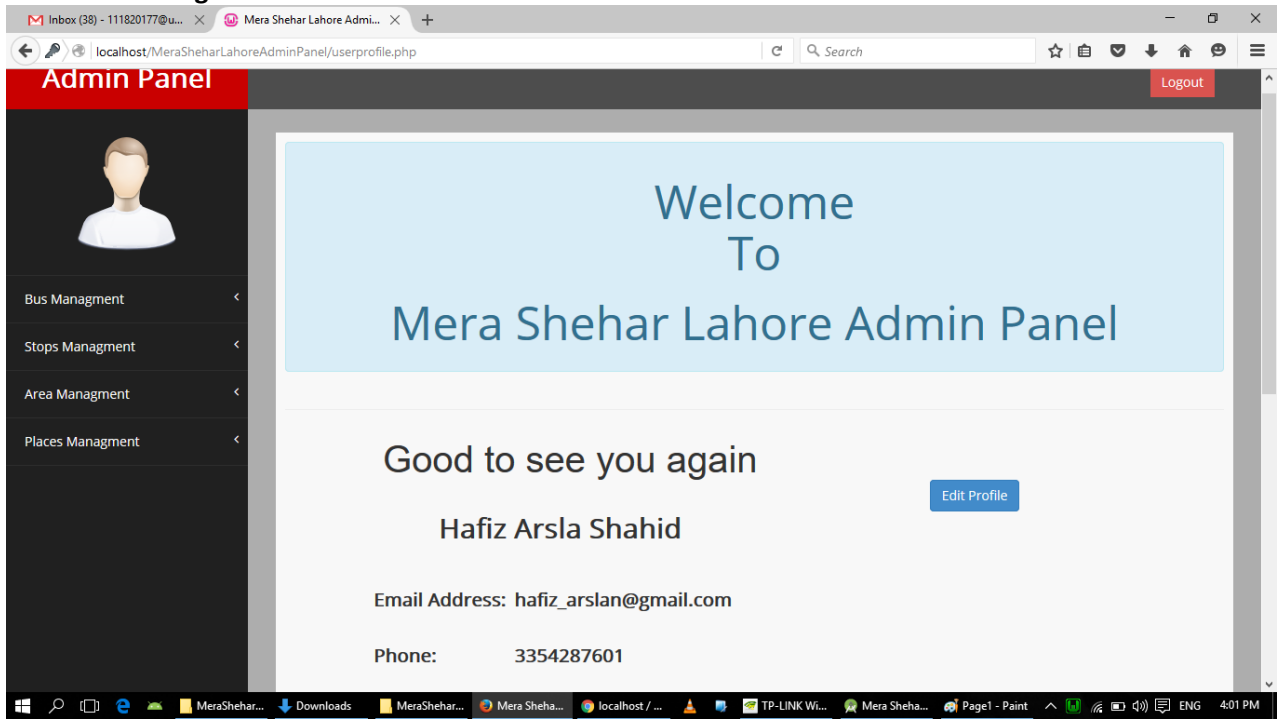


8.2 Amin Panel UI

8.2.1 login page



8.2.2 Home Page



8.2.3 Buse Registration page

The screenshot displays a web application interface for bus registration. On the left is a dark sidebar with navigation links: 'Stops Management', 'Area Management', and 'Places Management'. The main content area is titled 'Area Rocord Table' (note the typo). It features a table with five rows of area records. Each row includes an 'Area Number', an 'Area Name', and two buttons: 'Edit' and 'Delete'. An 'Add New Area' button is located in the top right corner of the table area. The browser's address bar shows the URL 'localhost/MeraSheharLahoreAdminPanel/area_record.php'. The Windows taskbar at the bottom shows several open applications, including 'Mera Shehar L...', 'localhost / my...', and 'Area Registrati...'. The system clock indicates the time is 4:26 PM on the 26th of the month.

Area Number	Area Name	Edit	Delete
1	Johar Town	<button>Edit</button>	<button>Delete</button>
2	TownShip	<button>Edit</button>	<button>Delete</button>
3	Fasll Town	<button>Edit</button>	<button>Delete</button>
4	GullBurg	<button>Edit</button>	<button>Delete</button>
5	Liberty Market	<button>Edit</button>	<button>Delete</button>

8.2.4 Area Registration

The screenshot shows a web browser window with the URL `localhost/MeraSheharLahoreAdminPanel/area_registration.php`. The page has a dark sidebar on the left with menu items: Bus Managment, Stops Managment, Area Managment, and Places Managment. The main content area has a light blue header with the text "Welcome To Area Registration Page". Below this is a form titled "Area Registration Form" with two input fields: "Area Number" and "Area Name". At the bottom of the form are two buttons: "Register Area" and "Candle". The browser's taskbar at the bottom shows various open applications and the system clock indicating 4:25 PM.

localhost/MeraSheharLahoreAdminPanel/area_registration.php

Welcome To
Area Registration Page

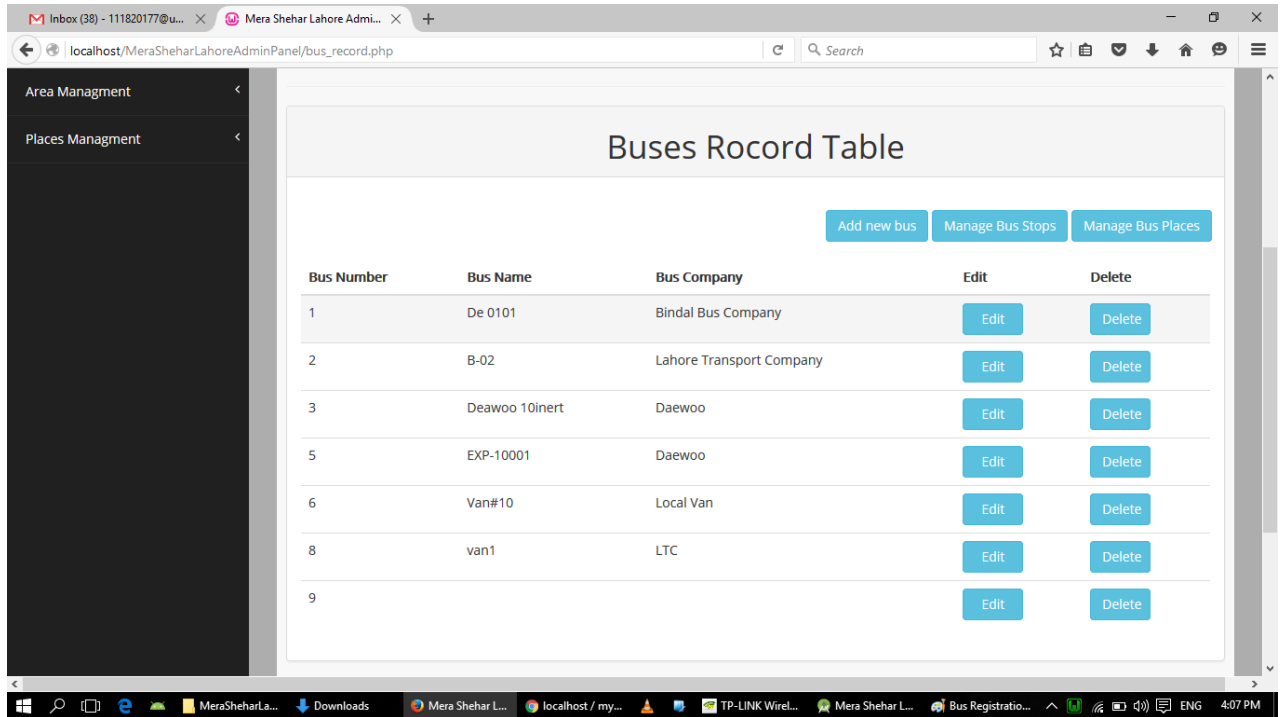
Area Registration Form

Area Number

Area Name

Register Area Candle

8.2.5 Bus Record table



The screenshot displays a web application interface for managing bus records. The browser address bar shows the URL `localhost/MeraSheharLahoreAdminPanel/bus_record.php`. The left sidebar contains navigation links for 'Area Management' and 'Places Management'. The main content area is titled 'Buses Record Table' and includes three action buttons: 'Add new bus', 'Manage Bus Stops', and 'Manage Bus Places'. Below these buttons is a table with the following data:

Bus Number	Bus Name	Bus Company	Edit	Delete
1	De 0101	Bindal Bus Company	Edit	Delete
2	B-02	Lahore Transport Company	Edit	Delete
3	Daewoo 10inert	Daewoo	Edit	Delete
5	EXP-10001	Daewoo	Edit	Delete
6	Van#10	Local Van	Edit	Delete
8	van1	LTC	Edit	Delete
9			Edit	Delete

The Windows taskbar at the bottom shows the system clock as 4:07 PM on 4/24/2020, with the language set to ENG. Several application windows are open, including 'MeraSheharL...', 'Downloads', 'Mera Shehar L...', 'localhost / my...', 'TP-LINK Wire...', and 'Bus Registratio...'.

8.2.6 Bus place manegment

The screenshot shows a web browser window with the URL `localhost/MeraSheharLahoreAdminPanel/bus_place.php`. The page title is "Bus Place Management Page". The main content area is titled "Bus Place Managment Form".

On the left, there is a sidebar menu with the following items:

- Stops Managment
- Area Managment
- Places Managment

The main form contains the following elements:

- A "View record" button in the top right corner.
- A "Number" input field.
- A "Bus Name" dropdown menu. A large arrow points to this dropdown, with a note: "Buses Name from Buses table in database". The dropdown list contains the following items: "De 0101", "B-02", "Deawoo 10inert", "EXP-10001", "Van#10", and "van1".
- "Manage Bus Place" and "Candle" buttons at the bottom.

The Windows taskbar at the bottom shows the following open applications: MeraSheharLa..., Downloads, Mera Shehar L..., localhost / my..., TP-LINK Wirel..., Mera Shehar L..., and Bus Place Man... The system clock shows 4:13 PM on ENG.

8.2.7 Bus place record table

The screenshot displays a web browser window with the URL `localhost/MeraSheharLahoreAdminPanel/bus_place_record.php`. The page has a dark sidebar on the left with menu items: 'Bus Managment', 'Stops Managment', 'Area Managment', and 'Places Managment'. The main content area has a light blue header 'Bus Place Reocrd Page' and a table titled 'Bus Place Rocord Table'. The table contains one record with the following data:

Number	Bus Name	Place Name	Edit	Delete
1	Deawoo 10inert	Punjab Cafe	<button>Edit</button>	<button>Delete</button>

The Windows taskbar at the bottom shows the time as 4:16 PM and the language as ENG.

8.2.8 Stops management

The screenshot shows a web browser window with the URL `localhost/MeraSheharLahoreAdminPanel/bus_stop.php`. The page title is "Bus Stops Management Form". On the left, there is a sidebar with navigation links: "Stops Management", "Area Management", and "Places Management". The main content area contains the following elements:

- A "View Record" button in the top right corner.
- A "Number" input field.
- A "Bus ID" dropdown menu with a list of options: 1, 2, 3, 5, 6, 8, 9.
- A "Manage Bus Stops" button and a "Cande" button at the bottom.

A large black arrow points from the right towards the "Bus ID" dropdown menu, which is labeled "Buses IDs".

8.2.9 Bus record table

Buses Record and management page

Buses Record Table

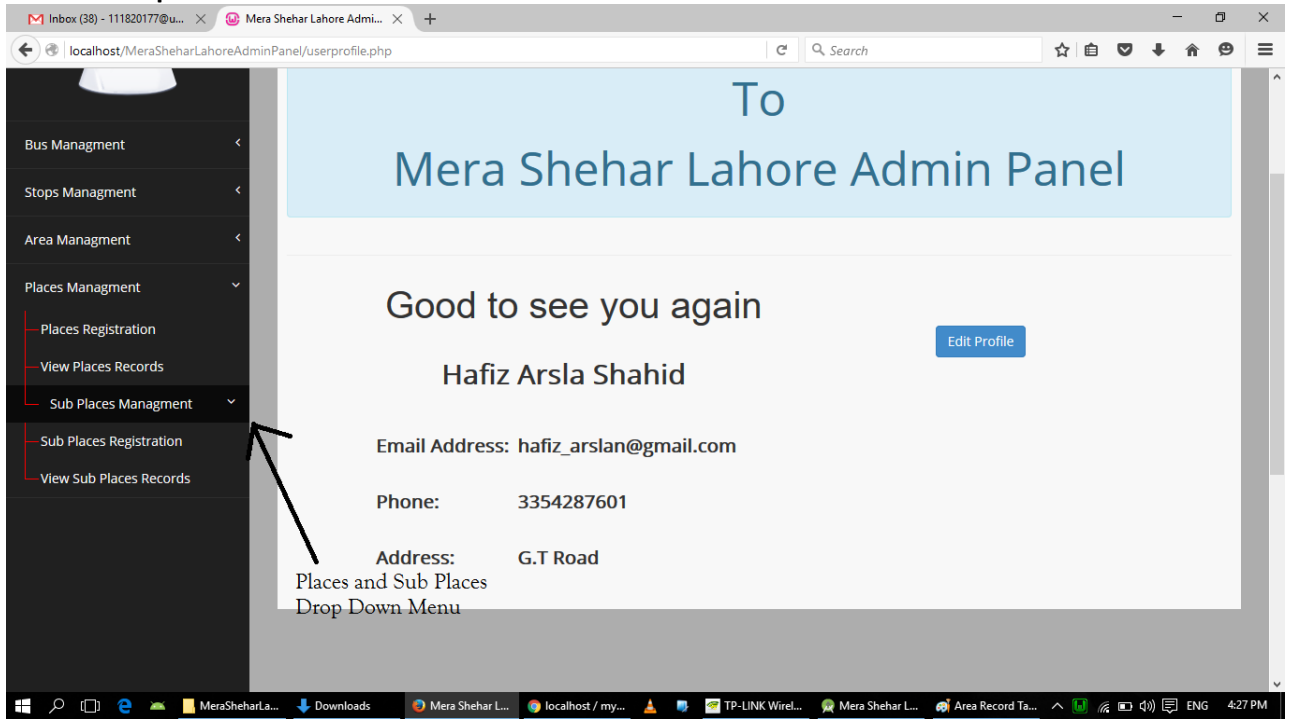
Number	Bus ID	Place ID	Edit	Delete
7	2	3	Edit	Delete
5	3	1	Edit	Delete
6	4	1	Edit	Delete
1	4	2	Edit	Delete
3	4	2	Edit	Delete
4	5	1	Edit	Delete

Stops Management <
Area Management <
Places Management <

localhost/MeraSheharLahoreAdminPanel/view_bus_stops_record.php

Windows taskbar: MeraSheharLa..., Downloads, Mera Shehar L..., localhost / my..., TP-LINK Wirel..., Mera Shehar L..., Bus Managme..., ENG 4:11 PM

8.2.10 Add place



8.2.11 Stops record

The screenshot shows a web application interface for managing stops. The left sidebar contains 'Area Management' and 'Places Management'. The main content area is titled 'Stops Record Table'. It features a table with 6 rows of stop data. Each row has an 'Edit' button and a 'Delete' button. An arrow points to the 'Edit' button for the first stop, labeled 'Stops Edit Button'.

Stops Number	Stops Name	Stop Area Name	Stops Latitude	Stops Longitude	Edit	Delete
1	Samanababd Mor	TownShip	34.25879	11.25879	Edit	Delete
2	sarfaraz rafique road		31.500217	74.481027	Edit	Delete
3	Begum Kot		31.616086	74.267038	Edit	Delete
4	Bismillah Chowk		31.499862	74.256092	Edit	Delete
5	Butt Chowk		31.443175	74.294270	Edit	Delete
6	Chouburji		31.554029	74.304683	Edit	Delete

8.2.12 Add stops

The screenshot shows a web browser window with the URL `localhost/MeraSheharLahoreAdminPanel/stops_registration.php`. The page title is "Stops Registration Form". On the left is a sidebar labeled "Places Managment". The form contains the following fields:

- Stop Number**: A text input field.
- Stop Name**: A text input field.
- Stop Area Name**: A dropdown menu with a blue border. It is currently open, displaying a list of area names: Johar Town, TownShip, Fasil Town, GullBurg, and Liberty Market. A large black arrow points to this dropdown.
- Stop Longitude**: A text input field.

Below the form are two buttons: "Register Stop" and "Cancel".

Stops Registration Form
Stops Area names from stops area table in database

8.2.13 edit stops

Stops Editing Form

Stop Number

Stop Name

Stop Area Name

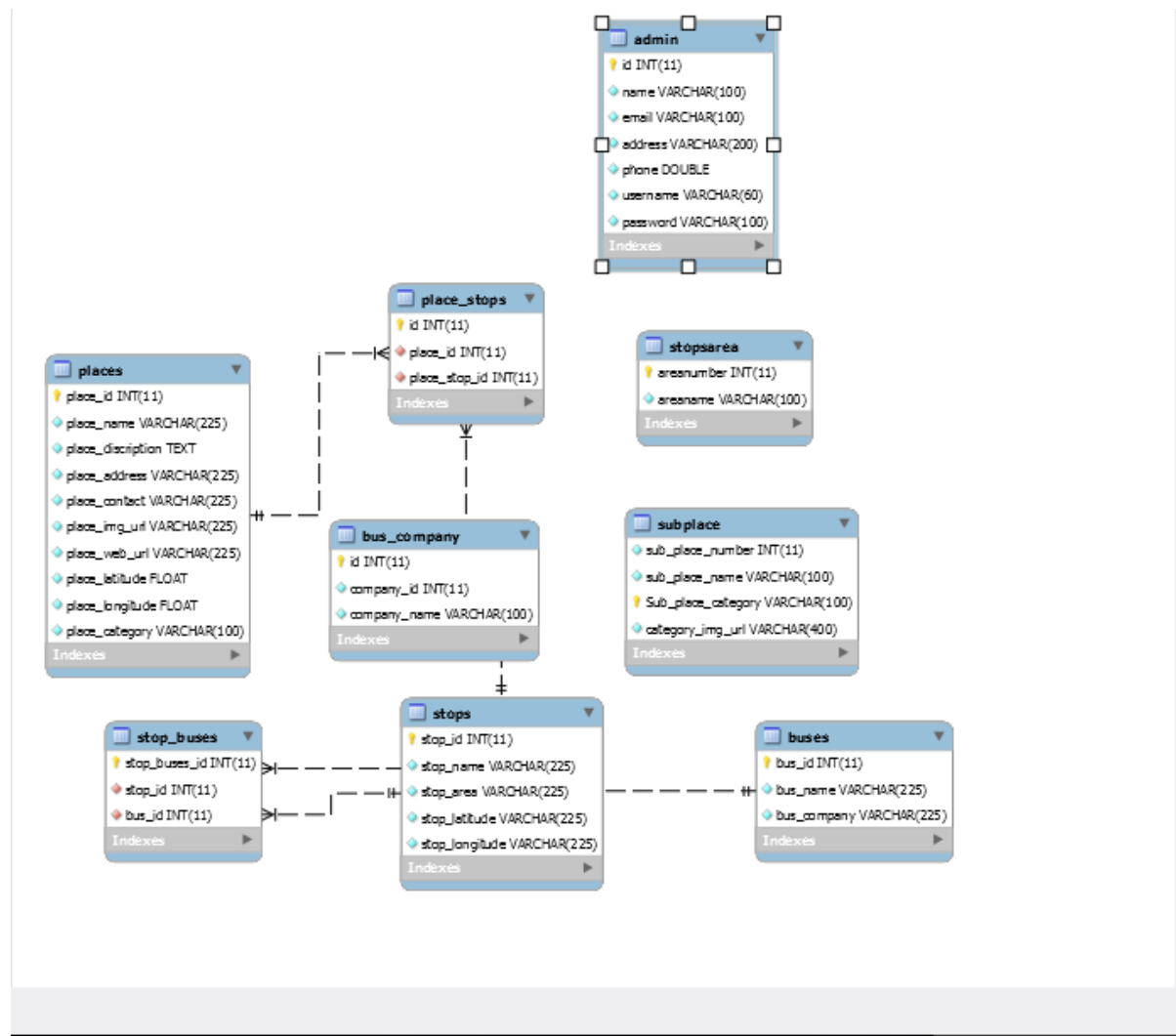
Stop Latitude

Stop Longitude

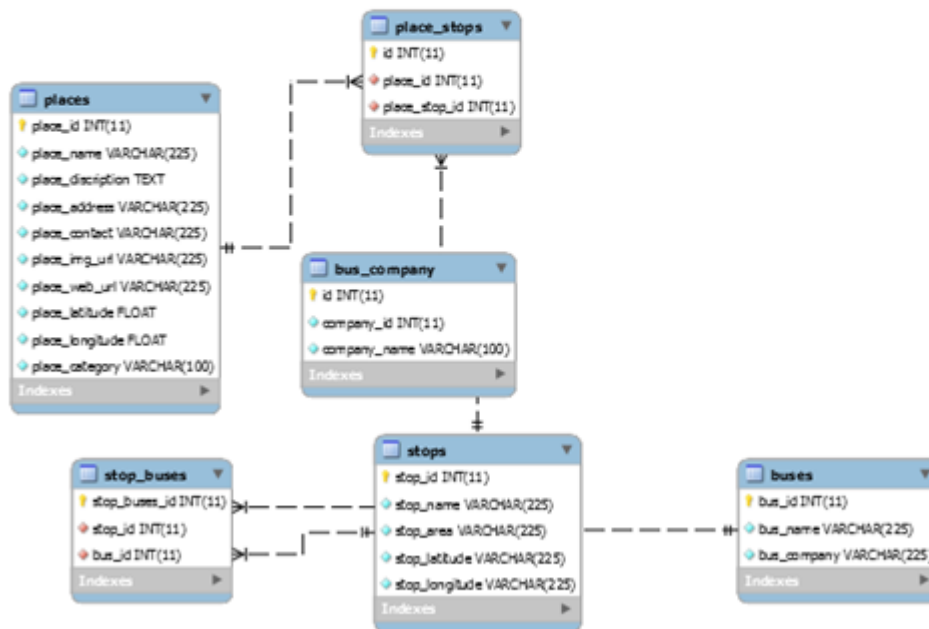
localhost/MeraSheharLahoreAdminPanel/edit_stops.php?edit=1

9. CLASS DIAGRAM

9.1 admin panel Class Diagram



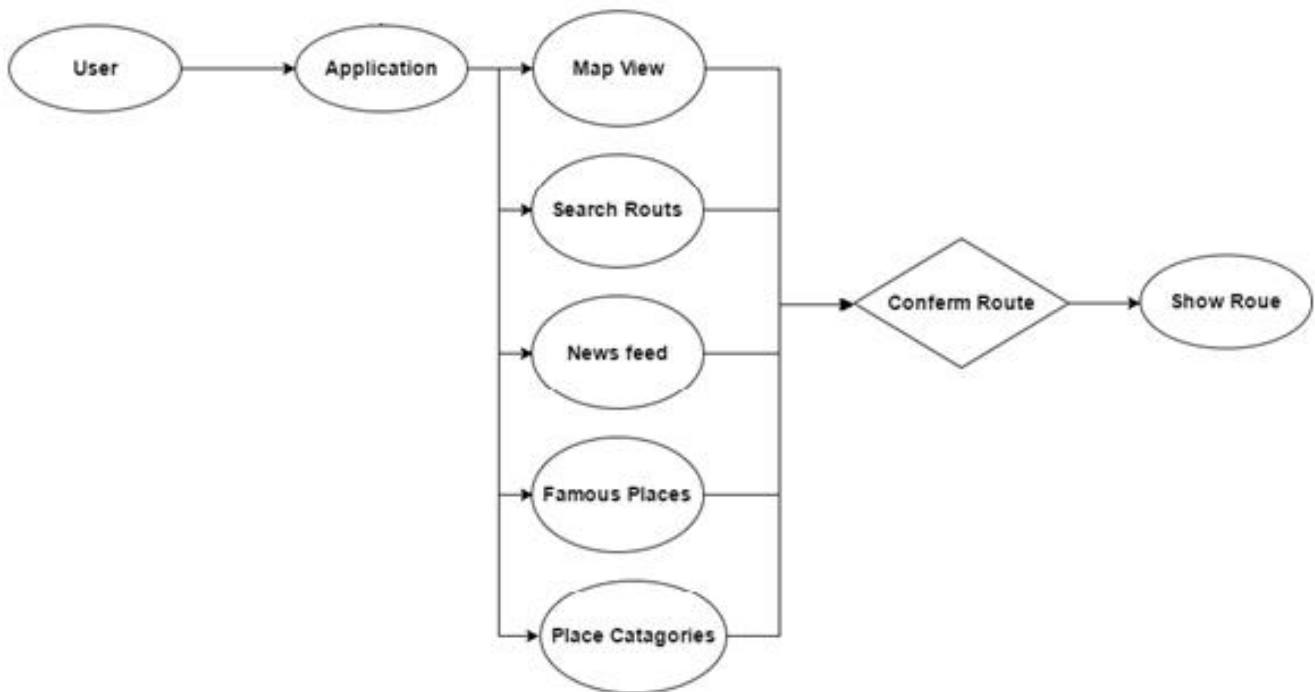
9.2 Application Class Diagram



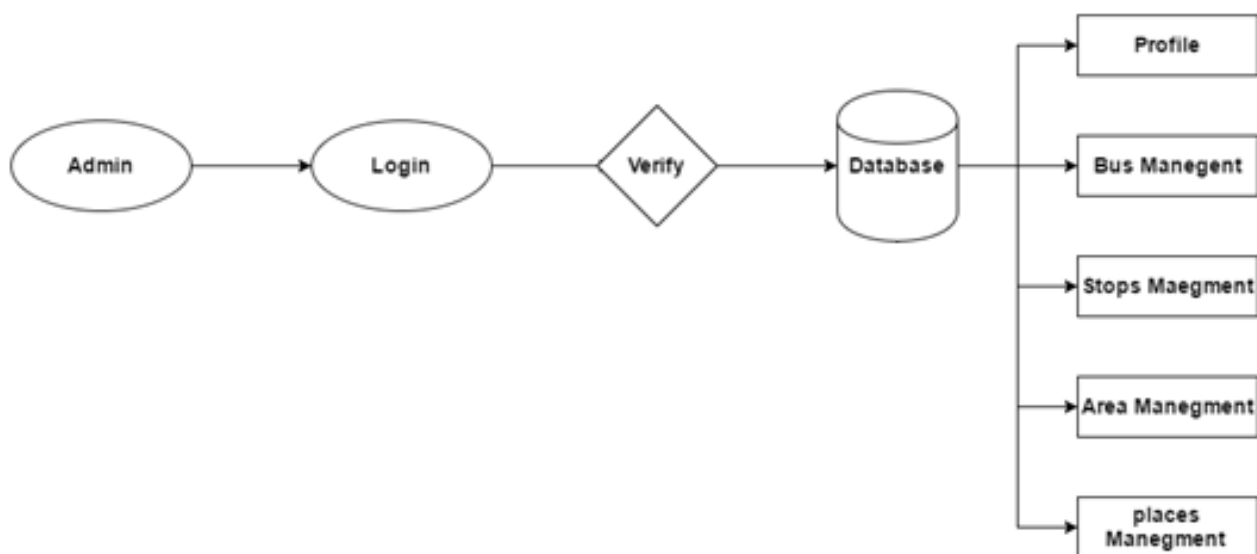
10. ERD DIAGRAM

The relationships of the different entities are describe clearly in the given diagram as all of the functions are related to each other with users.

10.1 Application ERD



10.2 Admin Panel ERD



11. IMPLEMENTATION AND PROTOTYPING

When coming to the implementation of our application we have developed it through various changes and amendments when developing functionalities.

First of all we decided to develop a android application which was to be controlled by the web admin panel, that application is basically fetching data from the database and showing to the user.

We decided to develop MSL App to facilitate the users to the fullest so that our application can become attractive to the users who need to travel the city by using local transport services.

First we made a prototype of the application and gather what we need to build this application so we started working on it by making flow charts and gathering ideas

The whole development process was implemented step by step. The development was first started by collecting data from the local transport authorities and started collecting the bus routes of Lahore. Then we made an android application using android studio which contained 5 segments

1 category list

2 Google maps api / search location

3 Rout search

4 famous places

5 news feed / ongoing events

After we created an admin panel and database using html / css / php / my sql . Which would control the application.

After reviewing the application of the competitors we were able to deduce a more clear approach in development of the application. The app's design is based on a readable and concise view so that the users are given a more in depth view. The completion of the design has undergone many changes but the model of the design is the same since the inception of the project.

12.TESTING

Test Cases

Security and attractive user experience needs a solid background of programming, so we have tried to equip MSL app to be a application which is up to the date with current java technology practices. Following are the test cases which have to be implemented to ensure a safe and secure user experience. This makes sure that the application is secure and error free for exchange of information. With the proper usage of the test cases one can effectively make sure that the application is not vulnerable to threats or errors.

To make MSL App secure we have compartmentalized the test case scenarios in following parts:

12.1 Admin Panel

12.1.1 Login

In this panel we enter the password and user name if the user name or password is incorrect then the panel show that the password or user name is incorrect error if correct it will gain access to admin panel.

Test Case ID:	11
Test Case Name:	Login.
Test Objectives:	To check the login.
Preconditions:	<ol style="list-style-type: none">1. Internet connection.2. Database should be connected
Post conditions:	Gain access to admin panel and database
Steps:	<ol style="list-style-type: none">1. Open admin panel.2. Giver username.3. Give password.4. Hit enter.
Test Data:	<ol style="list-style-type: none">1. True username false password.2. False username true password.3. False username false password.4. True username true password.
Expected Result:	On true set of username and password it will give access to admin panel or else give error.

12.2 Logout

When we command to logout without saving changes it give us a message bar in which it asked us to save the work before logout.

Test Case ID:	12
Test case Name:	Logout.
Test Objectives:	To sign out the admin from admin panel and close access.
Preconditions:	<ol style="list-style-type: none">1. Internet connection.2. Database.
Post conditions:	Close Admin panel access show login page
Steps:	<ol style="list-style-type: none">1. Click logout button.2. Save changes (if haven't).
Test Data:	Clicking logout button without saving data, save changes or else logout if no changes.
Expected Result:	Save changes and sing out.

12.3 Edit

In editing we select an item to edit if its editable it will lets us edit it or else error message not editable

Test Case ID:	13
Test Case Name:	Edit.
Test Objectives:	To edit on data base.
Preconditions:	<ol style="list-style-type: none">1. Internet connection.2. Database.3. Admin rights
Post conditions:	Click on any item on database to edit it
Steps:	<ol style="list-style-type: none">1. Click Edit button.

	2. Add new function. 3. Save changes (if haven't).
Test Data:	Click the edit button if you want to change on the existing data and after change the data save it.
Expected Result:	Edit the new information in the existing one.

12.4 Delete

We delete an item if the item is on database class like stops places areas etc.

Test Case ID:	14
Test Case Name:	Delete
Test Objectives:	We delete from data base.
Preconditions:	1. Internet connection. 2. Database. 3. Admin Rights
Post conditions:	Data should be available if to delete
Steps:	1. Click Delete button. 2. Delete the existing function. 3. Save changes (if haven't).
Test Data:	Click the Delete button if you want to Delete the existing function and after Deleting the data save the changes.
Expected Result:	Delete the function from the panel which we do not need in our existing program

12.5 Add

To add an item in database it will ask about in which category we have to add it.

Test Case ID:	15
Test Case Name:	Add
Test Objectives:	We add on data base
Preconditions:	1. Internet connection.

	2. Database.
Post conditions:	Valid data should be added
Steps:	<ol style="list-style-type: none"> 1. Click Add button. 2. Add the new function. 3. Save changes (if haven't).
Test Data:	Click the Add button if you want to Add the new function in the panel and after adding new function save the changes in program.
Expected Result:	Add the new function to the panel which we need in our program to ease the use our program for our client or user.

12.6 Search

When we open the application it show bar at the top of left for search data we click on that bar and type the thing which we are looking for. If that thing is not found in data it give a plan page or a message that not found.

Test Case ID:	16
Test Objectives:	Search for specific thing, location or root
Preconditions:	<ol style="list-style-type: none"> 1. Internet connection 2. Database
Post conditions:	Click on search bar and search for places and stop on the database or on map
Steps:	<ol style="list-style-type: none"> 1. Click on the bar shown in map. 2. Type what you want to in that bar. 3. Then the result will appeared on the screen.
Test Data:	Click the bar which is showing in the map for searching the data we tried to find specifically.
Expected Result:	The data showed in the map after we searched in the bar which we are looking for.

12.7 Bus root

When we are in home page of application we select the bus root bar then it show us further sub Bar of Buses Company, after we selected the bus company it show us then again sub bars of that buses root then we selected the root we need to reach our destination.

Test Case ID:	17
Test Objectives:	Show us the bus roots in map
Preconditions:	1. Internet connection 2. Database
Post conditions:	First user has to select a place in order to see bus rout or only see bus rout by selecting bus route page
Steps:	1. Click on the bus bar root in home page. 2. Then click the bus which root you need. 3. Root of the bus shown in Map.
Test Data:	If we search the root which is not available in data base or can't find then it give us error that data is not available.
Expected Result:	Show us all the roots of the buses in the map drawing lines in map to.

12.8 Pinpoint location

It give us two bars first is for current location and other is for destination location. First we choose the destination location at bar then we choose the current location then it draw a line in map. If we do not add both location it cannot draw the direction from our point to our destination point.

Test Case ID:	18
Test Objectives:	Show us direction from one point to another in map
Preconditions:	1. Internet connection 2. Database
Post conditions:	User should be on the map segment to manually pin point location
Steps:	1. Click on the map 2. Select our current location as point 2 3. Our desired location as point 1

	4. Then map draw most efficient route as line on map.
Test Data:	Click on the map and select our current location as point 2 and our desired location as point 1 if the location is not in the data base or we doesn't enter one point the it give us an error that location is not available or does not search the points.
Expected Result:	Draw us the line from point 1 to our desired location to point 2 from our current location in map.

12.9 Get route

When we ask for the route for a specific location, if the data base have a route it will show the route on map or else it give error message that no routes available for this location

Test Case ID:	19
Test Objectives:	Get specific root from the map
Preconditions:	1. Internet connection 2. Database
Post conditions:	Select a place from categories or map and select get route
Steps:	1. Click on the bus bar root in home page. 2. Then click the bus which root you need. 3. Root of the bus shown in Map.
Test Data:	When we ask for the route for a specific location, if the data base have a route it will show the route on map or else it give error message that no routes available for this location
Expected Result:	Give us the roots which we search for or needed.

12.10 Map

In main menu of application there is map bar. When we click on that bar it open map of Lahore and give us bars to search for place on it.

Test Case ID:	20
Test Objectives:	Search location on the map.
Preconditions:	1. Internet connection. 2. Database.
Post conditions:	Select the map segment to view the map
Steps:	1. Click on map from home page. 2. Map page is open. 3. Select the category which we like to search. 4. Show us all the result related to it.
Test Data:	Click on map from home page then Map page is open and Select the category which we like to search if the data we search are not available then it show us blank page or give us message that result doesn't found.
Expected Result:	Show the roots and location we needed in map.

13. RESULTS/OUTPUT/STATISTICS

13.1 %completion

All of the requirements which were written down by us are met thoroughly. The functional requirements which we had listed are met.

Keeping in view all the requirements which are necessary for a Android application are added such as getting right data to the user and showing correct routs to the user. The application is tested and almost all of the designated tasks are working properly and efficiently. The security requirements which we wanted to add are also met in our project.

The user interface of MSL as well as the interface of the Admin panel implemented and is meeting all the required tasks which are appointed by us. The working of the database is completely fine and is working properly with all the constraints which are being applied are being included efficiently.

Almost all the tasks which are required are implemented but there is some other functionality which we want to implement in the project in the future to make our application more effective and user friendly in the next level.

The degree of completion which we have deduced is about above 95 % because all the tasks which we wanted to add are included by us.

13.2%accuracy

We have tried to implement all the working of the project which we had in our minds. The accuracy of the project is about 95 % because all the test cases and scenarios which are included are working properly.

13.3 %correctness

The application is tested by us using all the functions and tested the databases accordingly. The information which is being provided is correct using many constraints and checks. The application and admin panel is correct and works properly.

14. CONCLUSION

The overall experience of development and completion of the project was challenging and enjoyable as well. We learnt a lot by doing the project as we had to add all the formalities as well give complete background of development of the project. First task of implementation was done by us which was firstly started by a simple design and afterwards we implemented advanced designs and development making a complete Application.

The whole team work process was very important in order to complete the tasks. We had to a lot different tasks to each group members respectively. The design and the working which we had in our minds have been implemented by us. The overall functionality and requirements are fulfilling the user inputs with respective outputs. Although there is a lot of space of for improvement but the amount of work which we have done in the whole development process is quite self-satisfactory.

Another of our goals to keep the application confined to local markets is also implemented and fulfilled by letting the people who have to use local bus services into their favor and making there traveling easy. In this way the users would be able to entertain the customers in a widespread way.

The designated task which wanted to implement in order to entertain the customers and fulfill the requirements are duly met. One the most challenging and difficult task was the development of database design which had to be made. Since there were number of attributes and keys the whole design process took most of the time as we had to a lot a particular attribute and variable.

15. FUTURE WORK

As the web technology and android development is advancing rapidly and new techniques are being developed day by day one can enhance the application and website accordingly. Although it was a momentous task and had to be developed keeping in view all the Android technology standards. Still there is a huge space that could be covered.

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