

# **An Interactive Transport Management System by Geolocation Tracking, Measuring Speed and Seat Status Checking of Vehicles.**

# AT A GLANCE

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# MOTIVATION

- ❑ There are approximately 10 thousands students come around our university campus for their academic purpose. In spite of university transport management system there have been occurred many issues throughout transportation. As like as waiting time is so long, seat allocation disorder, administrative issues occurred etc.
- ❑ To solve this problem our respectable Supervisor has advised us to build an application which will be used to solve the issues of IIUC transportation management system. By our application students can know about location of buses, seat allocation and bus routes. Our TMD administrator can supervise the system easily.

# OBJECTIVES

- ❑ Online based **Interactive Transport Management System**
- ❑ Students can get transportation service & TMD administrator can manage system
- ❑ User can know their bus route, location, and seat allocation
- ❑ Administrator can provide their updated schedule
- ❑ User friendly environment

# INTRODUCTION

- ❑ **Interactive transport management system** one of the most important part of our university students.
- ❑ Our services are widely acknowledge for their features like time saving & very efficient to use
- ❑ Using the application there no need to wait longer for buses and where they located
- ❑ The system is used for activities such as booking seats, track location & schedule of university buses

# WORKING PROCESS

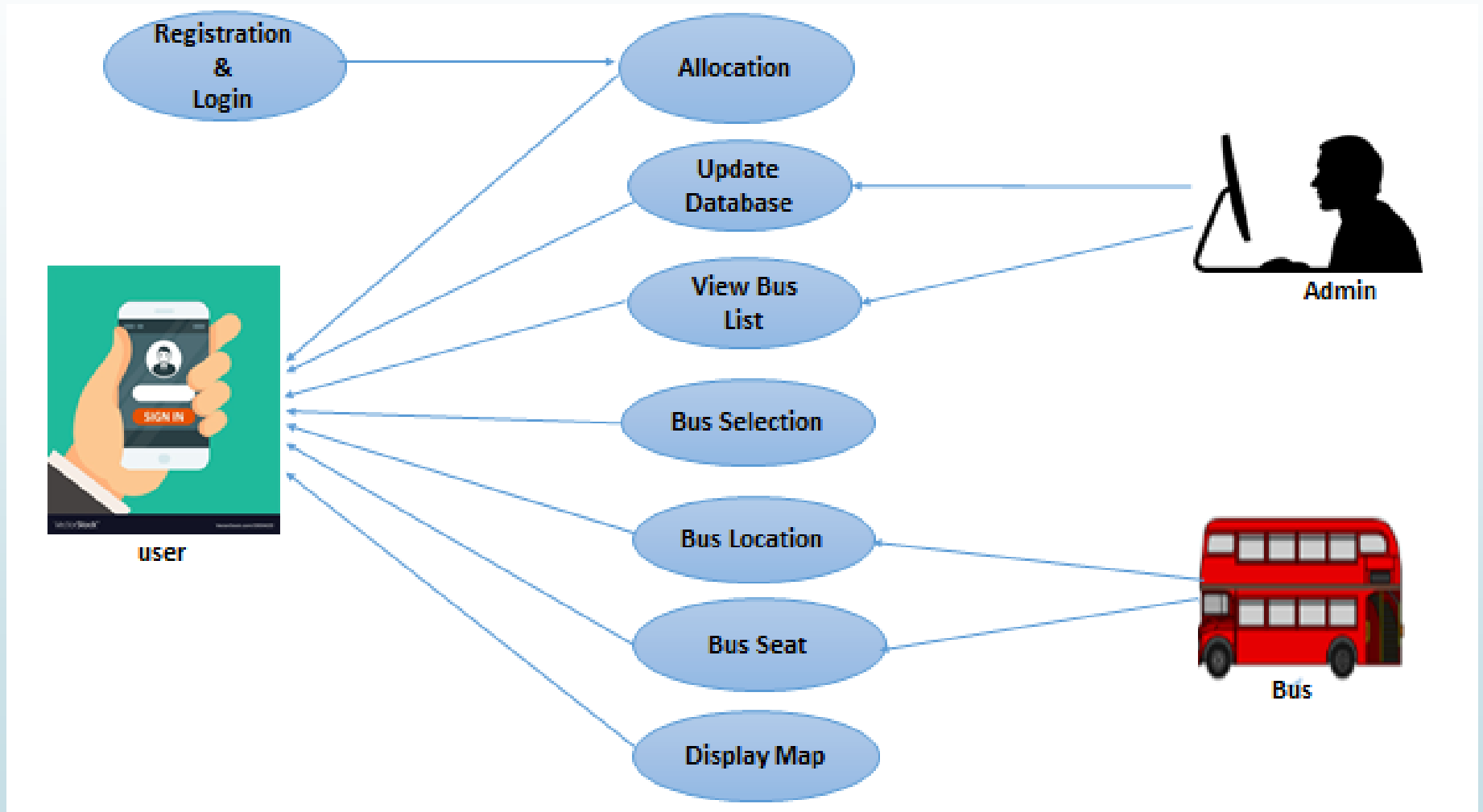


Figure 1: Use Case Diagram

# ENTITY RELATIONSHIP DIAGRAM

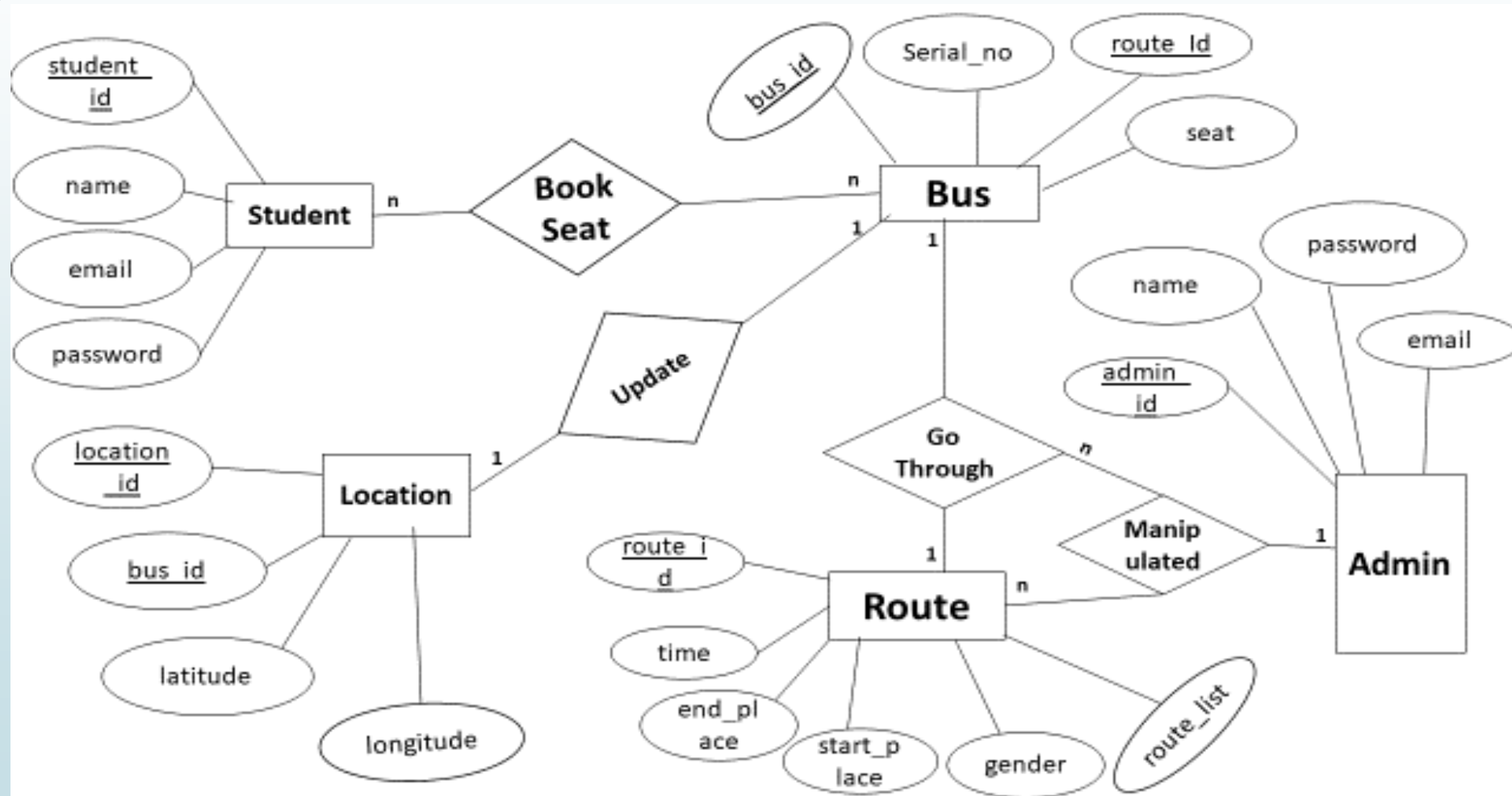


Figure 2: E-R Diagram

# DATA FLOW DIAGRAM

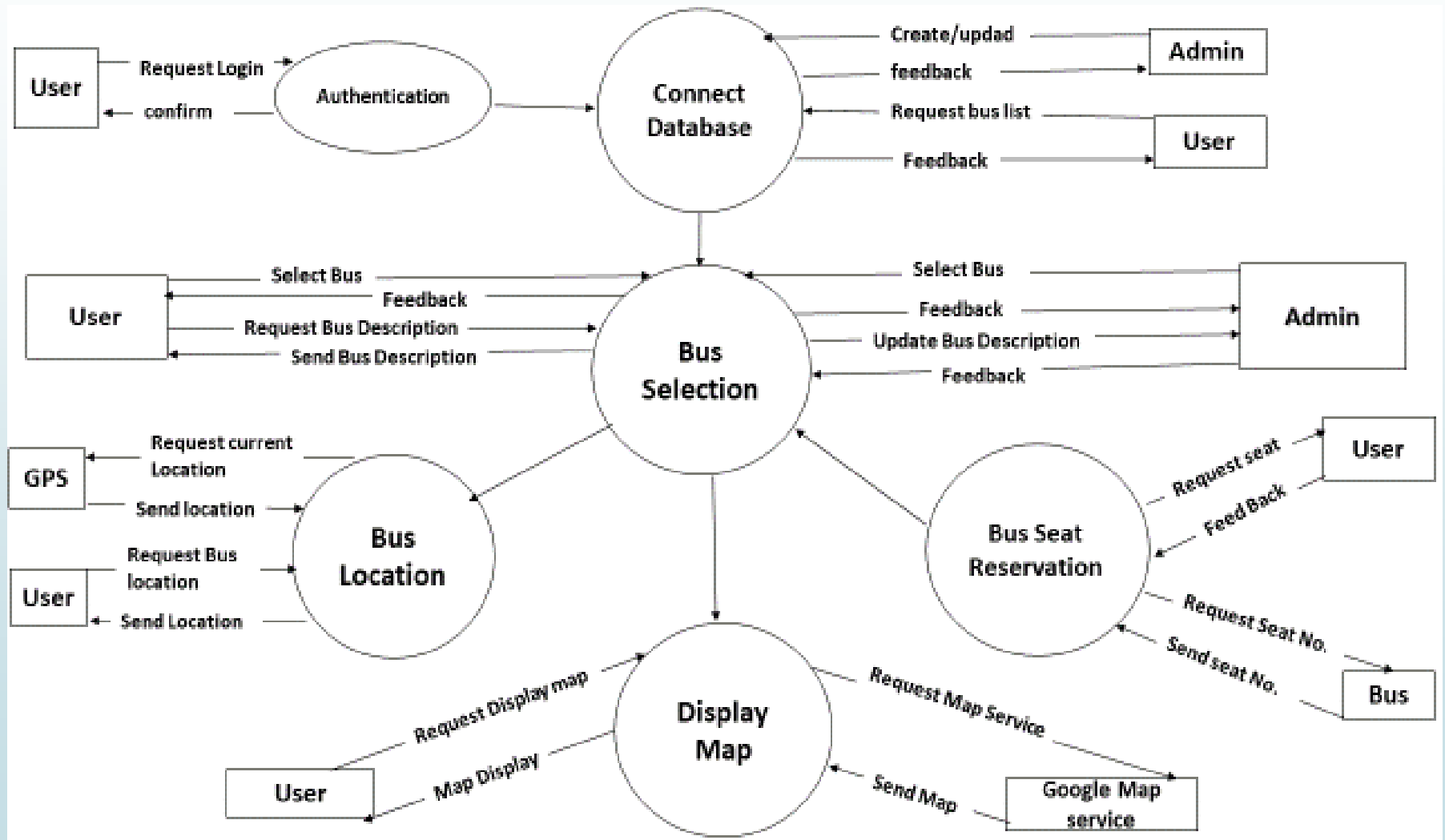


Figure 3: DFD Diagram



# Existing Work(CONT.)

- The author in [3] developed a system of **Real Time Interactive IIUC Bus Tracking System**
- **Features**
  - Tracking university Buses
  - Give exact location of buses
  - This application Generated for Teachers, Students and staffs

# Existing Work

- ❑ The author in [6] Developed a application **Locafie (community-based location sharing platform)**
- ❑ **Features**
  - Community Based Location Sharing Platform
  - Helps to use transport
  - Reduce waiting time
  - Give Exact location
  - Offered Schedule Transit

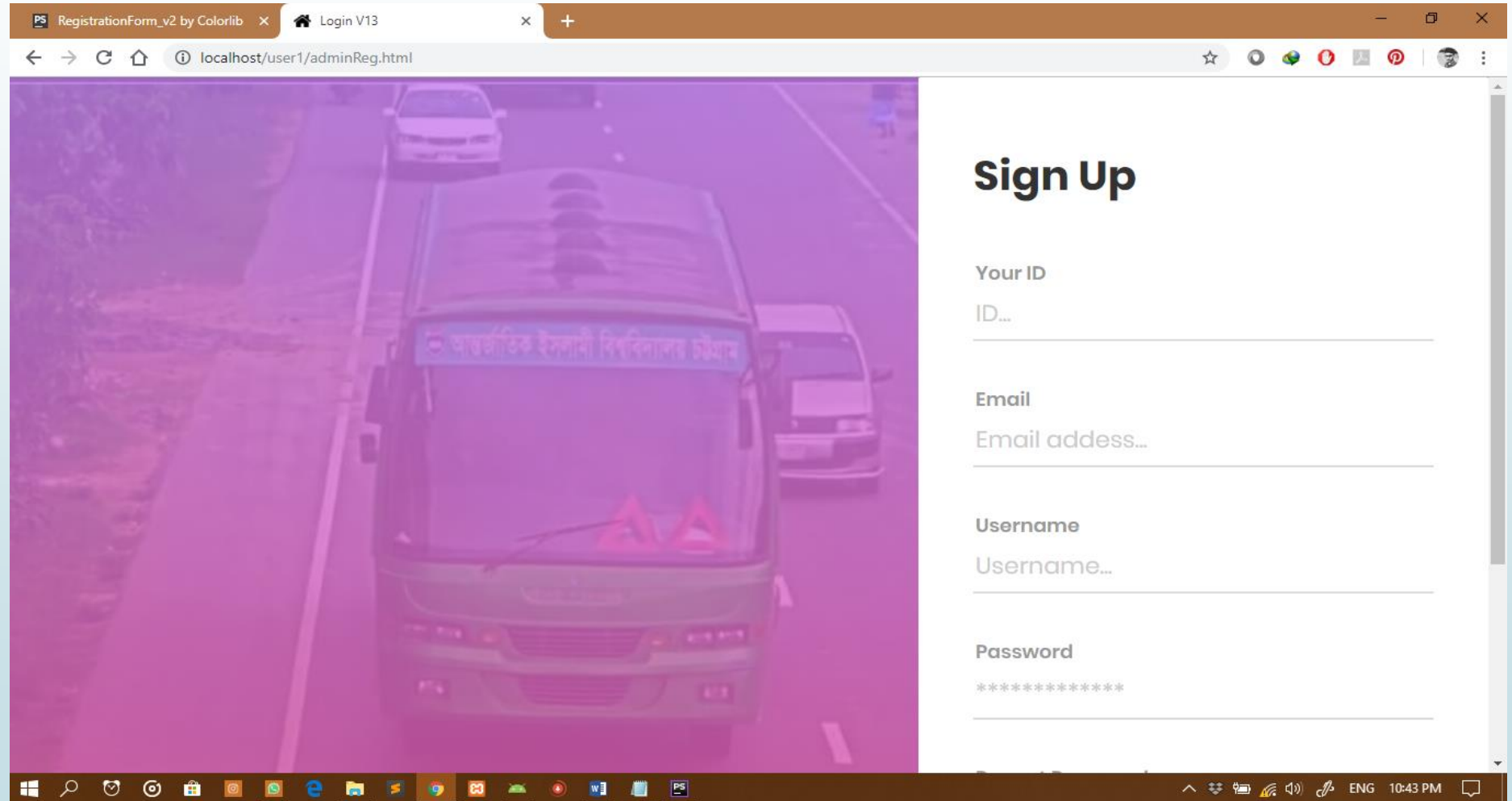
# OUR CONTRIBUION

- .
  - ☐ Route description
  - ☐ All Bus Route
  - ☐ Nearby Bus List
  - ☐ Seat allocation
  - ☐ Exact bus location
  - ☐ Nearby Bus Location
  - ☐ Start time & place
  - ☐ Emergency contact to the administration

# PROJECT VIEW

Web platform

# SIGN UP/REGISTRATION



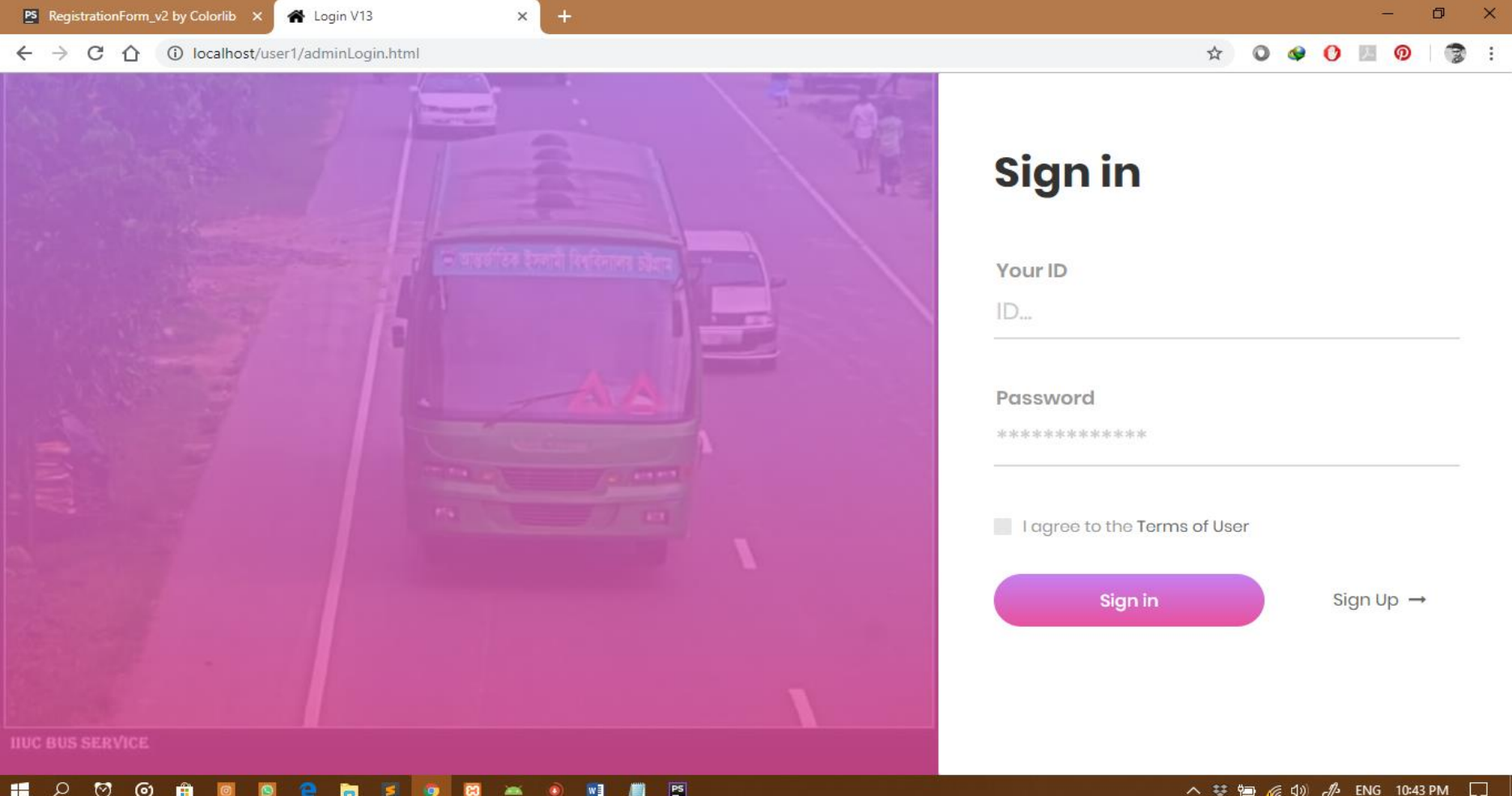
The screenshot displays a web browser window with two tabs: 'RegistrationForm\_v2 by Colorlib' and 'Login V13'. The address bar shows 'localhost/user1/adminReg.html'. The page is divided into two main sections. On the left, there is a large background image of a bus on a road, overlaid with a semi-transparent purple filter. On the right, there is a white sidebar containing a registration form titled 'Sign Up'. The form includes the following fields:

- Your ID**: A text input field with the placeholder 'ID...'.
- Email**: A text input field with the placeholder 'Email address...'.
- Username**: A text input field with the placeholder 'Username...'.
- Password**: A text input field with the placeholder '\*\*\*\*\*'.

The Windows taskbar is visible at the bottom of the browser window, showing various application icons and the system clock indicating 10:43 PM on ENG.

Figure 4 : admin panel registration

# SIGN IN/LOGIN



The screenshot shows a web browser window with two tabs: "RegistrationForm\_v2 by Colorlib" and "Login V13". The address bar displays "localhost/user1/adminLogin.html". The page features a large, purple-tinted background image of a bus on a road. On the right side, there is a "Sign in" section with the following fields and elements:

- Sign in** (Section Header)
- Your ID** (Label)
- ID...** (Input field)
- Password** (Label)
- \*\*\*\*\*** (Input field)
- ☐ I agree to the Terms of User
- Sign in** (Button)
- Sign Up →** (Link)

At the bottom of the background image, the text "IUC BUS SERVICE" is visible. The Windows taskbar is at the bottom of the screen, showing various application icons and the system clock indicating 10:43 PM on ENG.

Figure 5: admin sign in

# CAPABILITY OF ADMIN

The screenshot displays a web browser window with multiple tabs open, including Facebook, IIUC CSE-Spring 20, Thesis/Project Stu, Thesis/Project Rep, Page numbers sta, chrome://downlo, and RegistrationForm\_. The address bar shows the URL `localhost/user1/insert.html`. The main content area features a form titled "INSERT SCHEDULE" with the following fields:

- Start From:
- End To:
- Route:
- Route ID:
- Bus ID:
- Gender:
- Time:

At the bottom of the form is a red button labeled "INSERT NOW". The browser's taskbar at the bottom shows various application icons and the system clock indicating 7:38 PM on ENG.

Figure 6: insert bus schedule by admin

# BUS ALLOCATION LIST



The image shows a digital interface titled "BUS Shedule" for the International Islamic University of Chittagong. It features a table with bus allocation details. The table has six columns: Time, From, To, Route, Gender, and a toggle button. The data is as follows:

Time	From	To	Route	Gender	
12:30 p.m.	IIUC	AK KHAN	IIUC,AK KHAN	Female	-
08:30	IIUC	Baddarhat	IIUC-Mirsarai-GEC-Baddarhat	Male	-
09:30	IIUC	Baddarhat	IIUC-Mirsarai-New Market-Baddarhat	Female	-
14:00	GEC	IIUC	GEC-Mirsarai-IIUC	Male	-

Figure 7: Bus allocation list



# DATABASE/SQL

The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows the URL: `localhost/phpmyadmin/db_structure.php?server=1&db=bus_management`. The interface is titled "Server: 127.0.0.1 » Database: bus\_management".

On the left sidebar, the "Recent" tab is active, showing a tree view of databases. The "bus\_management" database is expanded, revealing its tables: `admin_table`, `bus_table`, `location_table`, `route_table`, and `student_table`. Other databases listed include `information_schema`, `mysql`, `performance_schema`, `phpmyadmin`, and `test`.

The main panel shows the "Structure" tab for the `bus_management` database. It includes a "Filters" section with a search box "Containing the word:". Below this is a table listing the database's tables:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> <code>admin_table</code>	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> <code>bus_table</code>	★ Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> <code>location_table</code>	★ Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> <code>route_table</code>	★ Browse Structure Search Insert Empty Drop	7	InnoDB	latin1_swedish_ci	16 KiB	-
<input type="checkbox"/> <code>student_table</code>	★ Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16 KiB	-
<b>5 tables</b>	<b>Sum</b>	<b>14</b>	<b>InnoDB</b>	<b>latin1_swedish_ci</b>	<b>80 KiB</b>	<b>0 B</b>

Below the table, there is a "Check all" checkbox and a "With selected:" dropdown menu. At the bottom of the main panel, there is a "Create table" section with a "Name:" input field and a "Number of columns:" input field set to "4". A "Go" button is located at the bottom right of this section.

The bottom of the image shows the Windows taskbar with various application icons and the system clock displaying "5:24 PM".

Figure 8: Database Table

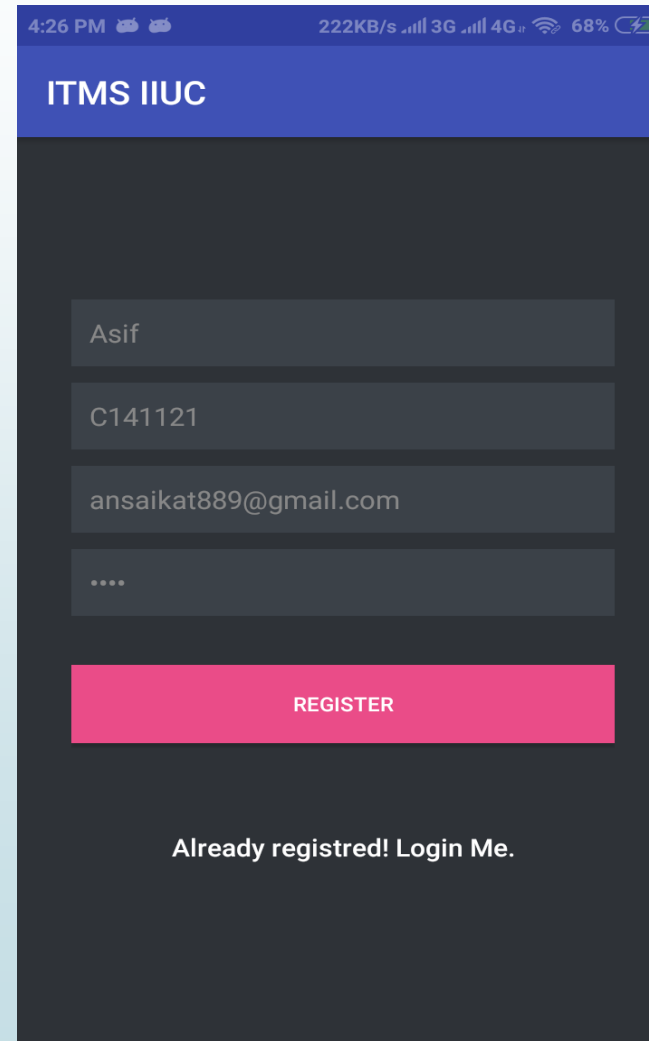
# TECHNOLOGY USED

- ❑ Platform : Windows 10 Education
- ❑ Front-end : HTML5,CSS3, Bootstrap, JavaScript (JQuery)
- ❑ Back-end : PHP, MySQL
- ❑ Web server : XAMPP (Apache, MySQL, PHP)
- ❑ Designing tool : Integrated tools
- ❑ Code editor : PhpStorm, VS code

# PROJECT VIEW

Android platform

# USER REGISTRATION ACTIVITY



A screenshot of a mobile application interface for user registration. The status bar at the top shows the time as 4:26 PM, signal strength, and battery level at 68%. The app's title bar is blue and displays "ITMS IIUC". The registration form has a dark background with four input fields: a name field containing "Asif", an ID field containing "C141121", an email field containing "ansaiikat889@gmail.com", and a password field with four dots. Below the fields is a prominent pink "REGISTER" button. At the bottom, there is a link that says "Already registred! Login Me.".

4:26 PM 222KB/s 3G 4G 68%

ITMS IIUC

Asif

C141121

ansaiikat889@gmail.com

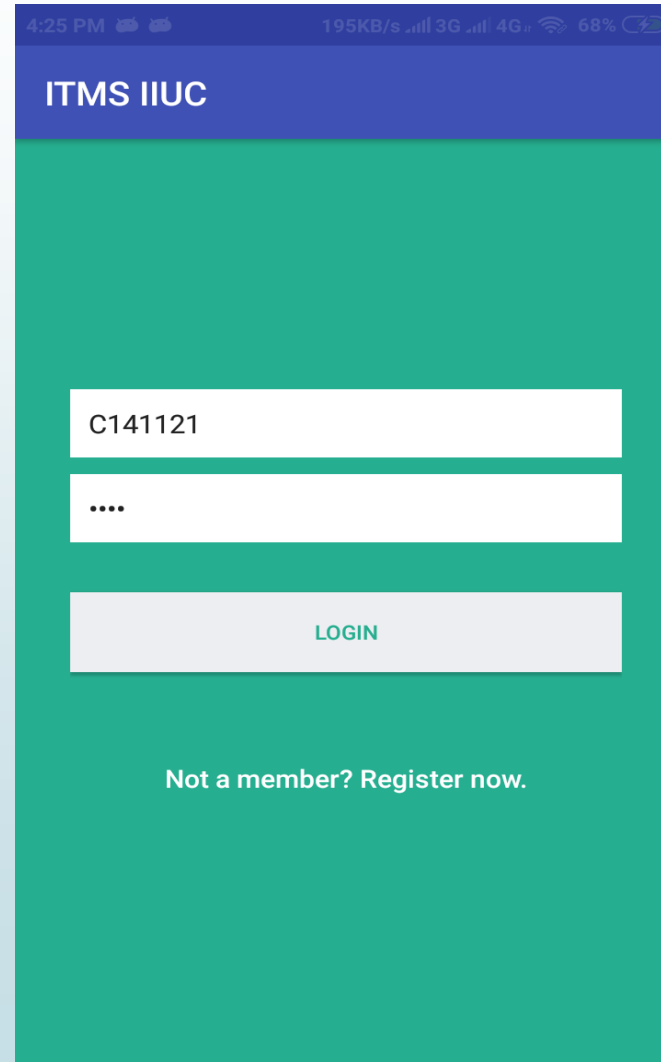
....

REGISTER

Already registred! Login Me.

Figure 9 : User registration activity

# USER LOGIN ACTIVITY



The screenshot shows a mobile application interface for 'ITMS IIUC'. The status bar at the top indicates the time is 4:25 PM, the data speed is 195KB/s, and the battery is at 68%. The app's header is a dark blue bar with the text 'ITMS IIUC' in white. The main background is a solid teal color. In the center, there are two white input fields: the first contains the text 'C141121' and the second contains four dots '....'. Below these fields is a light gray rectangular button with the word 'LOGIN' in teal capital letters. At the bottom of the screen, the text 'Not a member? Register now.' is displayed in white.

**Figure 10 : User Login Activity**

# SCHEDULE PAGE AFTER LOGIN

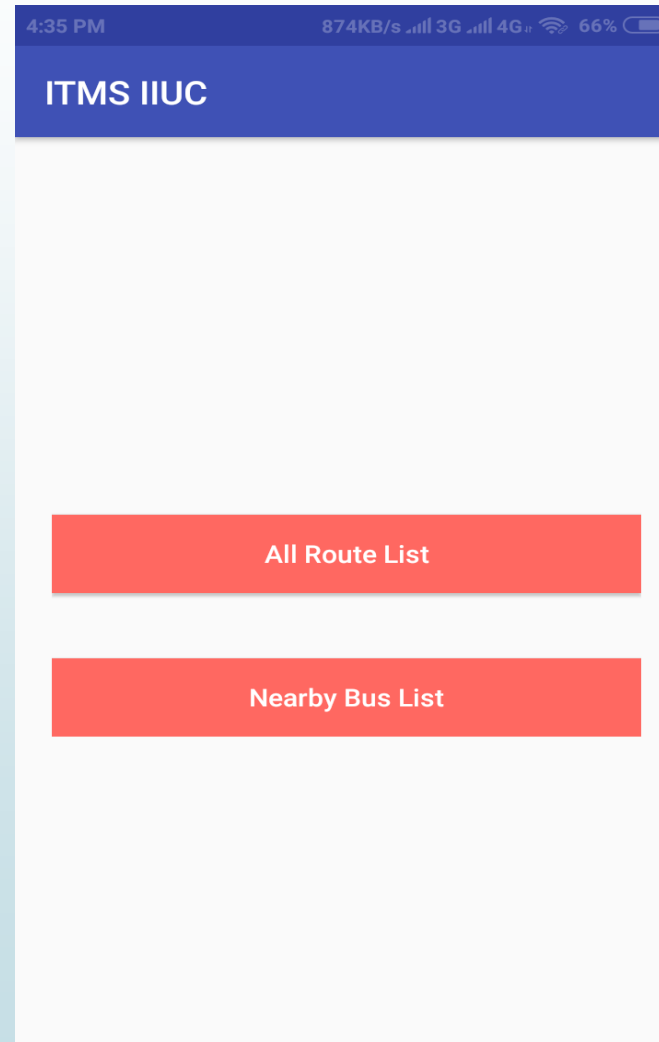
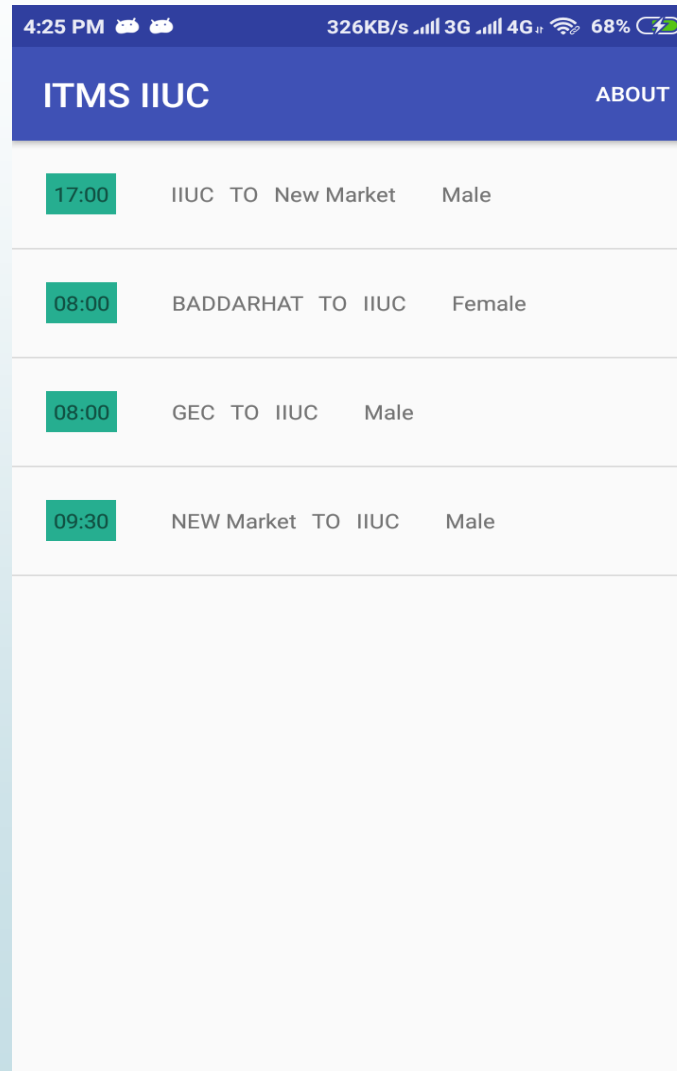


Figure 11 : schedule page after log in

# All Route Buses



The screenshot shows a mobile application interface for 'ITMS IIUC'. The status bar at the top indicates the time is 4:25 PM, the data speed is 326KB/s, and the battery is at 68%. The app's header is blue with the text 'ITMS IIUC' and an 'ABOUT' link. Below the header is a list of four bus routes, each with a green time box, the route description, and the driver's gender.

Time	Route	Gender
17:00	IIUC TO New Market	Male
08:00	BADDARHAT TO IIUC	Female
08:00	GEC TO IIUC	Male
09:30	NEW Market TO IIUC	Male

Fig 12: all route list

# Show Nearby Bus

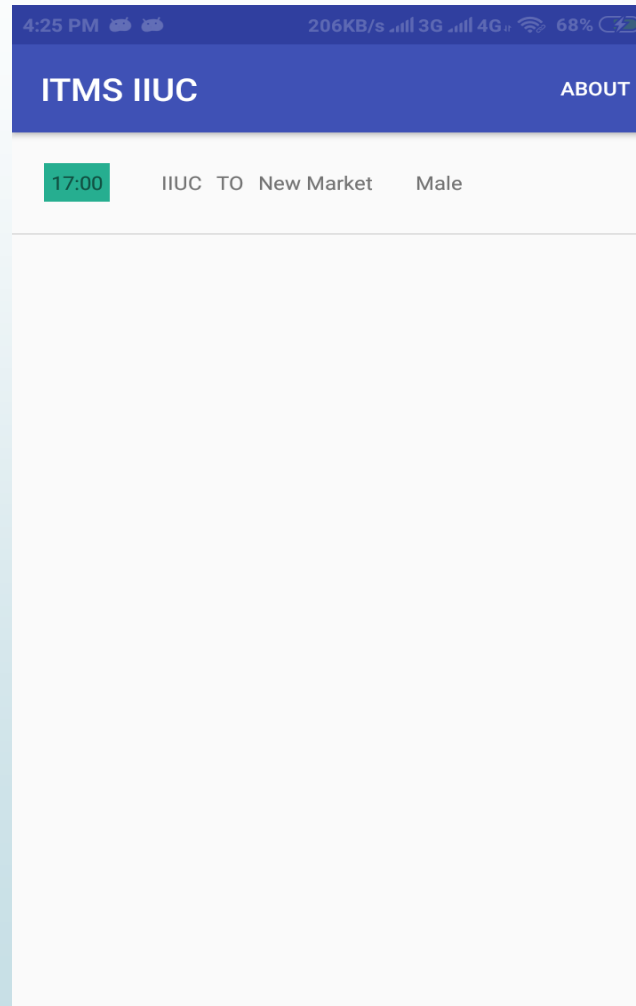


Fig 13: nearby buses



# ROUTE & BUS INFORMATION

4:28 PM 197KB/s 3G 4G 67%

ITMS IIUC ABOUT

From : IIUC

To : New Market

Time : 17:00

Gender : Male

Route : IIUC-Mirsarai-GEC-New Market

Bus Number: 111

Seat : Available

BUS LOCATION

4:28 PM 390KB/s 3G 4G 68%

ITMS IIUC ABOUT

From : IIUC

To : New Market

Time : 17:00

Gender : Male

Route : IIUC-Mirsarai-GEC-New Market

Bus Number: 111

Seat : Not Available

BUS LOCATION

Figure 12: Route & bus information

# LOCATION(zoom out)

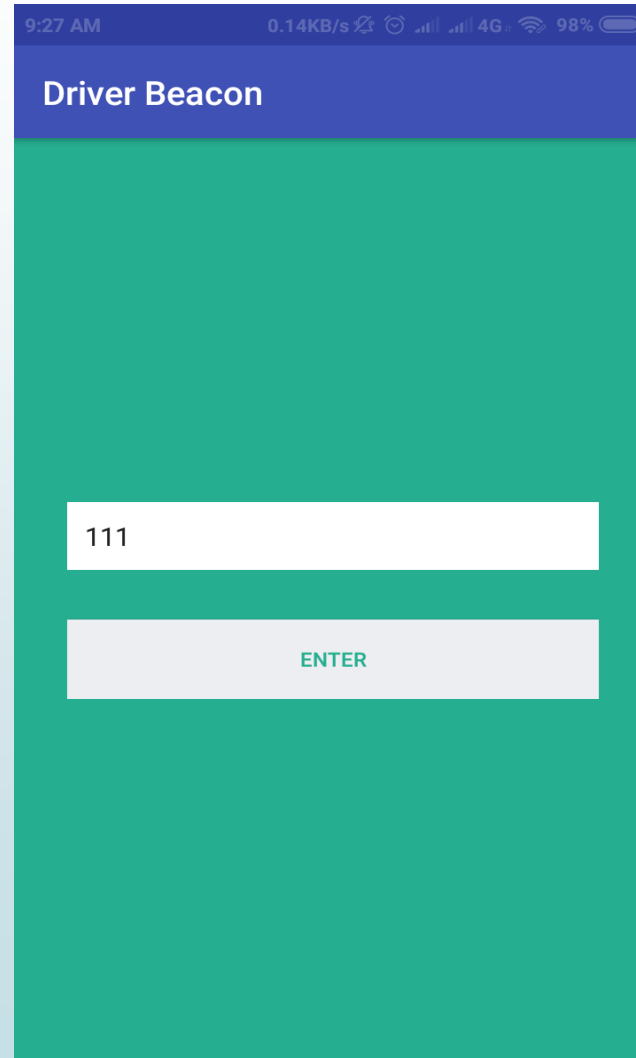


# LOCATION(zoom IN)



Figure 13: location

# Driver Beacon Entry



A mobile application interface for entering driver beacon information. The screen has a teal background. At the top, there is a dark blue header bar with the text "Driver Beacon" in white. Below the header, there is a white text input field containing the number "111". Below the input field, there is a light gray button with the text "ENTER" in teal.

9:27 AM 0.14KB/s 4G 98%

Driver Beacon

111

ENTER

Fig 14: driver beacon entry

# Driver Beacon Seat available

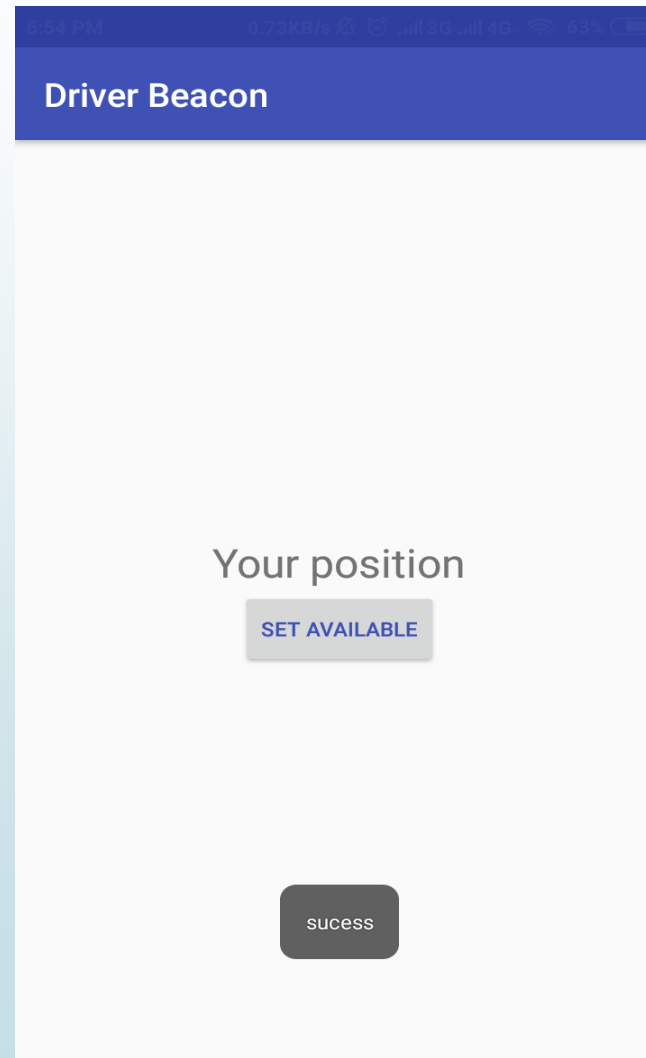


Fig 14: driver beacon entry

# Driver Beacon Seat Booking

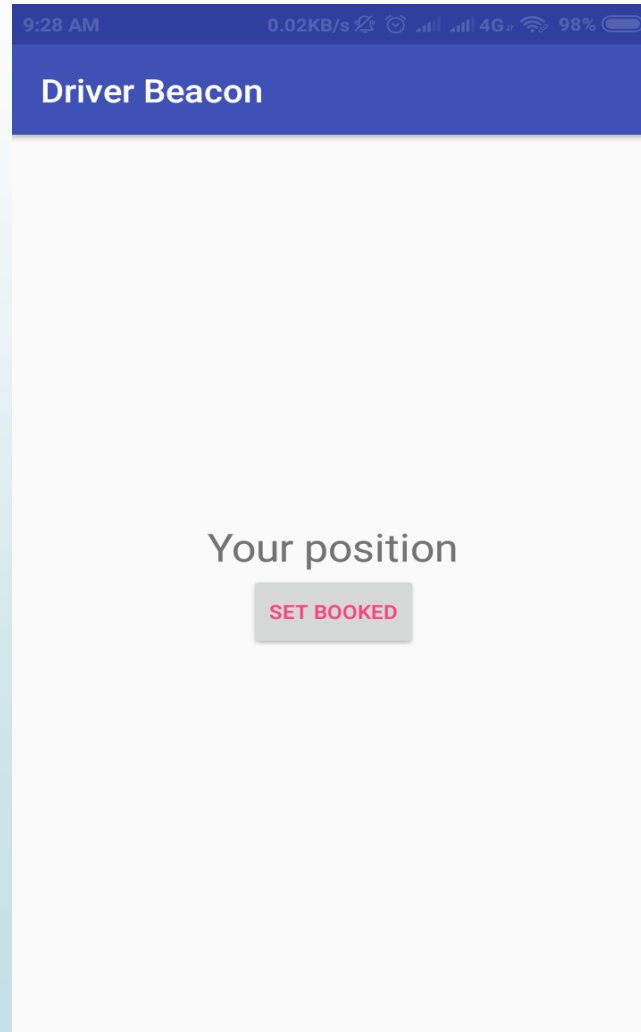


Fig 14: driver beacon entry

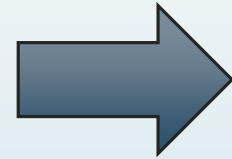
# TECHNOLOGY USED

- ❑ Platform : Windows 10 Education
- ❑ Development Language : JAVA
- ❑ Designing Language : XML
- ❑ Web server : XAMPP
- ❑ Designing tool : Integrated tool
- ❑ Code editor : Android studio

# IMPACT



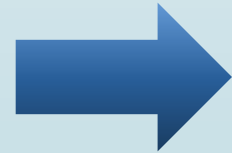
Reduce Transportation Difficulties



Save Time



Tracking Transporter



Seat Allocate Information



# CONCLUSION

- ☐ Our goal is to develop an interactive system for students
- ☐ Reduce harassment of students
- ☐ This may be a revolutionary improvement in IIUC transport management system
- ☐ Decrease working pressure of TMD employers

# FUTURE ENHANCEMENT

- ☐ More features that cope and compete with real field
- ☐ Include Teachers and staff bus
- ☐ Report box for both admin & user
- ☐ Automated emergency part
- ☐ Measuring speed

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[3] Design and Developing Real Time Interactive IIUC Bus Tracking System

[authored by Md Borhan Azad (C133065), Fazlul Hoque (C133069)]

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[14] Thomas, Pete, Kevin Waugh, and Neil Smith. "Experiments in the automatic marking of ER-diagrams." *ACM SIGCSE Bulletin* 37, no. 3 (2005): 158-162.

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# Virtualize overview



# THANK YOU

## Questions are welcome