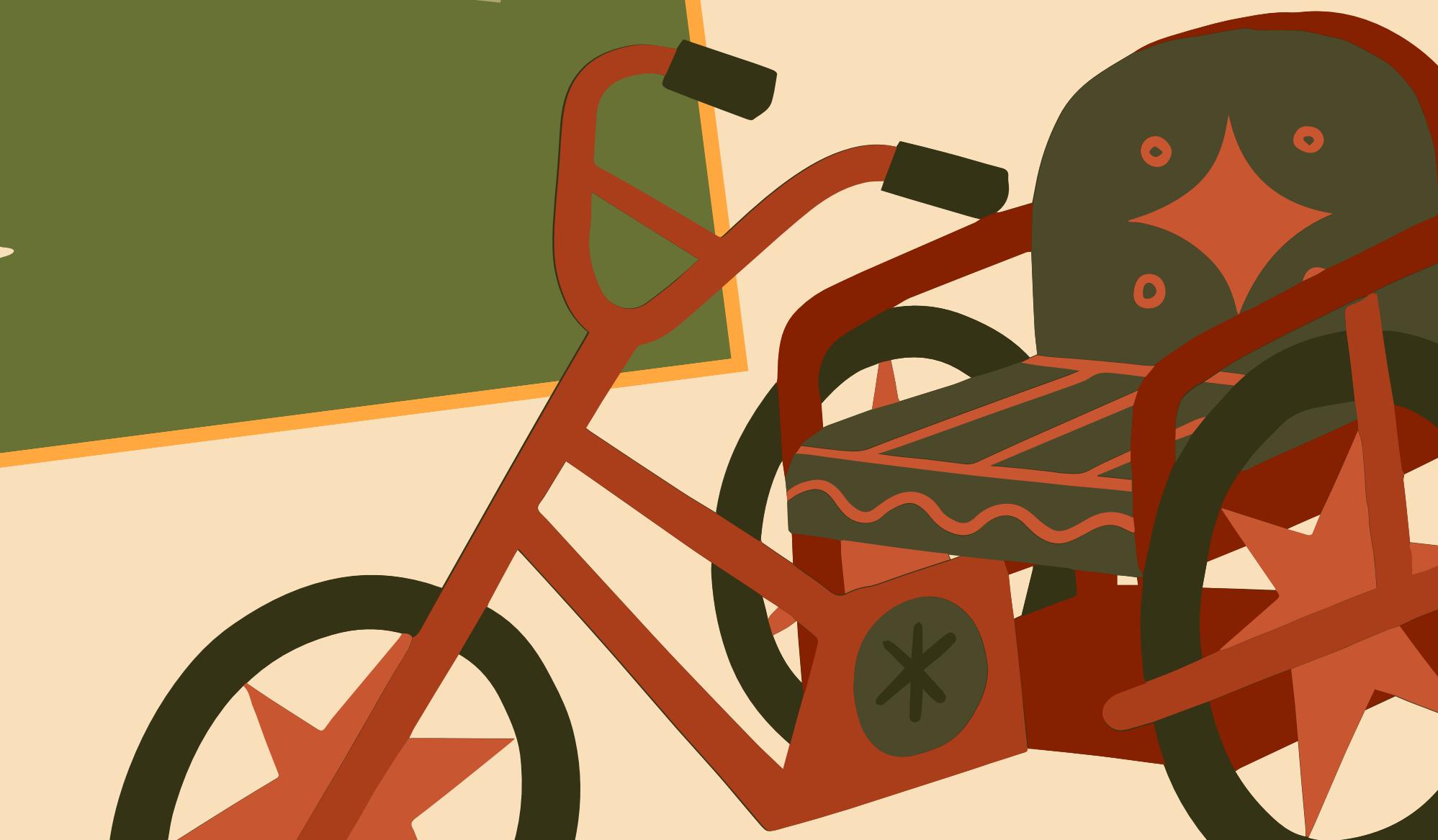


URBANRIDE

Advanced Public
Transportation system



INTRODUCTION



INTRODUCTION

Public transportation systems on university campuses play a key role in facilitating the mobility of students, faculty and staff to improving the efficiency and convenience of campus life. A mature and complete transportation system is essential and that's the main goal of our project. Our project aims to improve the existing university transportation framework by integrating advanced technology features such as GPS tracking, real-time schedule updates and a comprehensive reservation system. The purpose is to improve the efficiency, reliability and user experience of campus transportation services, address current challenges and set a new standard for university transportation operations.



INTRODUCTION

We are developing an Android, iOS mobile app and web application with the express purpose of making it easier for our target audience, UTM transportation users to obtain information about the bus or users they are interested in. The program will provide different interface and feature based on different type of user such as normal users, driver and administrator. In addition, the interface will alter based on their functioning.



PROBLEM STATEMENT

PROBLEM STATEMENT

*1 Accuracy of arrival time of the bus

- Current bus information is insufficient and can't update from time to time (fixed schedule). For example, if there is an accident on the bus route, the movement of the bus will be delayed.

*2 Availability of the seat of buses

- Currently, passengers often find themselves in a situation where they lack adequate information about seat availability on the bus they intend to board.

*3 Uncertainty factors

- Something unexpected might happen throughout the bus trip such as high traffic and flat tires on bus.

*4 Line changes

- Currently, if a situation arises where a bus requires maintenance, passengers face the inconvenience of not receiving notifications in time about the issue.

PROBLEM STATEMENT

*5 Bus do not stop for people at the bus stop

- Currently, bus's user usually need to get the driver's attention by waving continuously to them, but usually the bus will still passes by without stopping for them

*6 Rating and feedback

- Currently, feedback is only available during office hours and that there is no help available outside of these hours.

*7 Safety factors

- Currently, one of the reason that make the public feel no confidence is about safety on the bus. Current system do not provide any method to overcome when unexpected dangerous event happen.

**PROPOSE
SOLUTIONS**



PROPOSE SOLUTION

*1 Live Updating Location

- Our smartphone application provide our customer the live location of the bus. We try to make the bus arrival time more predictable.

*2 Availability seat of the bus

- We can ensure out users receive timely updates regarding the availability of seats on their chosen bus.

*3 Announcement and notification about the line change

- We have 'Recent Update' in our menu page to notify users of any changes made to the transit tracks. They can also check the announcement in their notification inbox.

PROPOSE SOLUTION

*4 Booking system for users

- When customers arrive at the bus stop, they can book a bus by input which bus they want to take, we will reserve the seat for them and notify our driver which bus stop they at.

*5 Rating and Feedback section

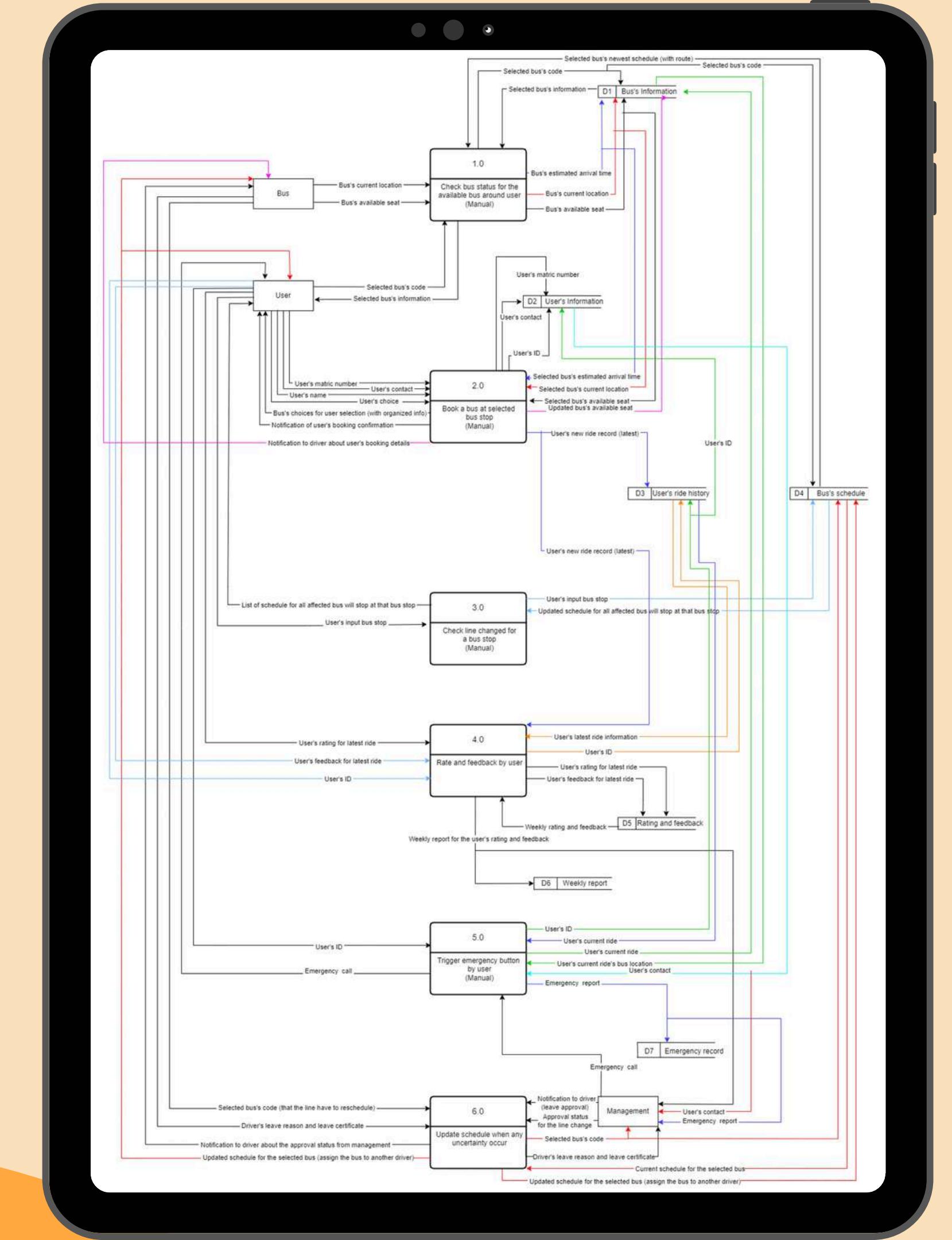
- We provide user-friendly rating page for our user and this help continuous evaluation and development of our system and service quality.

*6 Emergency button

- We provide a direct channel of communication to our company's management and emergency services.



PHYSICAL DFD-TO-BE (DIAGRAM 0)



PHYSICAL

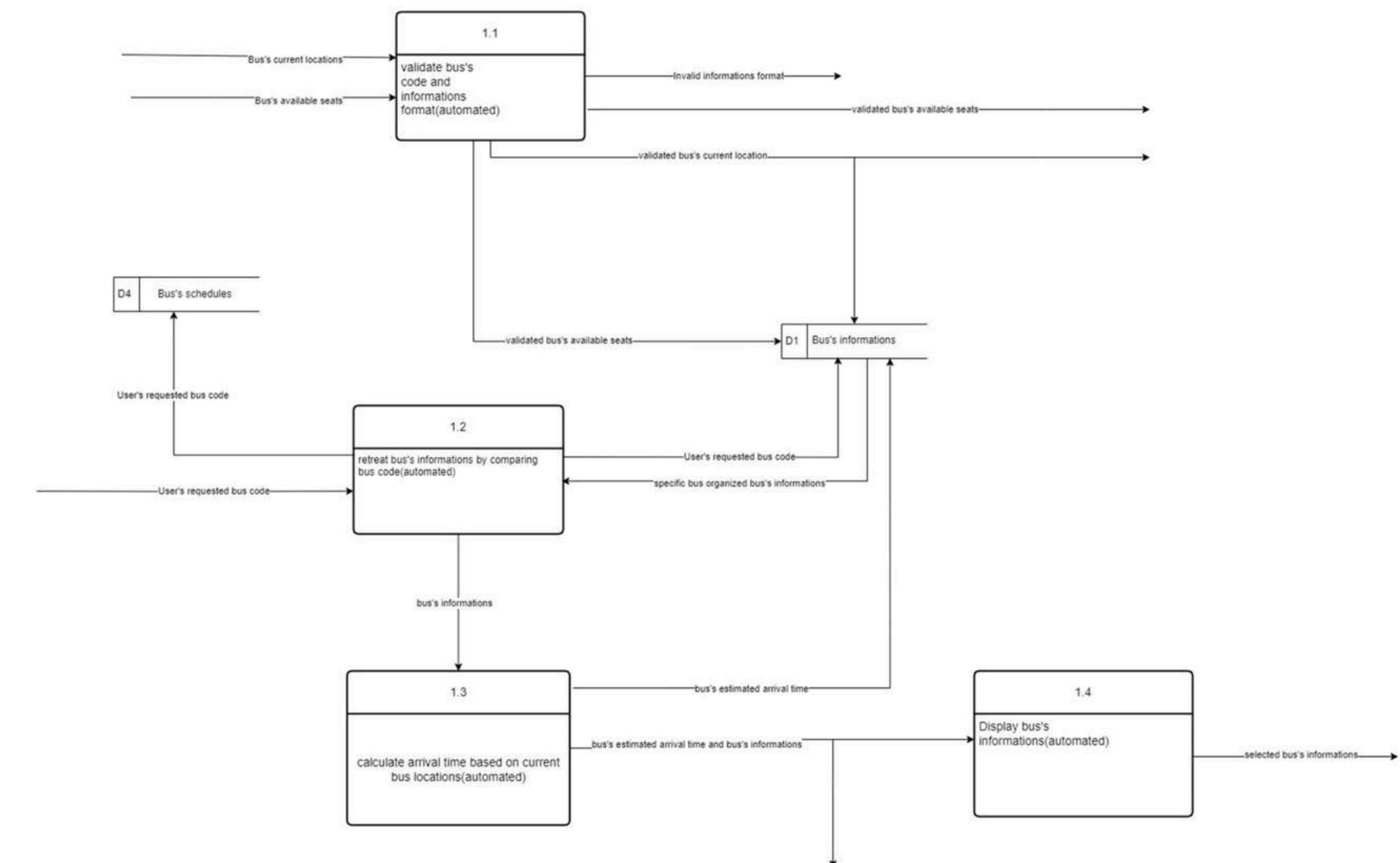
DFD-TO-BE

(CHILD DIAGRAM)

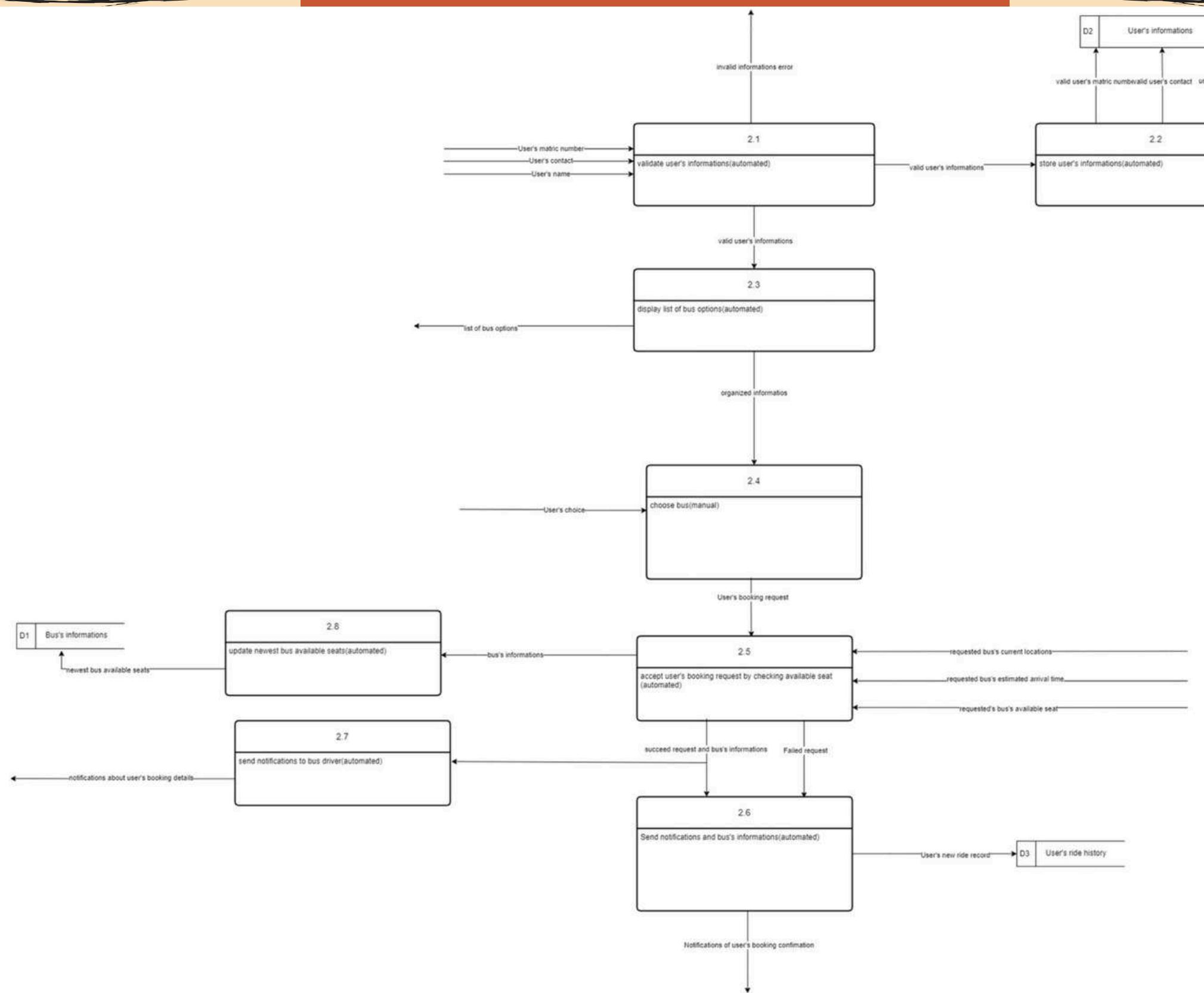


PROCESS 1 : CHECK BUS STATUS

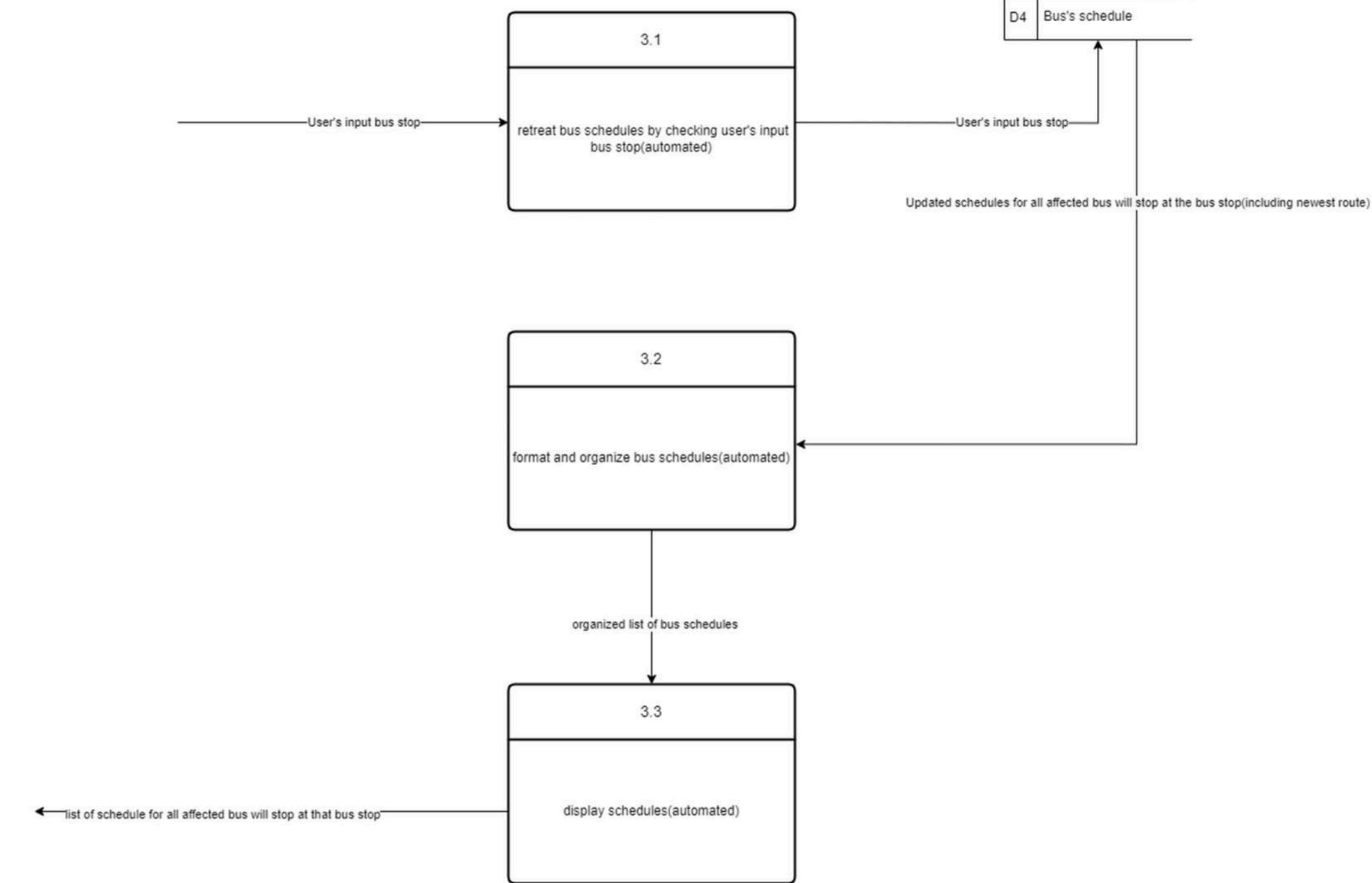
7.1 Physical DFD TO-BE system(Child Diagram)
Process 1(check bus status)



PROCESS 2 : BOOK A BUS



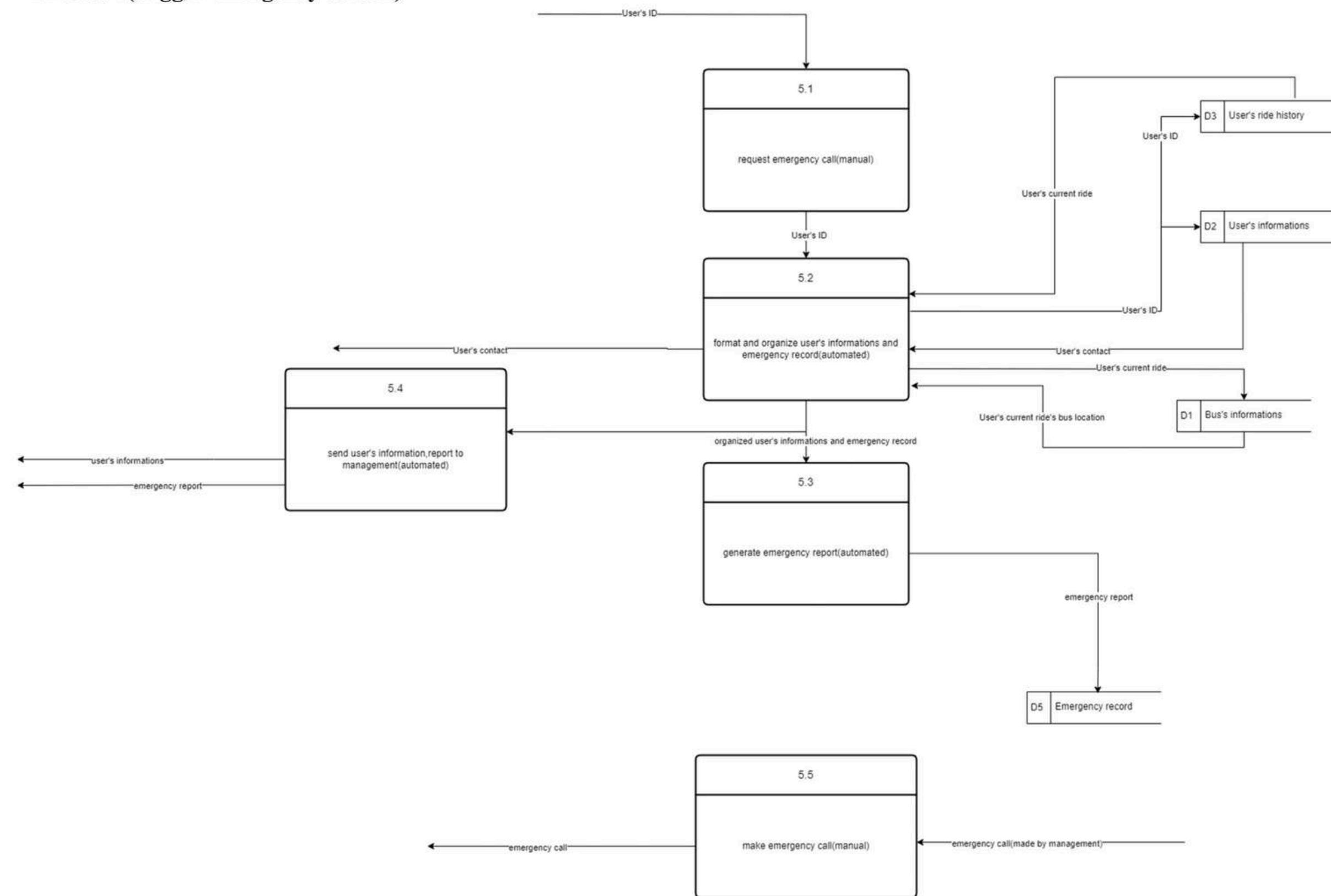
PROCESS 3 : CHECK LINE CHANGES



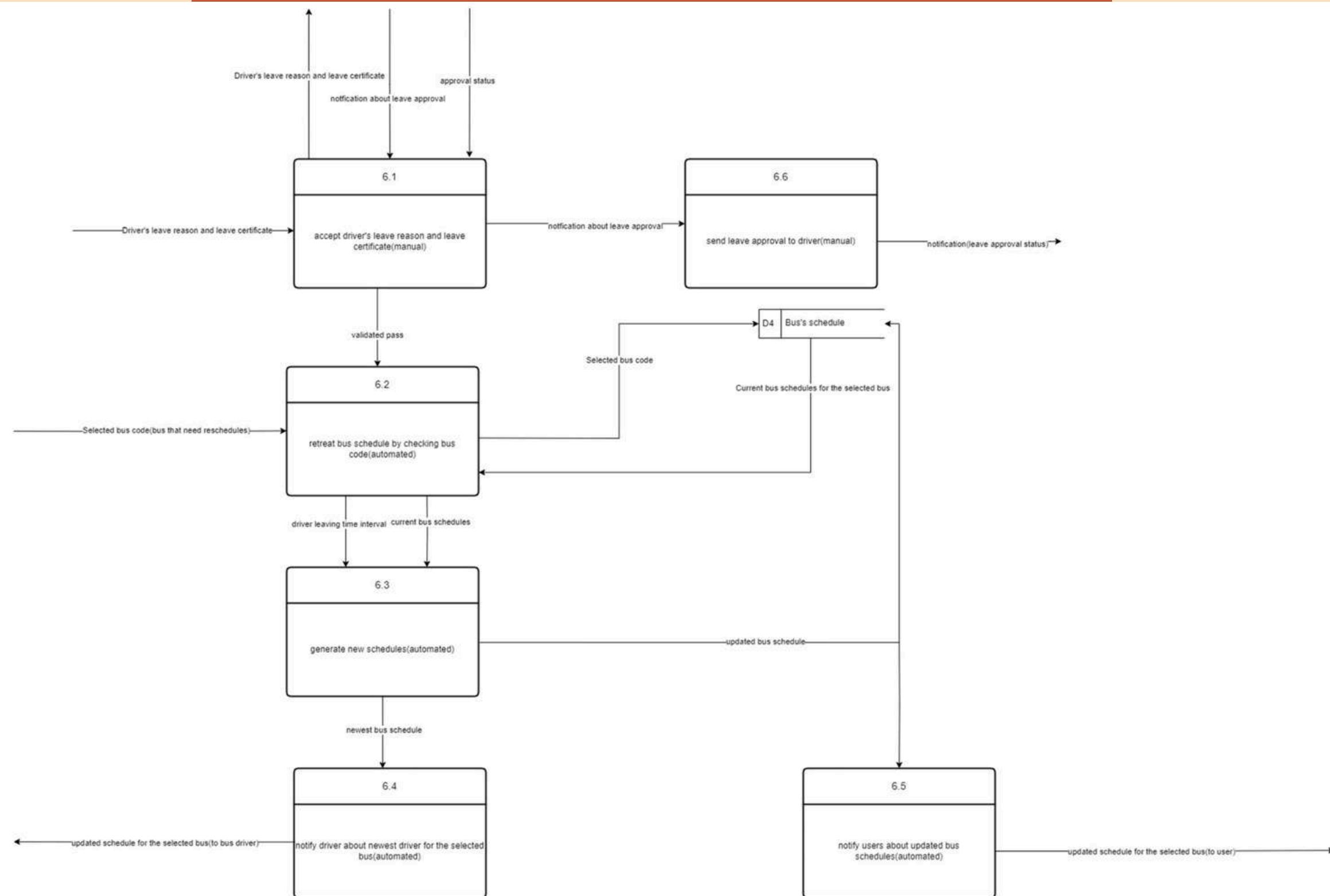
PROCESS 4 : RATE AND FEEDBACK



PROCESS 5 : TRIGGER EMERGENCY BUTTON



PROCESS 6 : UPDATE SCHEDULE WHEN UNCERTAINTY OCCUR



PHYSICAL

DFD-TO-BE

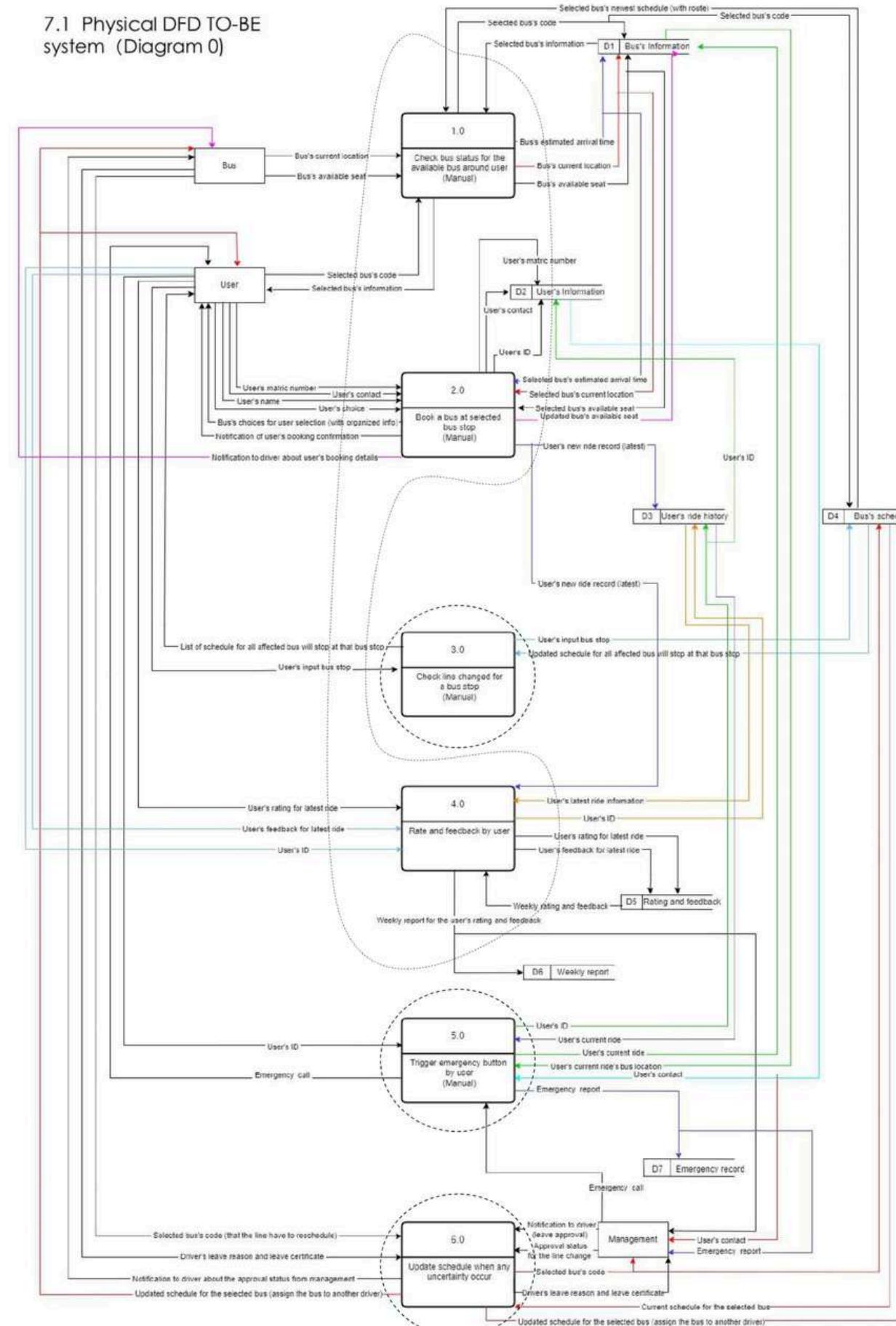
(PARTITIONING)



PARTITIONING:

PROCESS OF EXAMINING THE
DATA FLOW
AND DETERMINING HOW IT SHOULD
BE DIVIDED
INTO COLLECTIONS OF EACH
COMPUTER PROGRAM

7.1 Physical DFD TO-BE
system (Diagram 0)



PARTITION 1: BUS STATUS CHECKING , BOOKING AND USER FEEDBACK

**INVOLVE : PROCESS
1.0 , 2.0 AND 4.0**

Check bus status and book a bus in your selected area. Both processes require direct user interaction. The necessary data, including bus information, user details, and ride history, are interconnected. User feedback and ratings, a separate feature from booking and scheduling, can be provided after booking a bus.

PARTITION 2 : LINE CHANGES FOR THE BUS STOP

INVOLVE : PROCESS 3.0

Check the changed bus schedule and update schedule when bus unavailability occurs. The process deals specifically with bus line changes to them and this process involves management actions to update and verify schedules, making them distinct from user interactions.

• PARTITION 3 : EMERGENCY HANDLING •

INVOLVE : PROCESS

5.0

Triggering the emergency button is a critical function that demands immediate attention and action. This process is distinct from regular operations to ensure it is secure and prioritized for swift responses. Emergency records and data should be managed separately to maintain clarity and focus during emergencies.

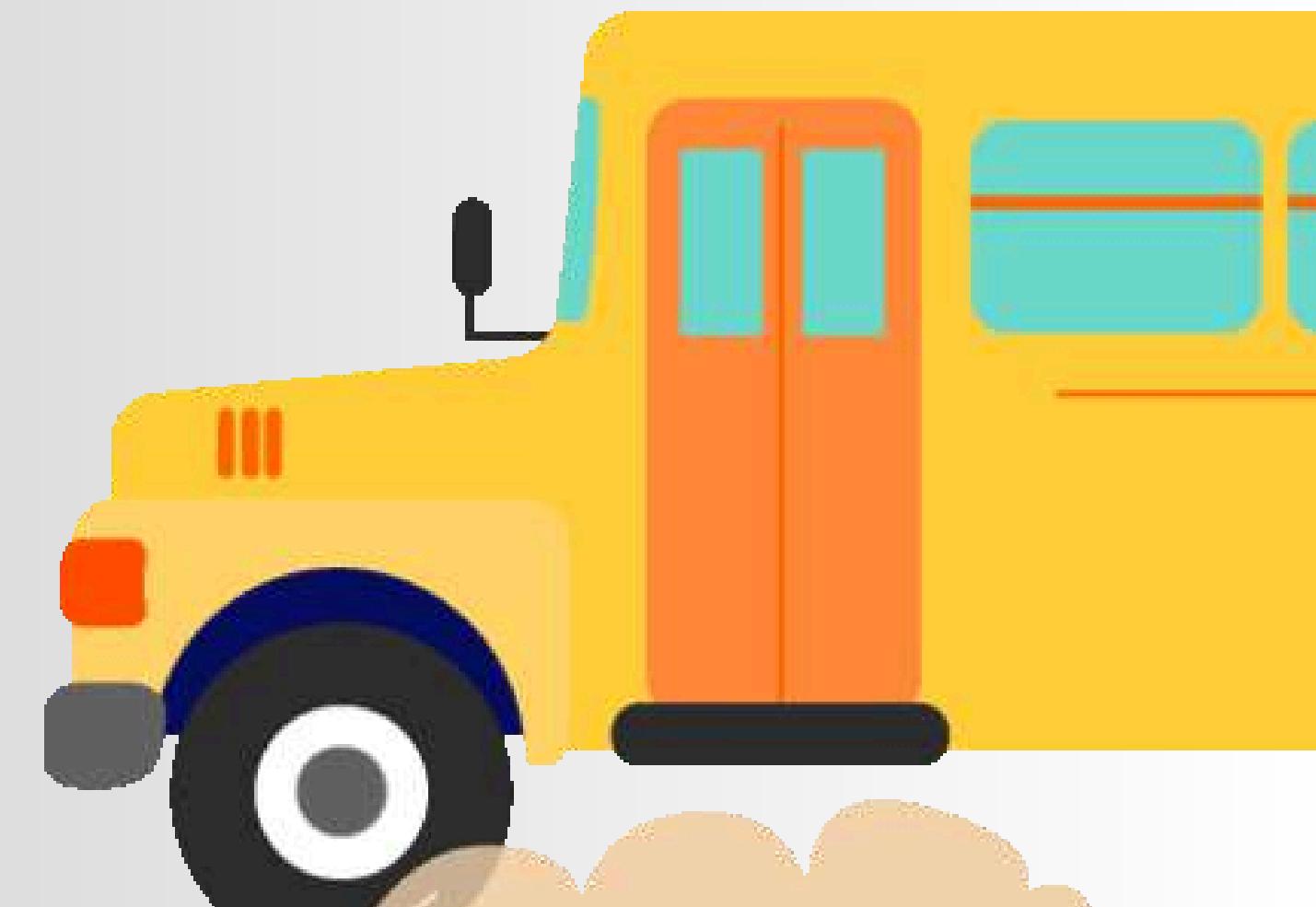
INVOLVE : PROCESS

6.0

PARTITION 4 : UPDATE THE SCHEDULE WHEN EMERGENCY OCCURS

Schedule of the bus will be updated when something unplanned occurs. The driver will receive the notification first about the line changes. Then waiting for the approval from the manager whether the changes are approved or not. After that, the bus schedule will be updated based on the instruction from the manager department.

EVENT RESPONSE TABLE



- To create data flow diagram by analyzing each event and the data used and produced by the event**
- Every row represent the a data flow diagram process**

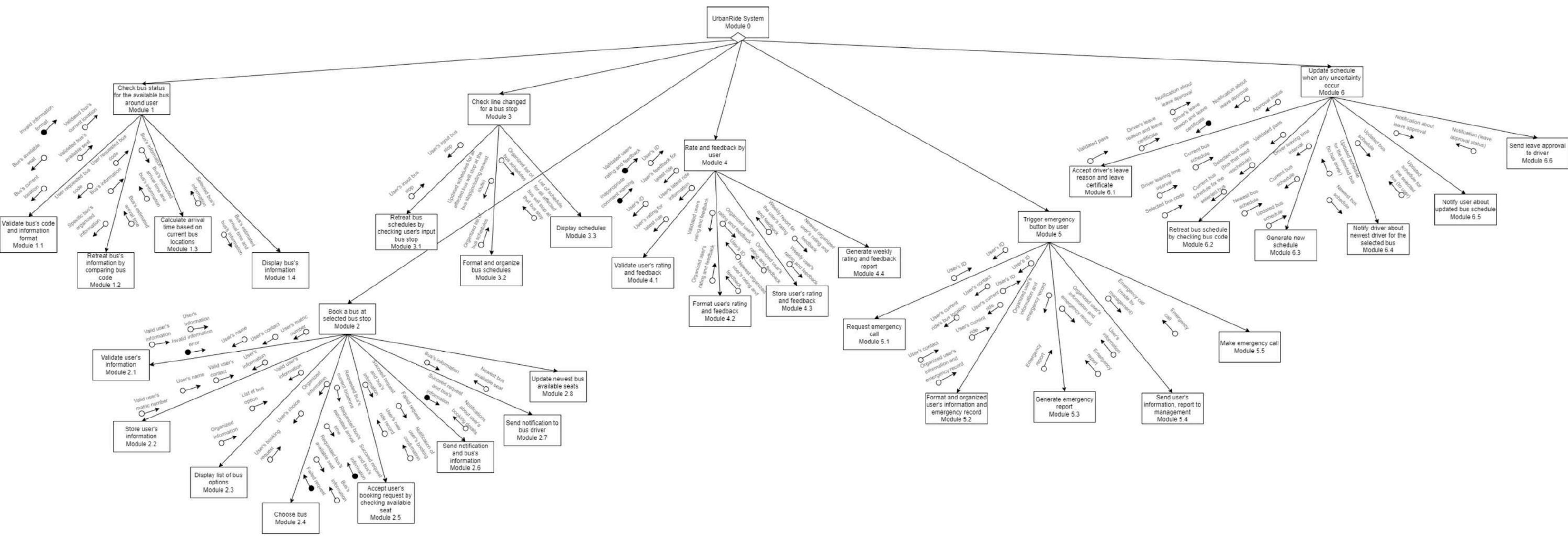
7.1 Physical DFD TO-BE system(Event Response table)

Event	Source	Trigger	Activity	Response	Destination
View bus status	User	Selected bus's code	Bus live update it's status,view bus status by accessing bus status based on specific bus's code in database	Selected bus's informations	User
Book a bus at specific bus stop	User	User's choice, User's matric number, User's name, User's contact	Choose current available bus,send notifications on succeed reservation to user and bus driver	Notification of user's booking confirmations Notification about user's booking details	User, Bus
View line changed for specific bus stop	User	User's input bus stop	Access to newest bus schedules,display bus schedules(including routes)	List of schedules for all affected bus	User
Give rating and feedback	User	User's rating and feedback for latest ride, User's ID	Check if the feedback is inappropriate,store rating and feedback into rate and feedback database, Generate weekly rating and feedback report	Weekly report for the user's rating and feedback	
Trigger emergency button	User	User's ID	Generate emergency report,send user's informations and report to management,management make emergency call	Emergency report Emergency call	Management User
Update schedules if uncertainty occur	Bus	Driver's leave reason and leave certificate Selected bus's code	Accept driver's leave,retreat current schedules,generate new schedules, Notify driver and users about newest schedules, Notify about leave approval status	Updated schedules for selected bus Notifications about leave approval status	Users Bus

STRUCTURE CHART



STRUCTURE CHART



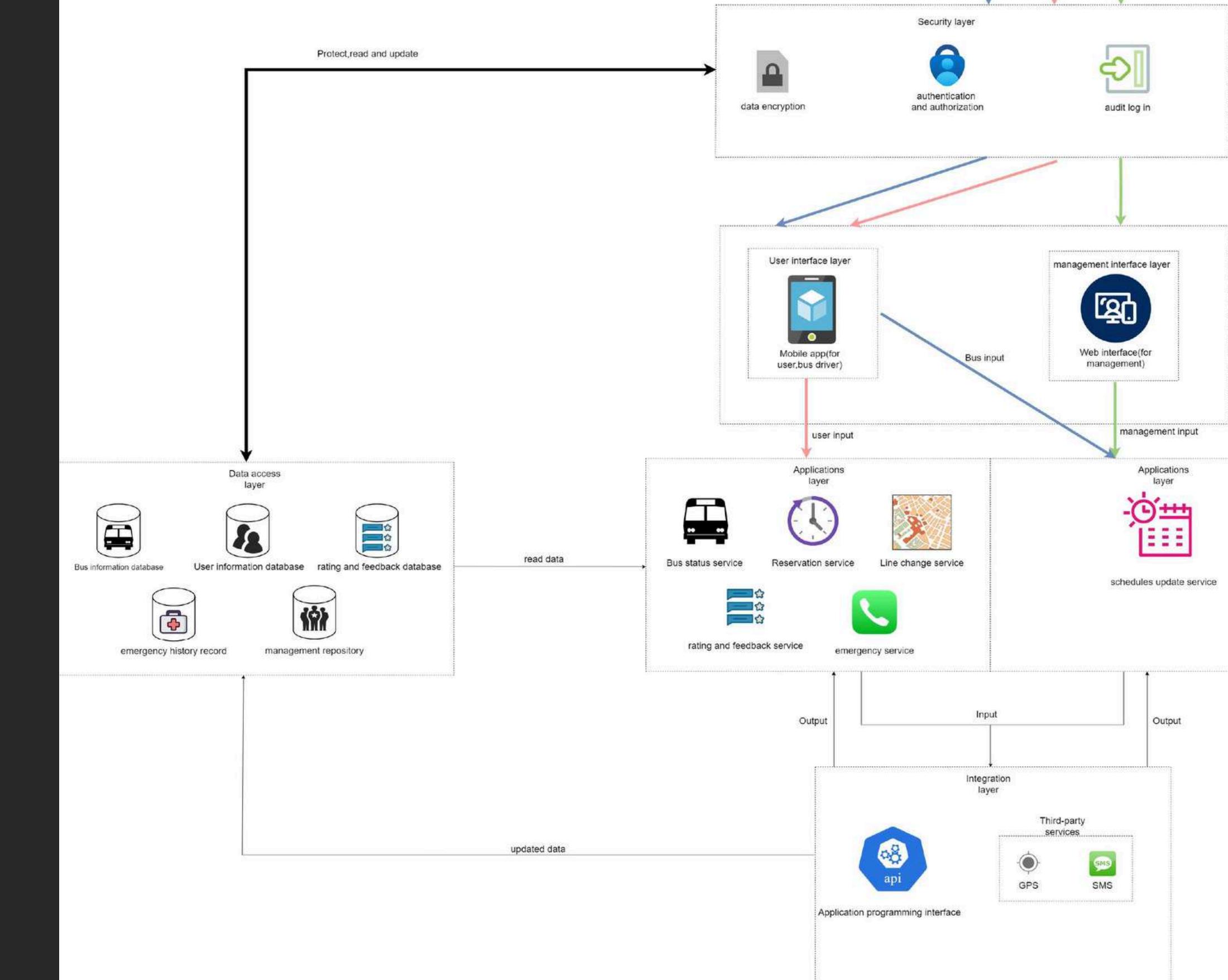


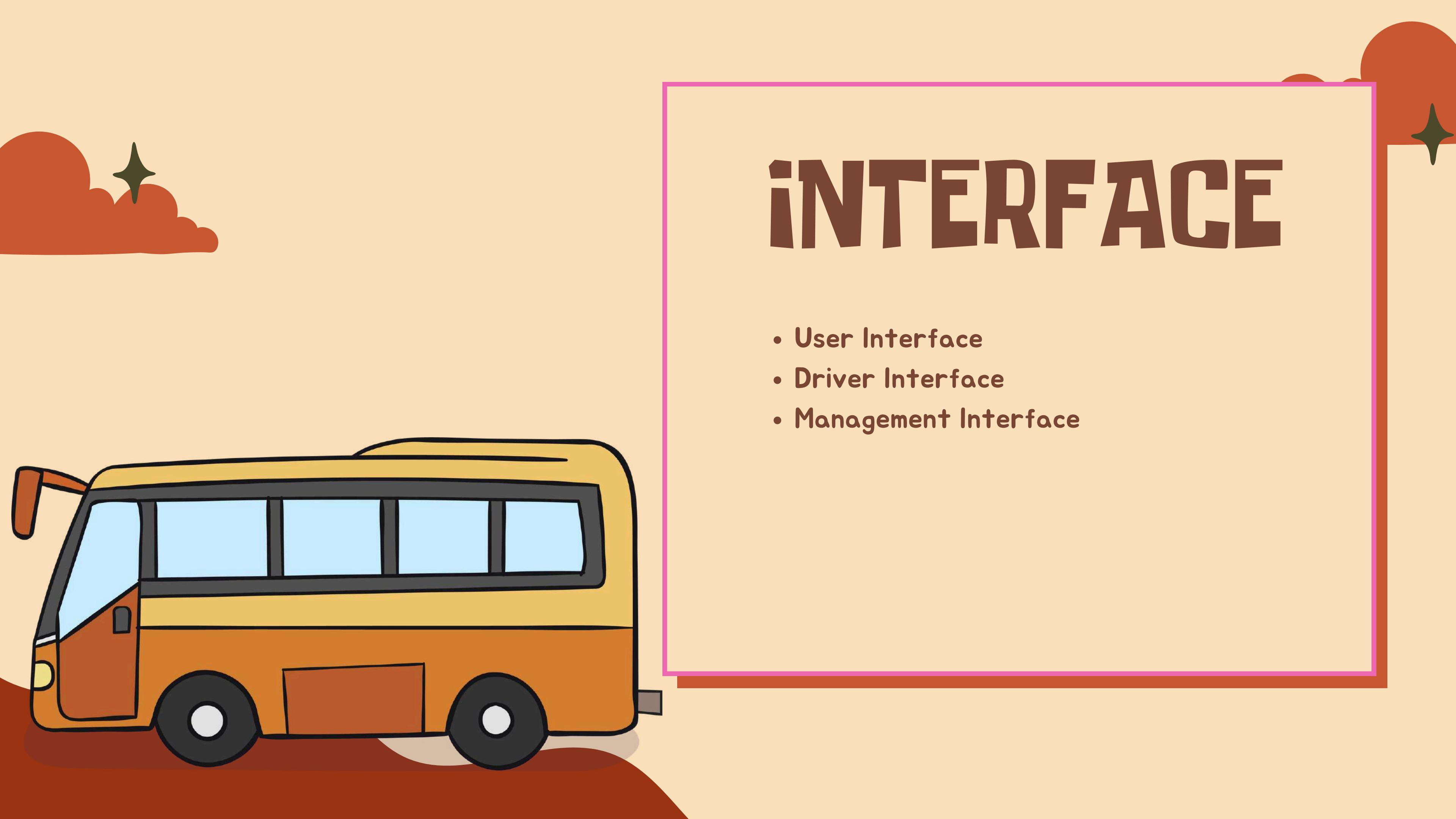
SYSTEM ARCHITECTURE



Physical DFD TO-BE system(system architecture)

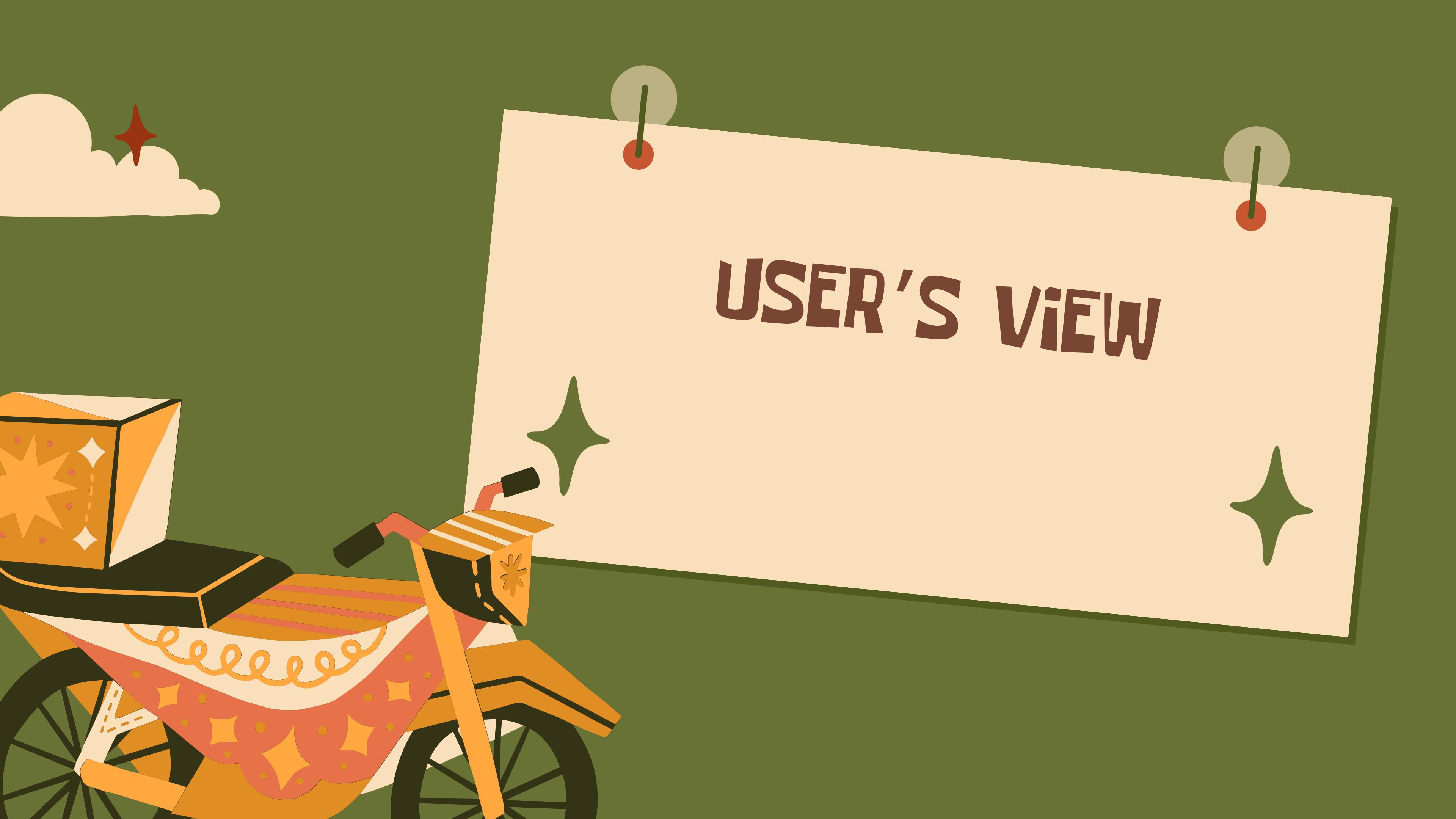
SYSTEM ARCHITECTURE :



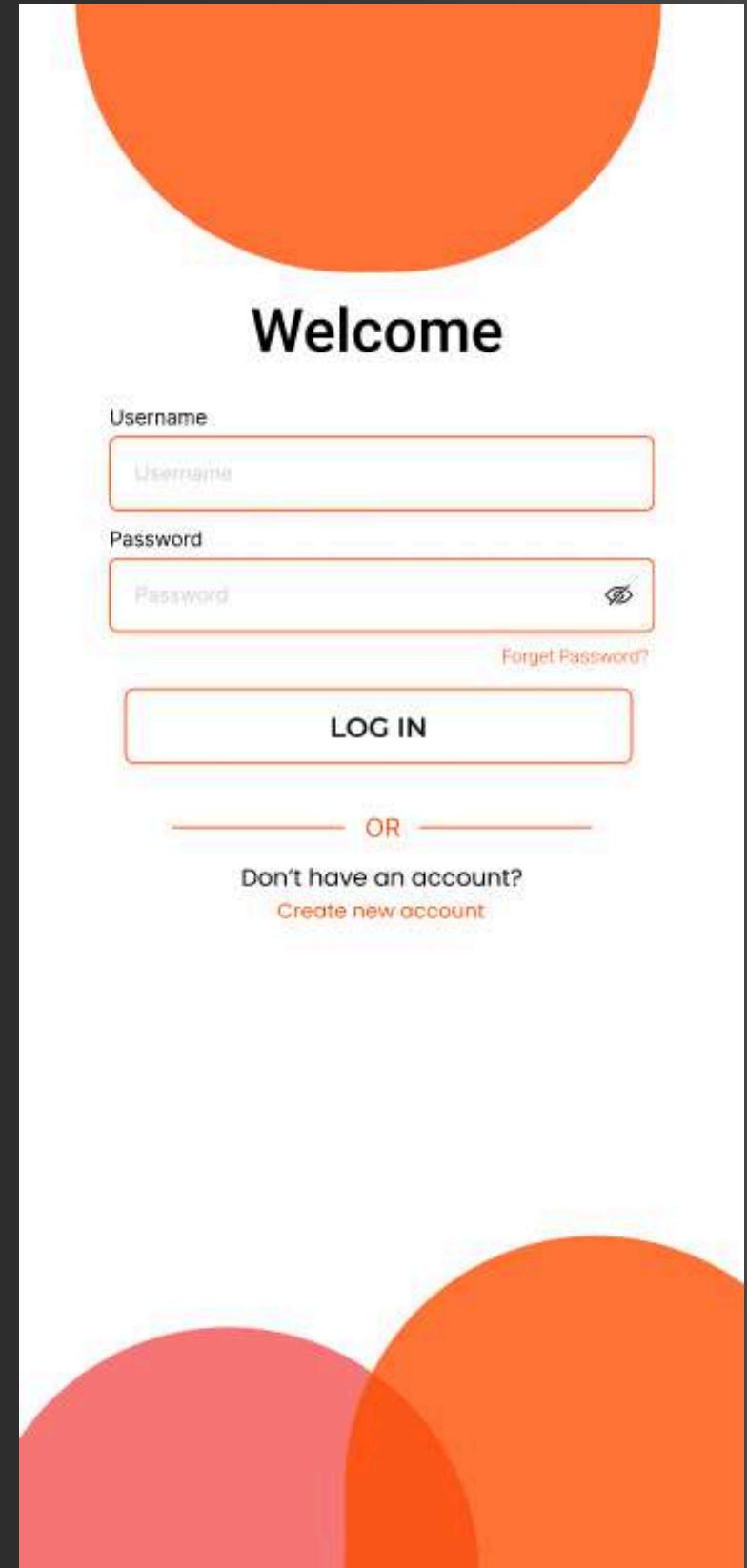


iNTERFACE

- User Interface
- Driver Interface
- Management Interface



USER'S VIEW



Welcome

Username

Password

[Forgot Password?](#)

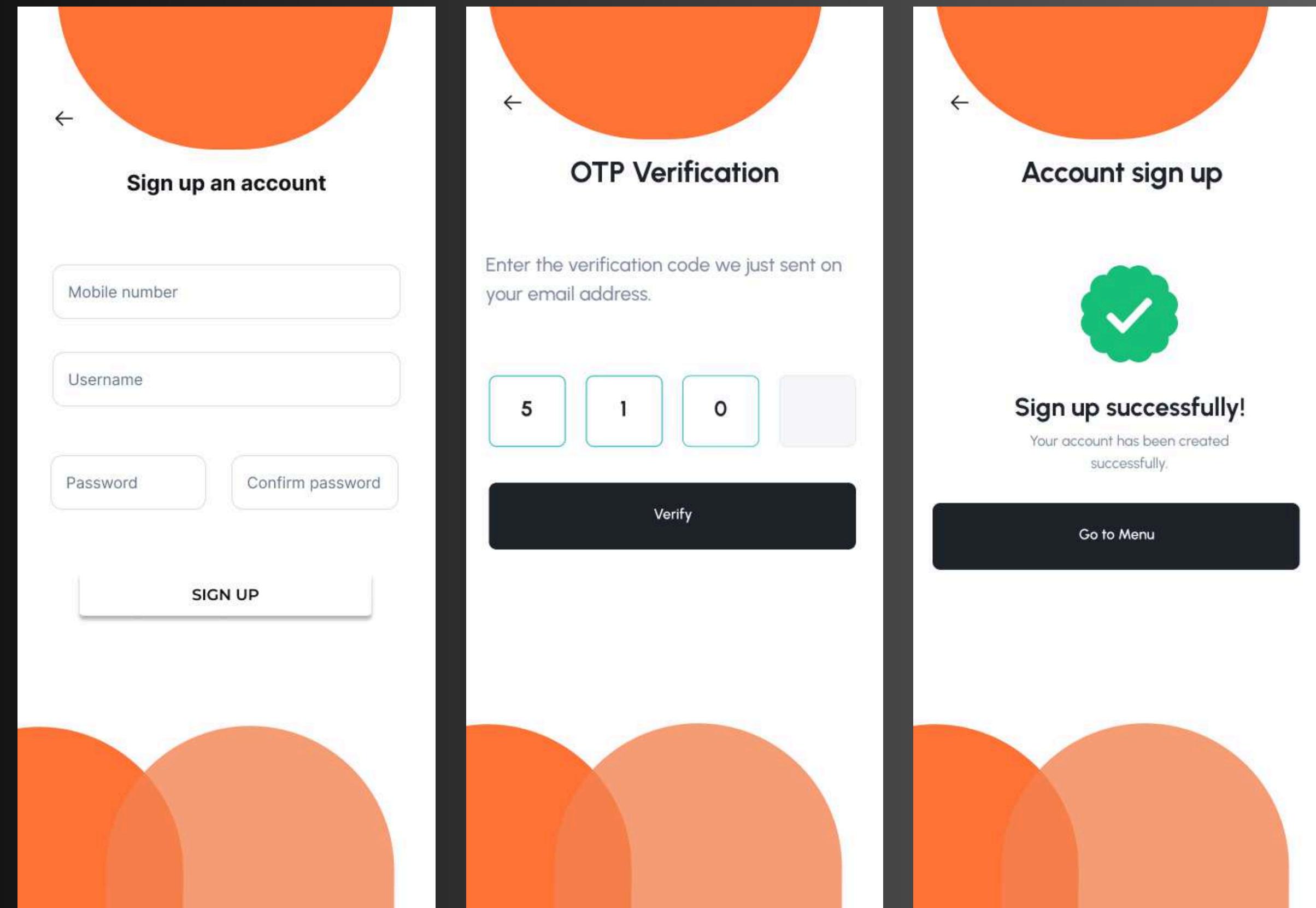
LOG IN

OR

[Don't have an account?](#)

[Create new account](#)

Login Page



Sign up Page

Enter phone number

Mobile number

CONFIRM & SEND OTP

Enter new password

Password

Confirm password

CONFIRM

OTP Verification

Enter the verification code we just sent on your email address.

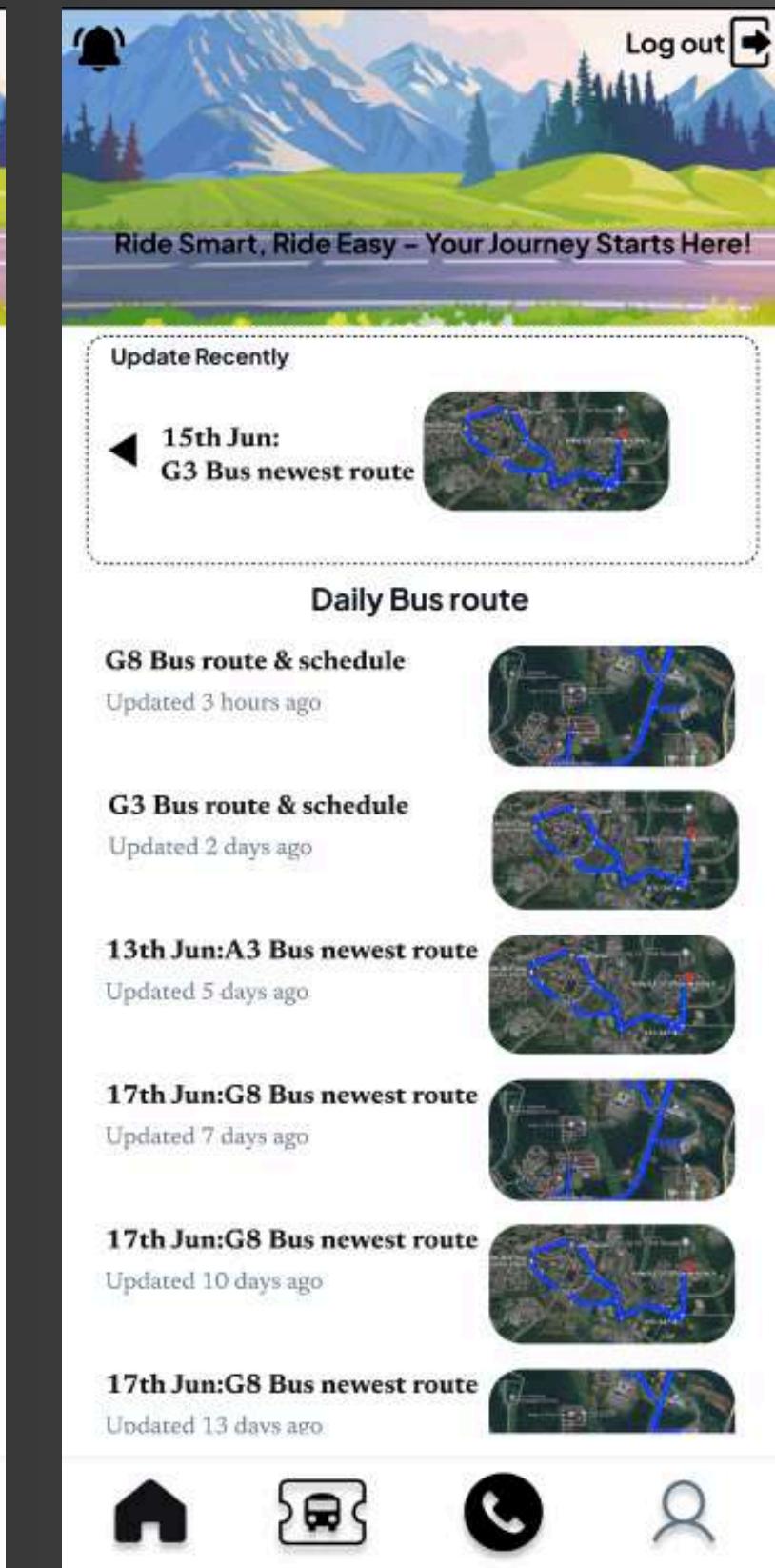
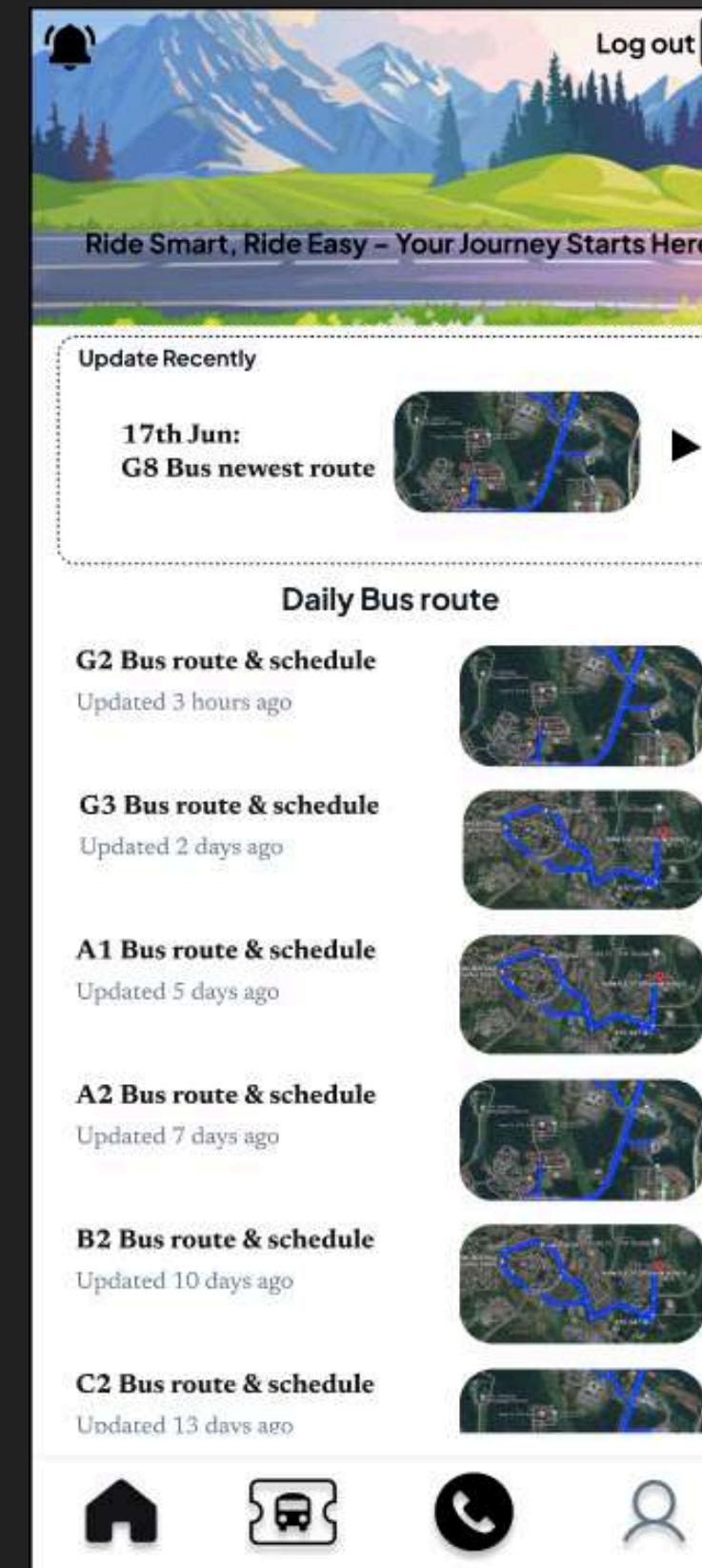
5 1 0

Verify

Renew password

Back to login

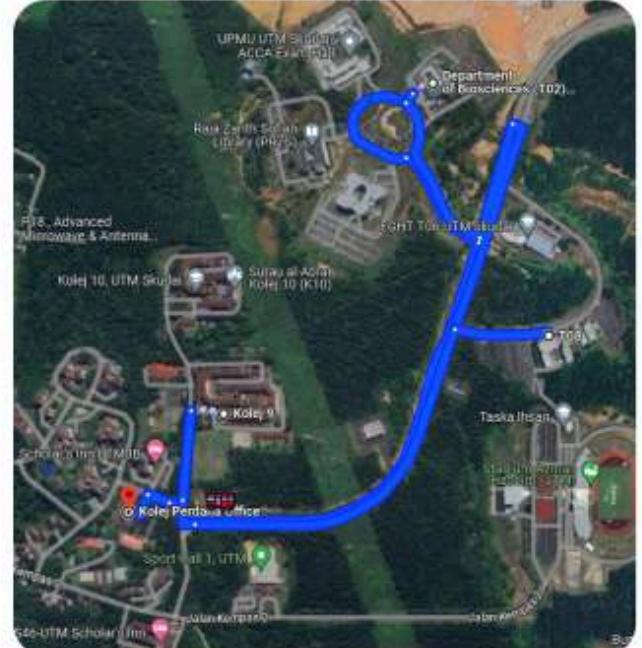
**Forget
Password
Page**



Menu Page

Newest route & schedules

Bus route & schedules



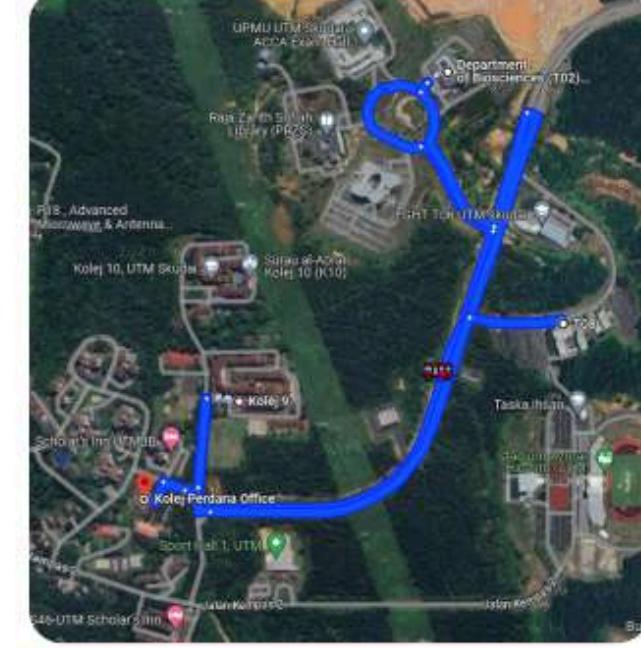
Bus B1: KP-K9/K10-T02-T08-K9/K10-KP

From	To
K9/K10	T02
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

Bus B1: KP-K9/K10-T02-T08-K9/K10-KP

From	To
K9/K10	T02
KP	07:25
T08	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

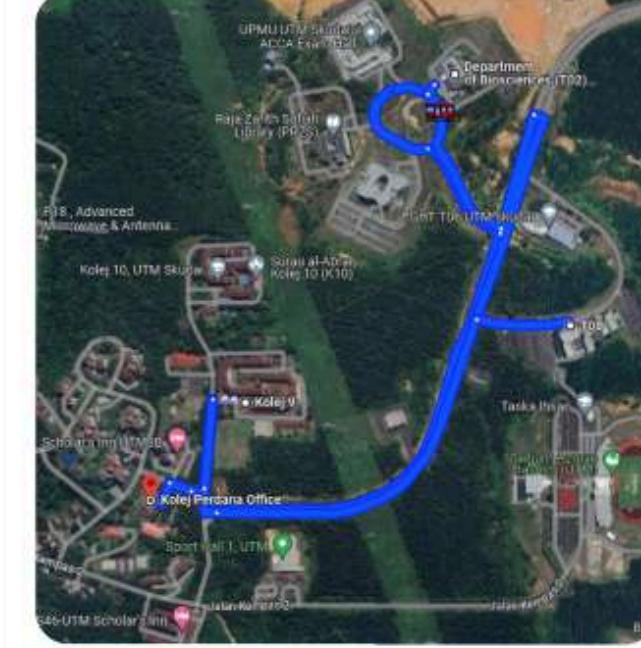
Bus route & schedules



Bus B1: KP-K9/K10-T02-T08-K9/K10-KP

From	To
K9/K10	T02
KP	07:25
T08	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

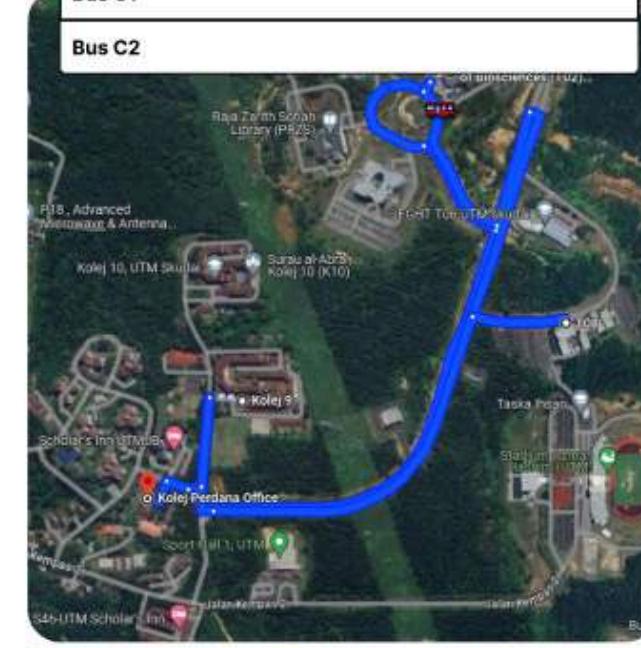
Bus route & schedules



Bus B1: KP-K9/K10-T02-T08-K9/K10-KP

From	To
KP	T02
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

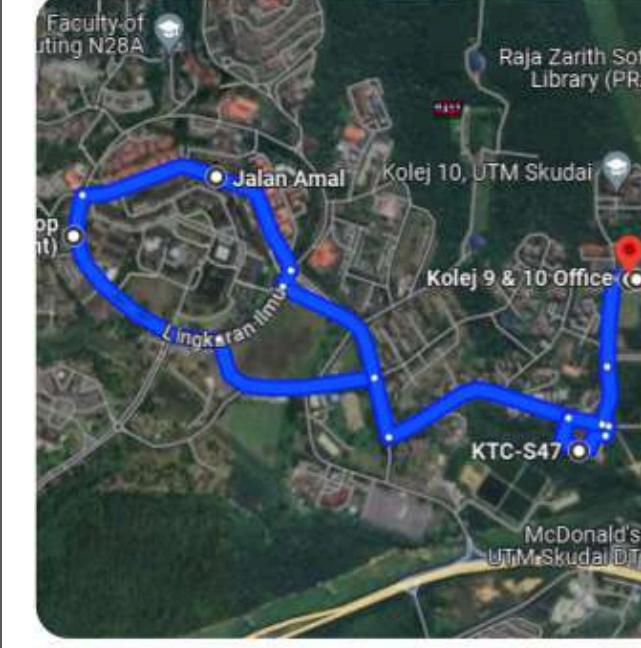
Bus route & schedules



Bus C1

Bus C2

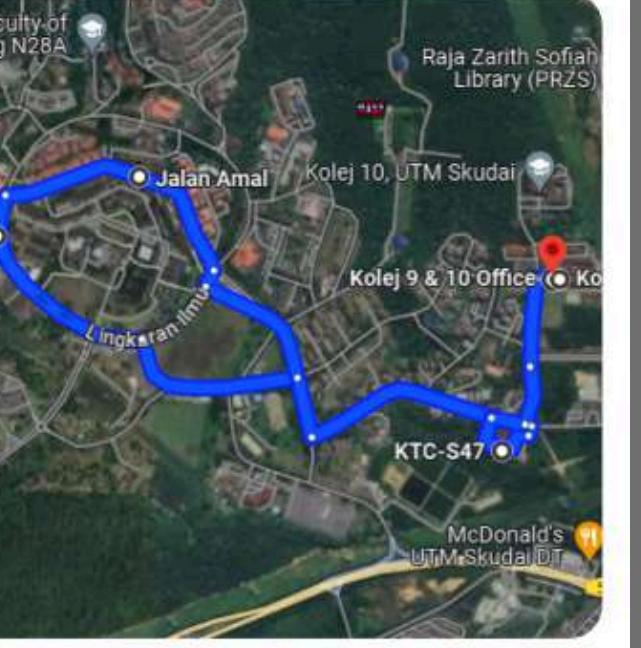
Bus route & schedules



Bus C1: K9/K10-KTC-JLN AMAL-KTC-K9/K10

From	To
K9/K10	Centre Point
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

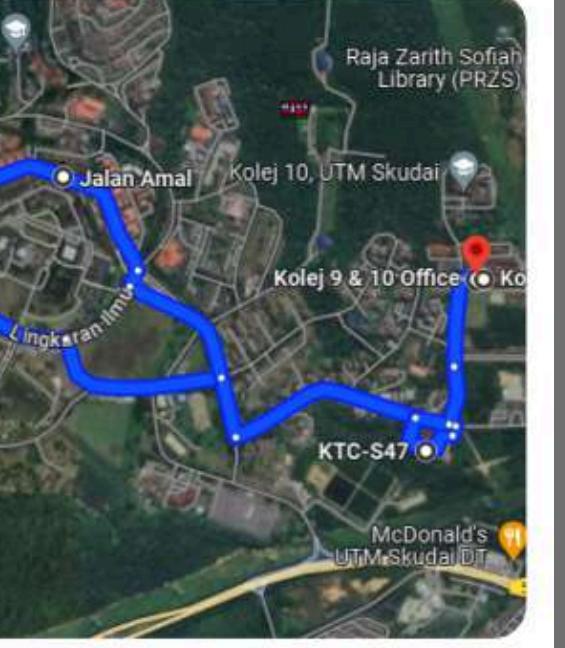
Bus route & schedules



Bus C1: K9/K10-KTC-JLN AMAL-KTC-K9/K10

From	To
K9/K10	Centre Point
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

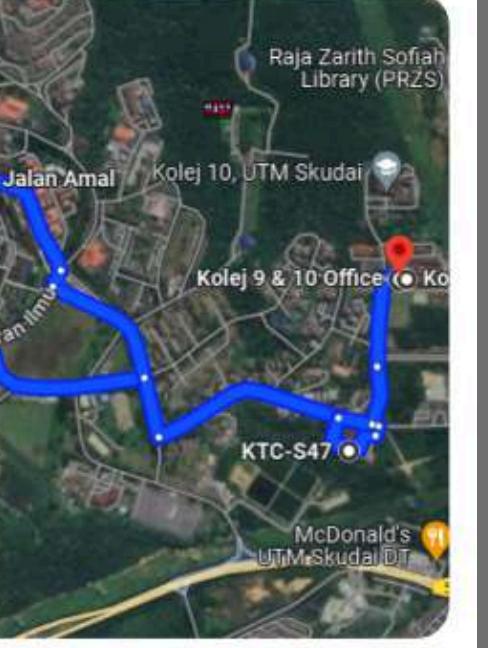
Bus route & schedules



Bus C1: K9/K10-KTC-JLN AMAL-KTC-K9/K10

From	To
K9/K10	Centre Point
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

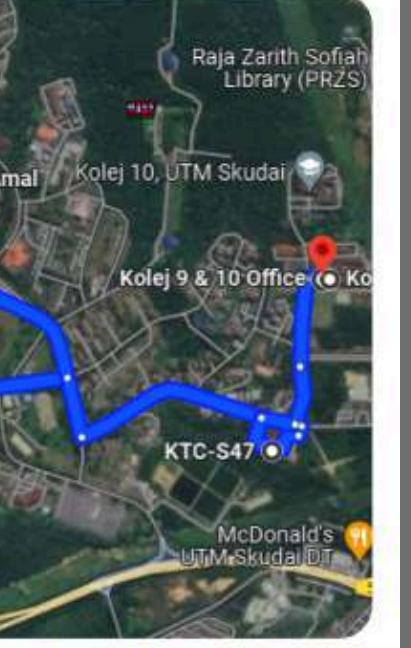
Bus route & schedules



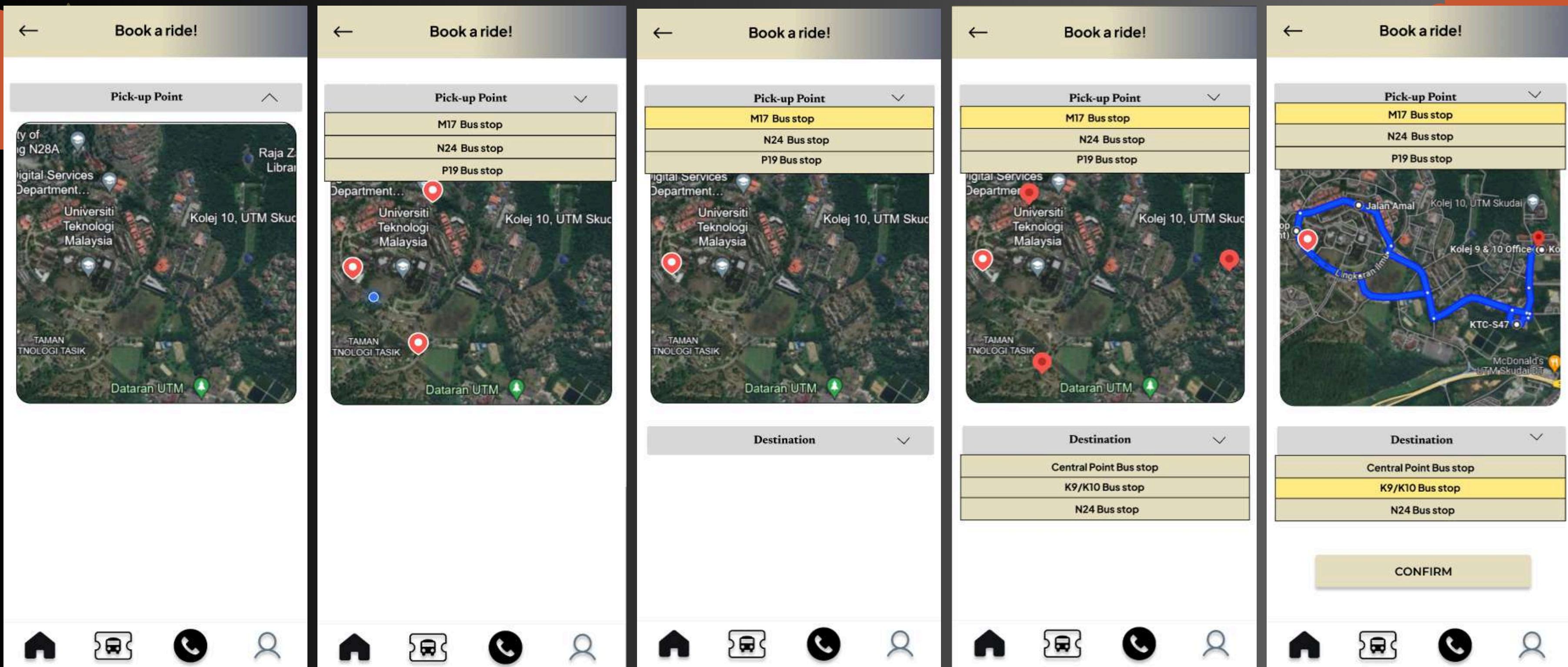
Bus C1: K9/K10-KTC-JLN AMAL-KTC-K9/K10

From	To
K9/K10	Centre Point
07:10	07:25
07:40	07:55
08:10	08:25
08:40	08:55
09:10	09:25
09:40	09:55
11:05	11:25
11:45	12:05
12:25	12:45

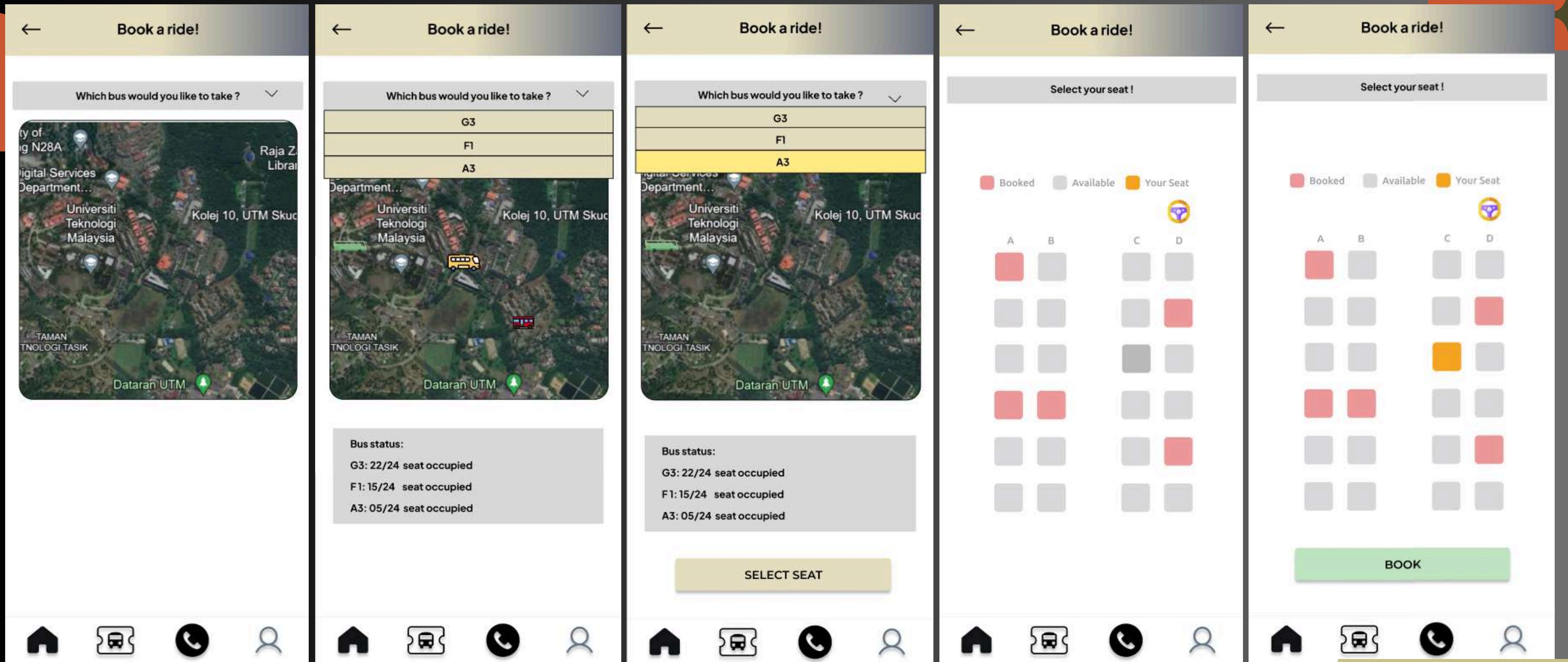
Bus route & schedules



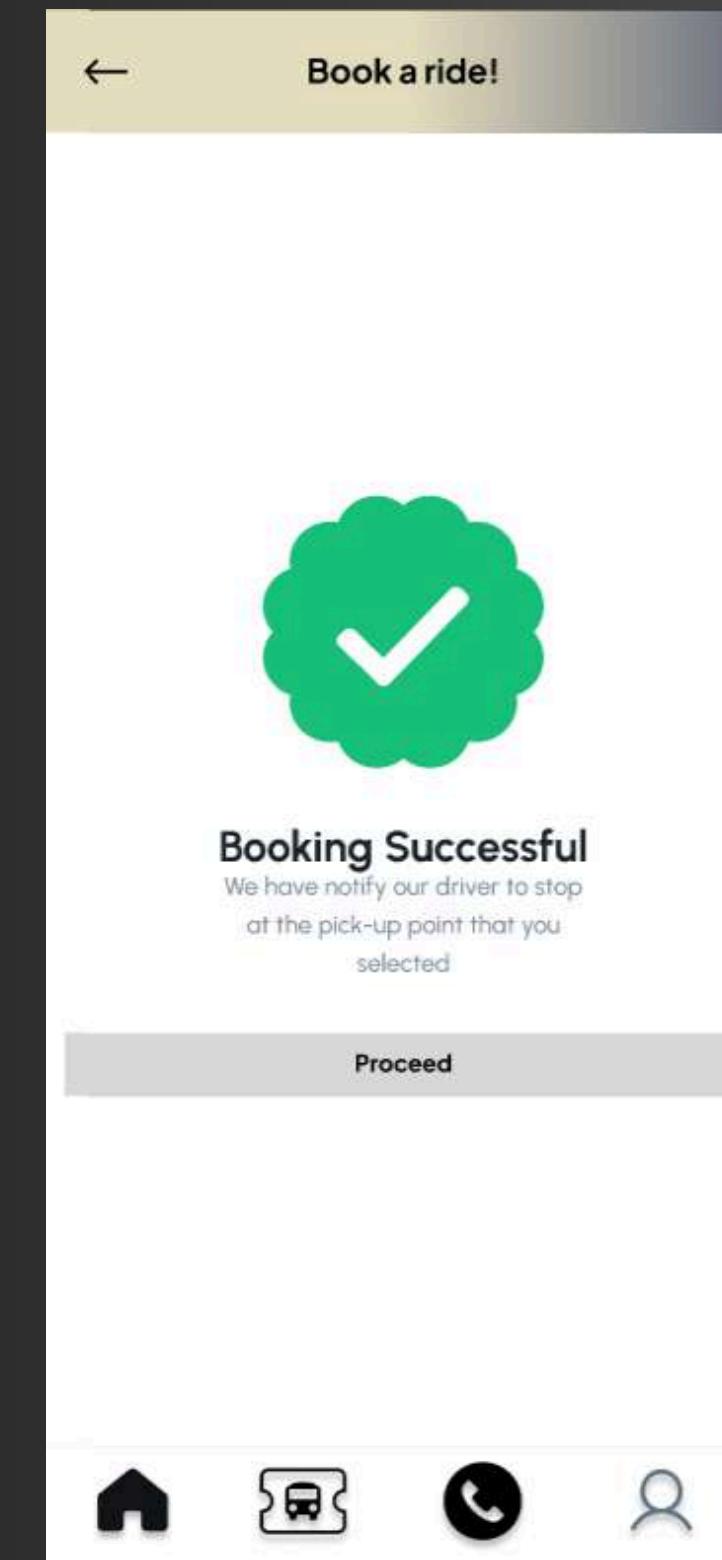
View Line
Change Page



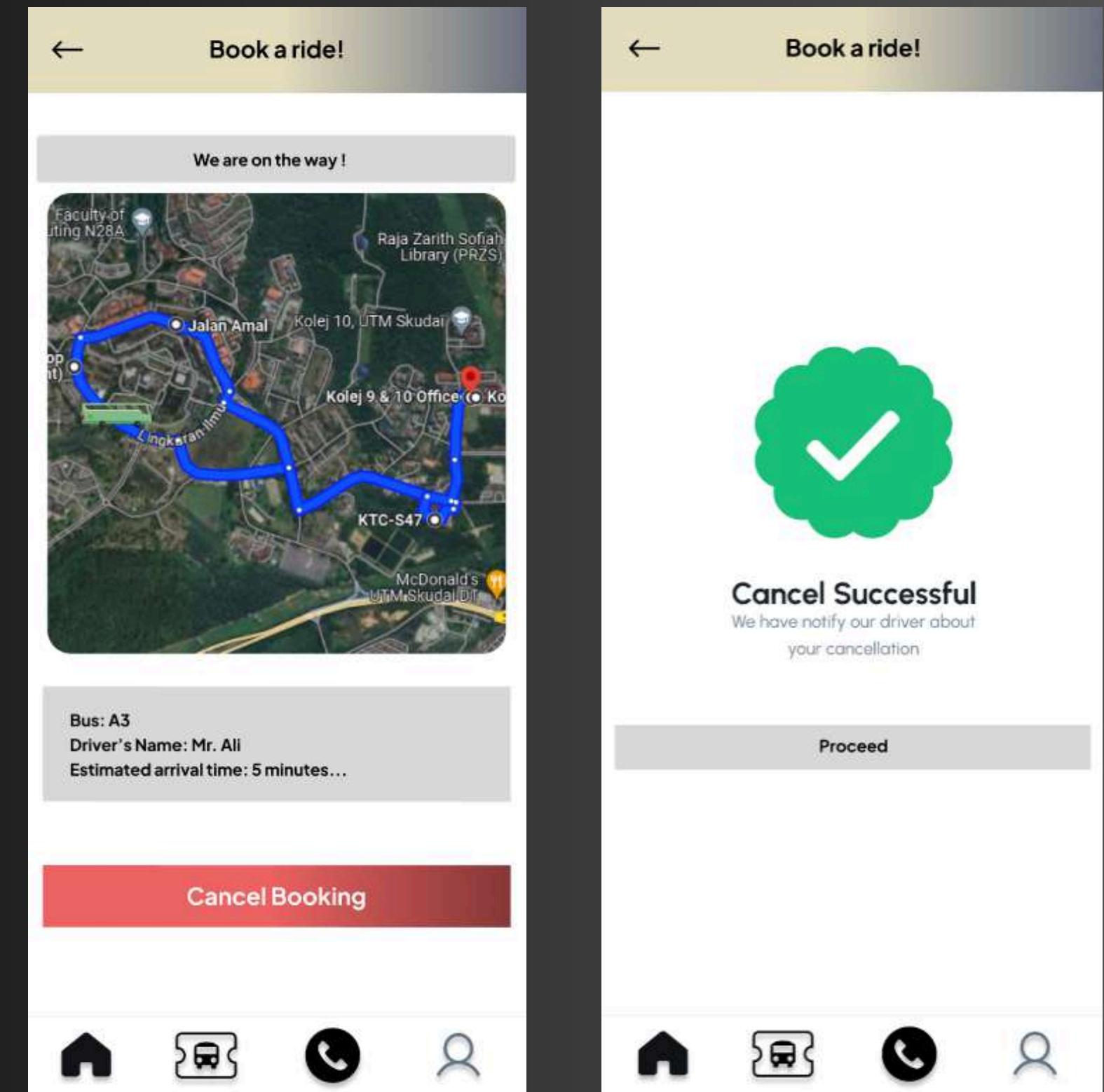
Book a Bus
Page



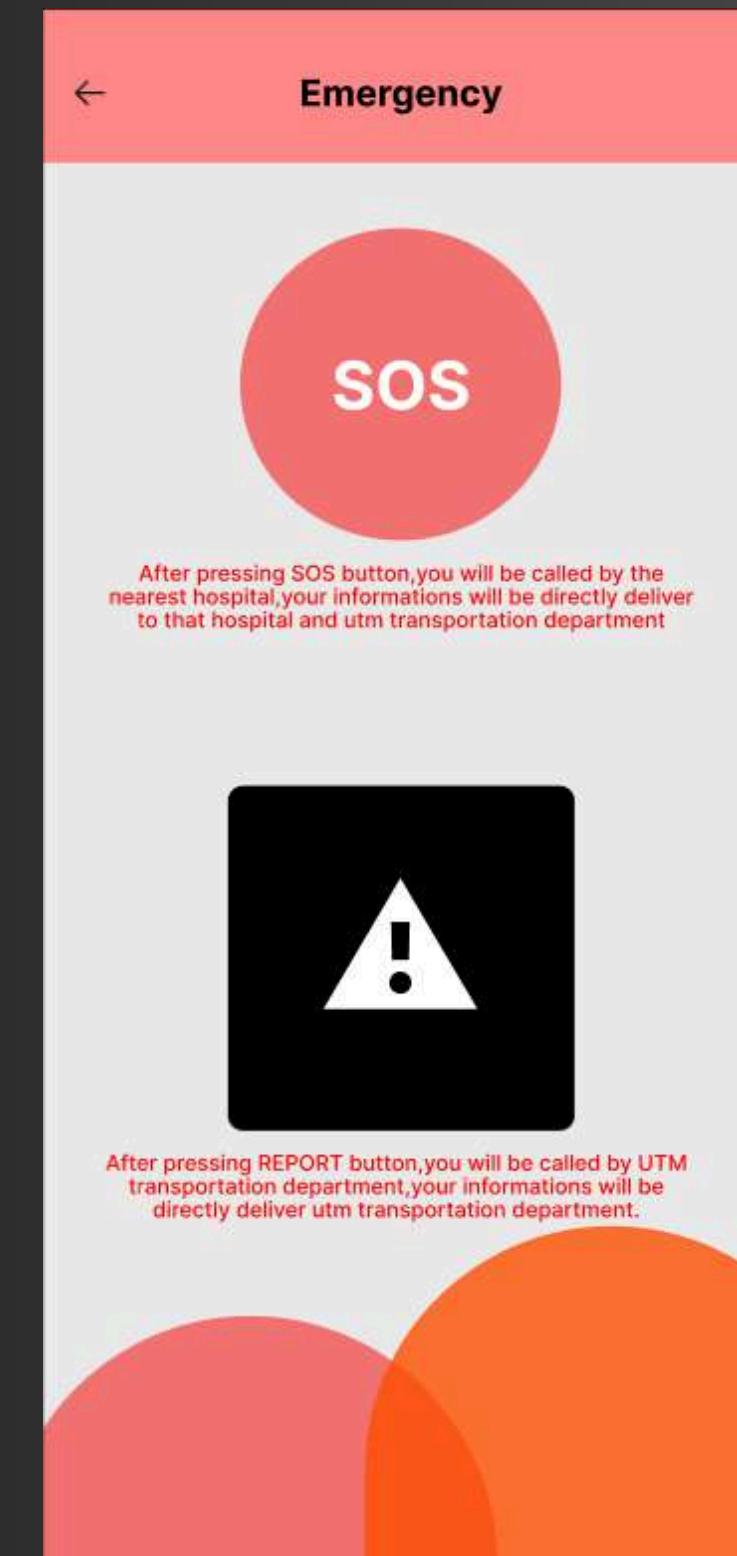
**Book a Bus
Page (cont.)**



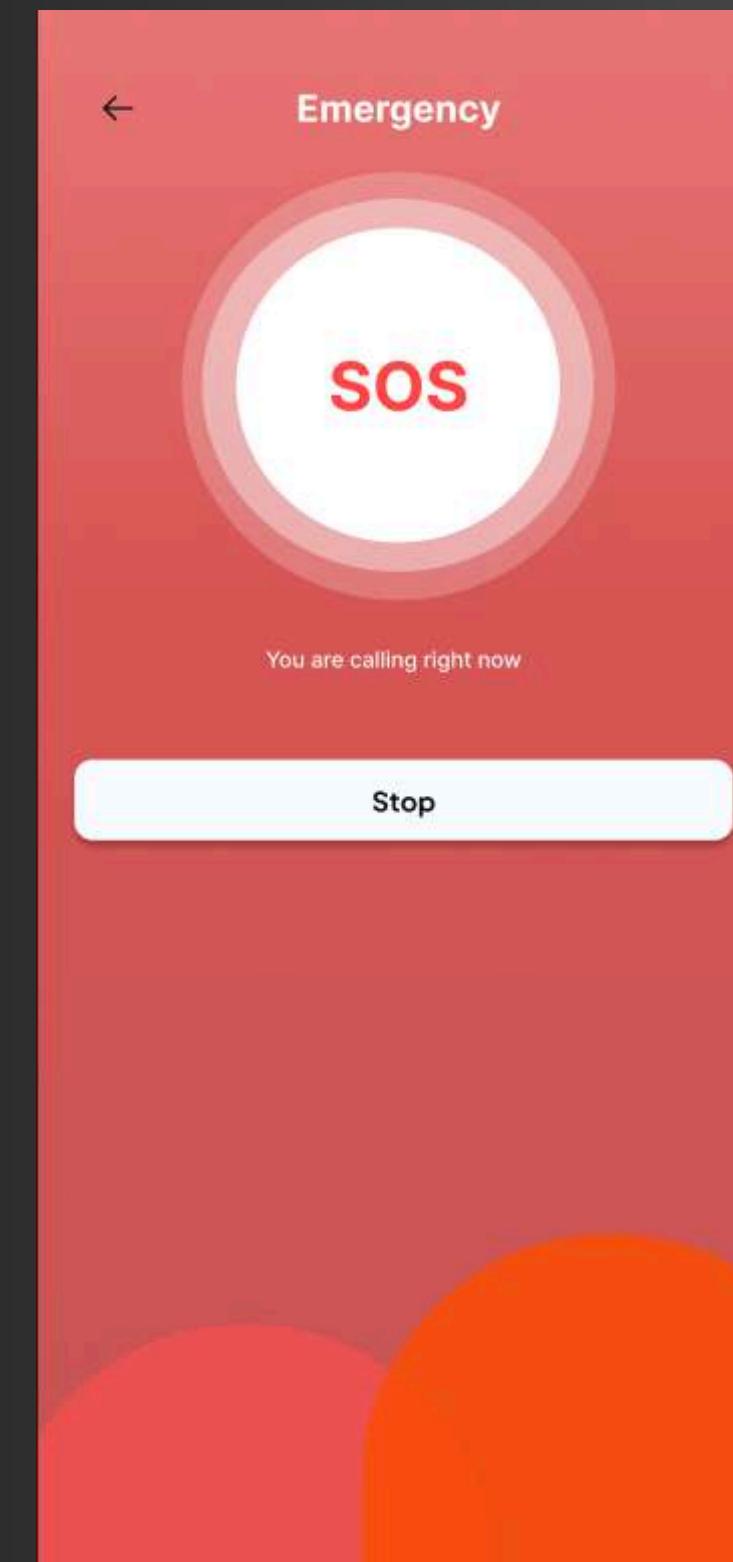
Book a Bus
Page (cont.)



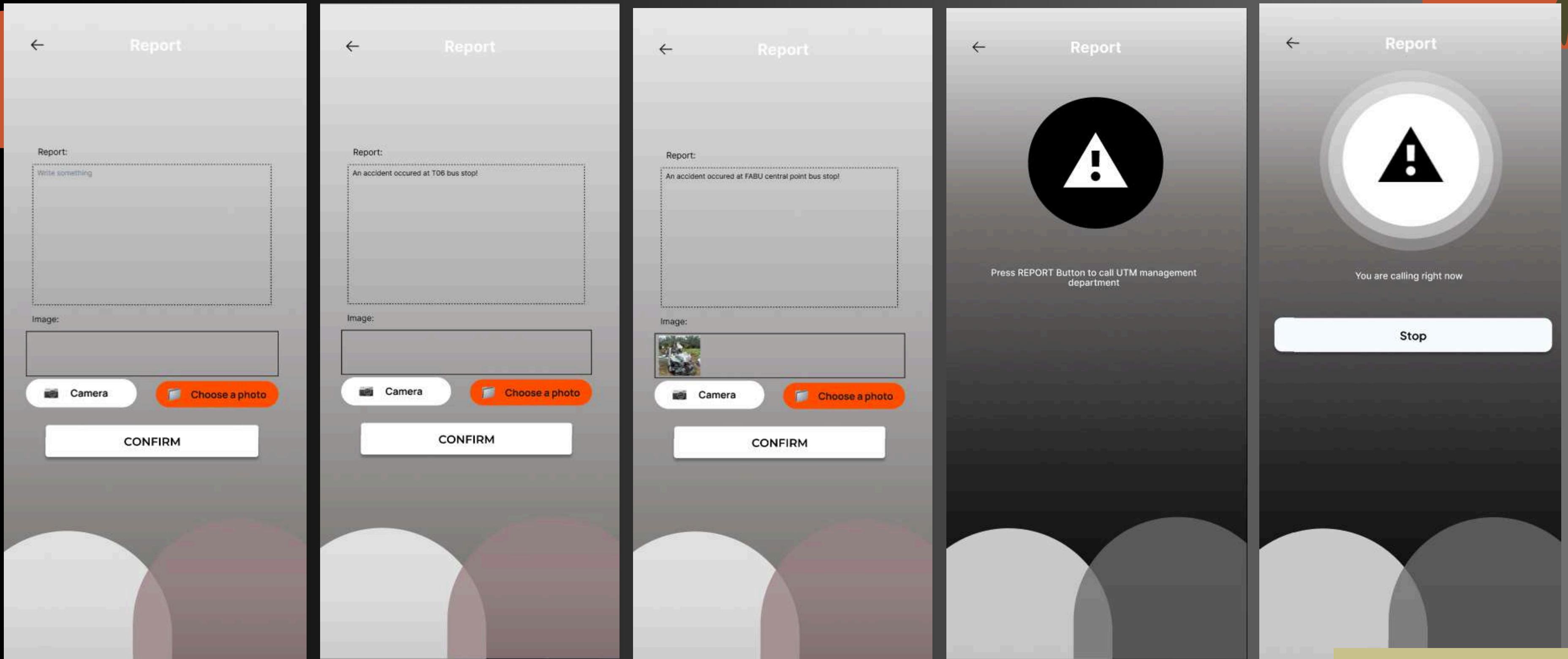
Cancel
Booking Page



Emergency
Button Page



Emergency
Call Page



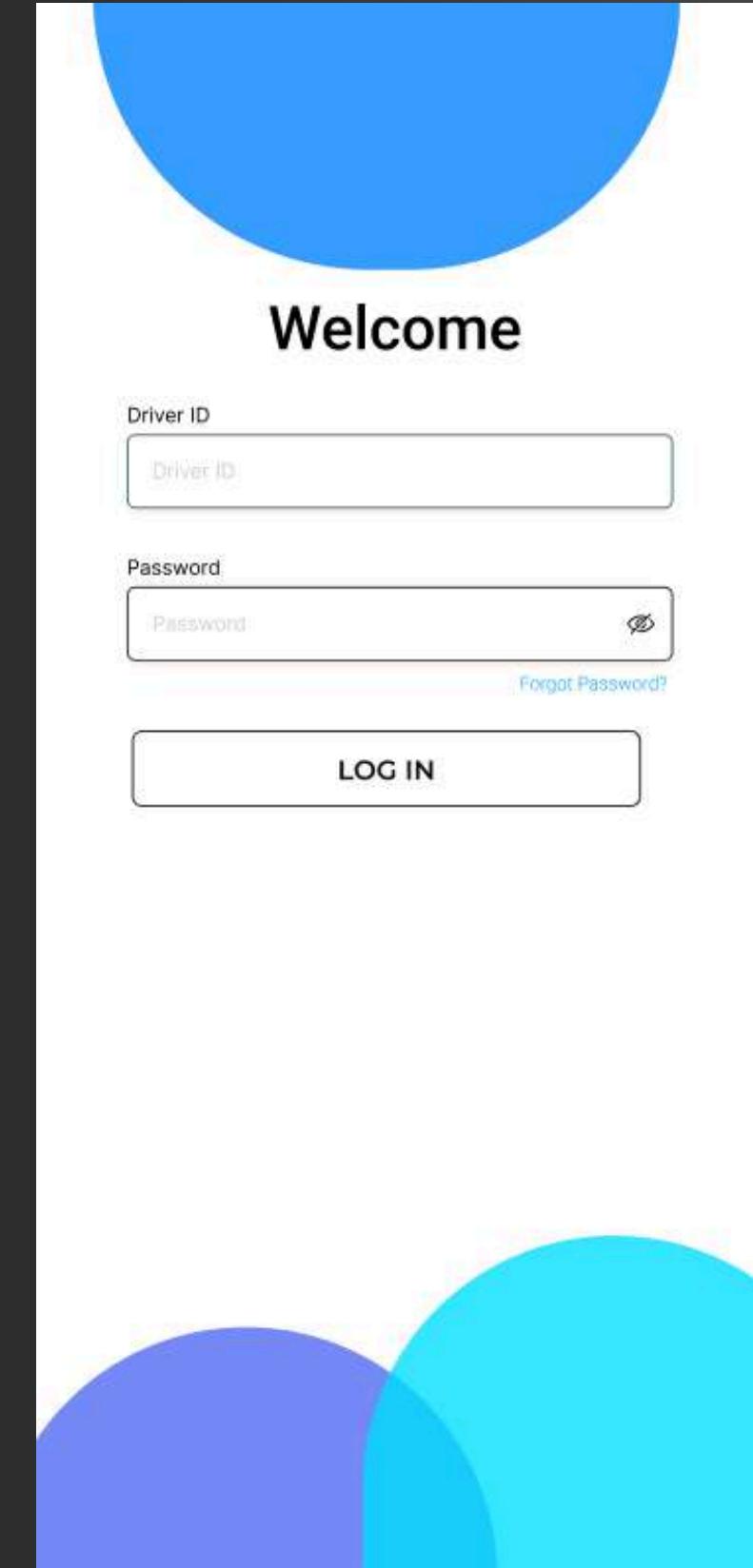
Emergency
Report Page



Profile Page

DRiVER'S ViEW

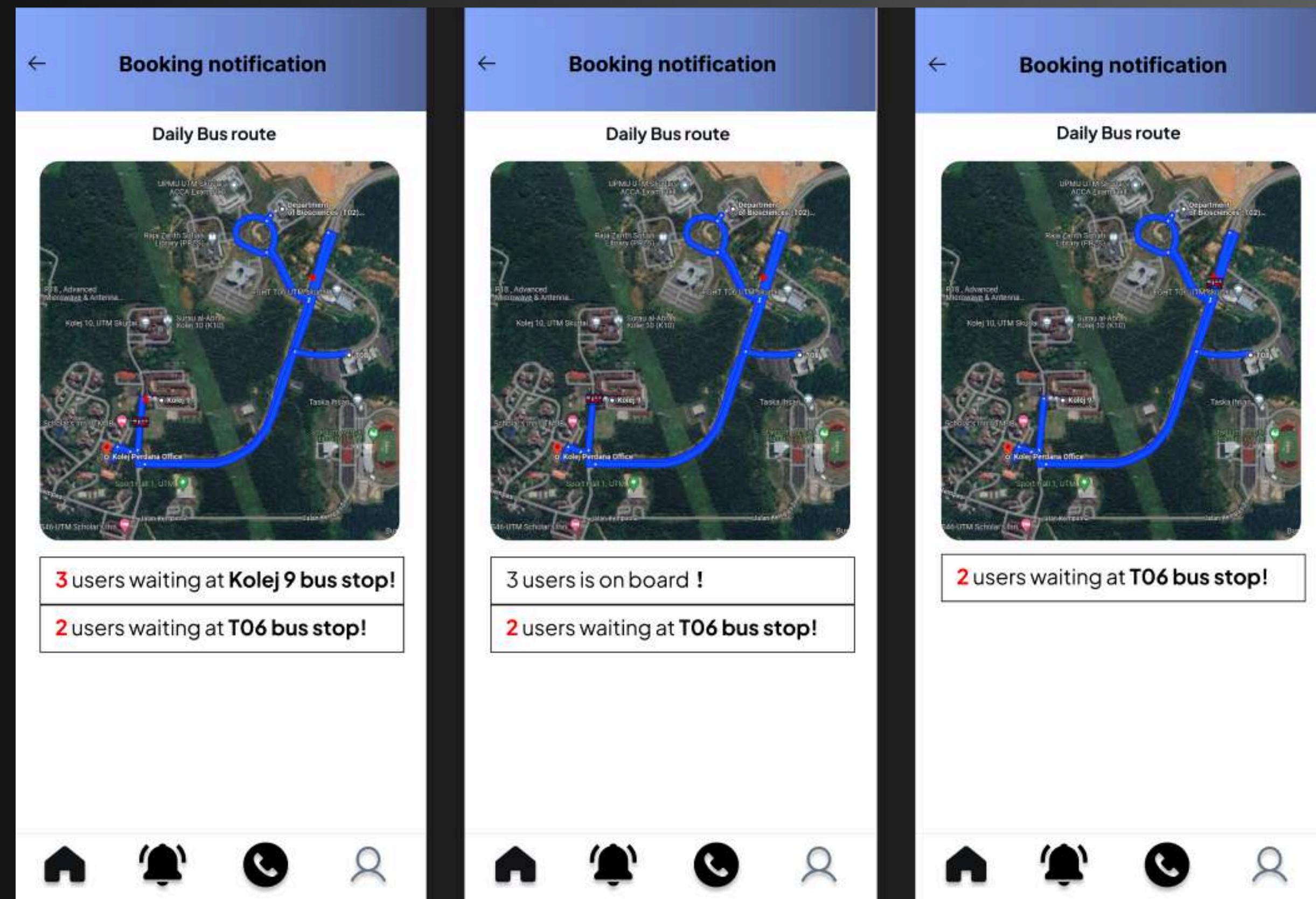




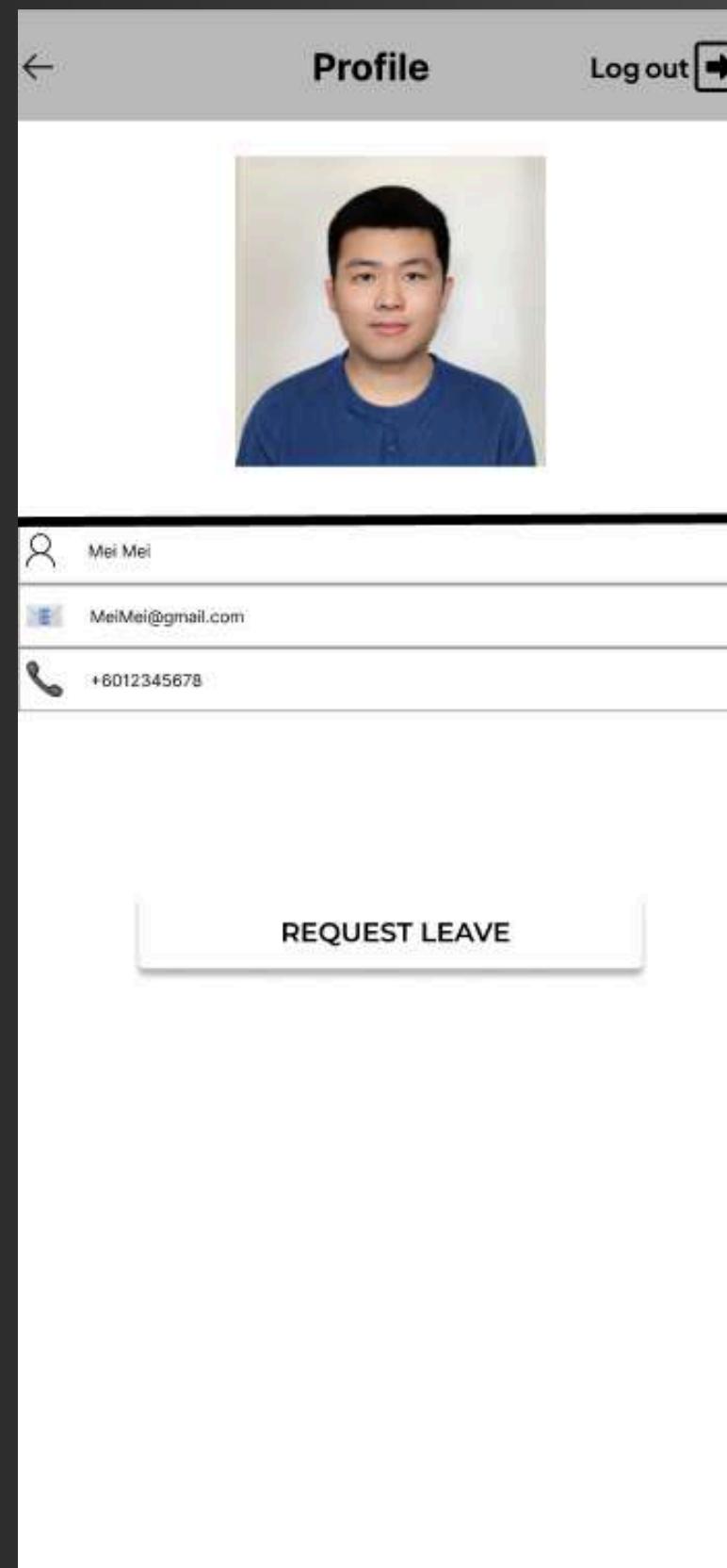
Login Page



Menu Page



**Booking
Notification
Page**



**Profile &
Leave
Request Page**



Leave
Request Page



MANAGEMENT'S VIEW

■ UTM Fleet

Sign in to UTM Fleet

Use your UTM Fleet admin account

Admin ID

Enter admin ID

Gmail

you@example.com

Password

Enter password

Next

Login Page

■ UTM Fleet

Leave request record

Tan Chi Kun request for leave
on 19 Jun 2024
sent 4 hours ago

Kun Chi Mei request for leave
on 20 Jun 2024
sent 4 hours ago

■ UTM Fleet

Leave request record

Tan Chi Kun request for leave
on 19 Jun 2024
sent 4 hours ago

Kun Chi Mei request for leave
on 20 Jun 2024
sent 4 hours ago

Subject : Request for leave on 19 Jun 2024

Reason : Fever

Evidence:



Generate new timetable

Accept

Reject

Leave
Request
Records Page

UTM Fleet

Leave request record

 Kun Chi Mei request for leave on 21 Jun 2024 sent 4 hours ago	 Kun Chi Mei request for leave on 21 Jun 2024 sent 4 hours ago
--	--

Subject : Request for leave on 2 Jun 2024 from 7am to 12pm
Reason : Need to go vacation

Evidence:

Generate new timetable

Accept Reject

UTM Fleet

Leave request record

 Kun Chi Mei request for leave on 21 Jun 2024 sent 4 hours ago	 Kun Chi Mei request for leave on 21 Jun 2024 sent 4 hours ago
--	--

Subject : Request for leave on 2 Jun 2024 from 7am to 12pm
Reason : Need to go vacation

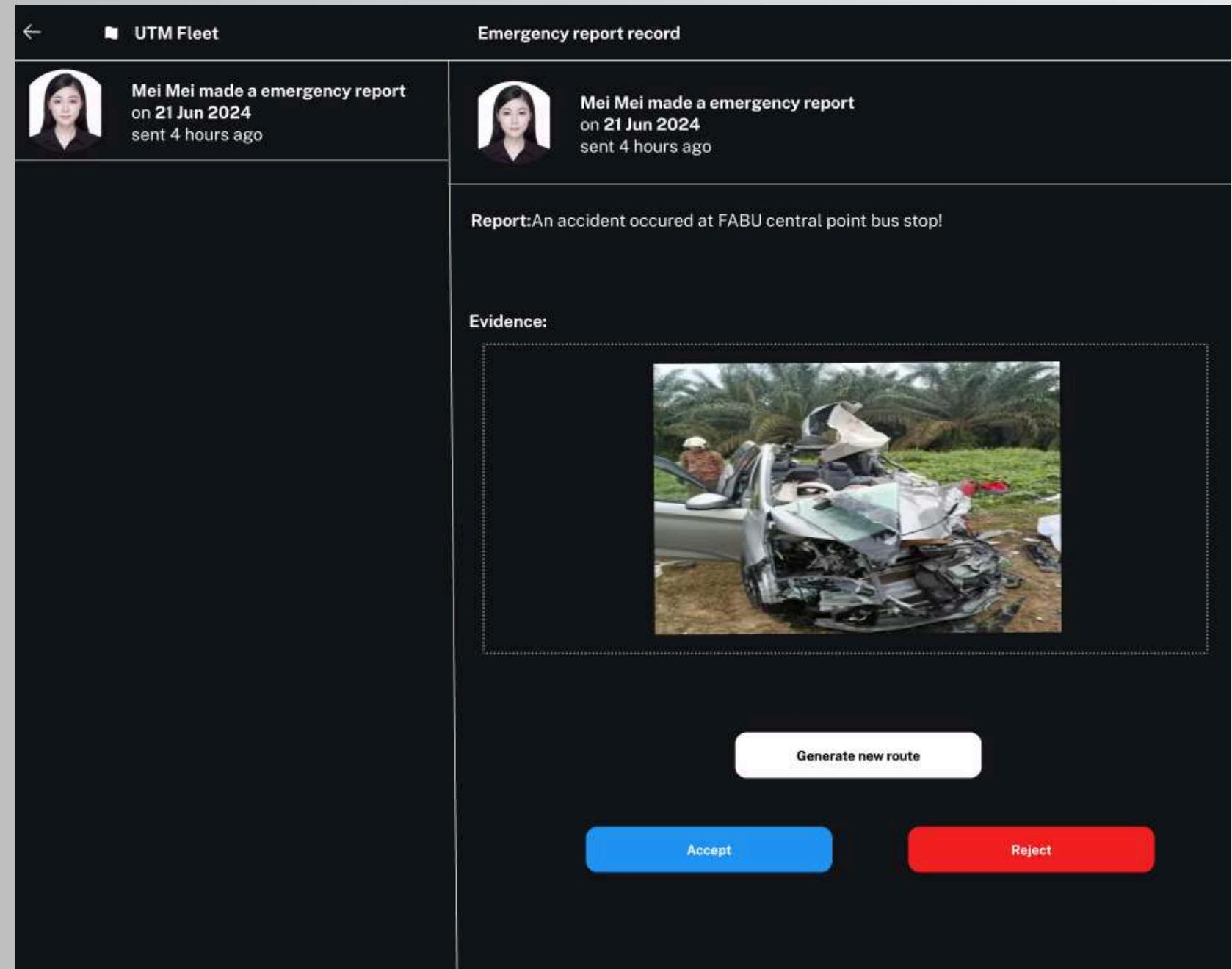


Leave rejected!
The leave request rejection
notification has been sent to the
driver.

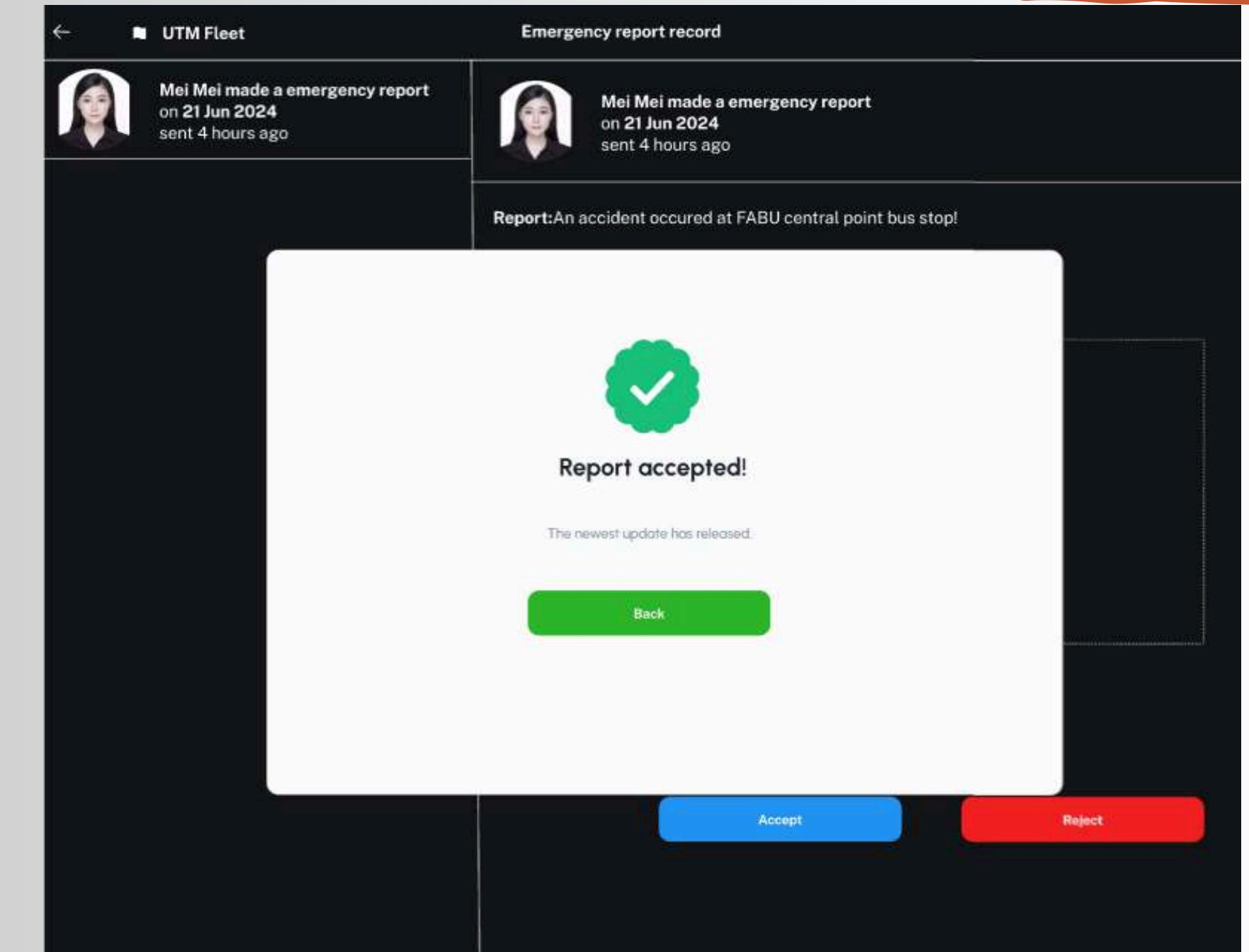
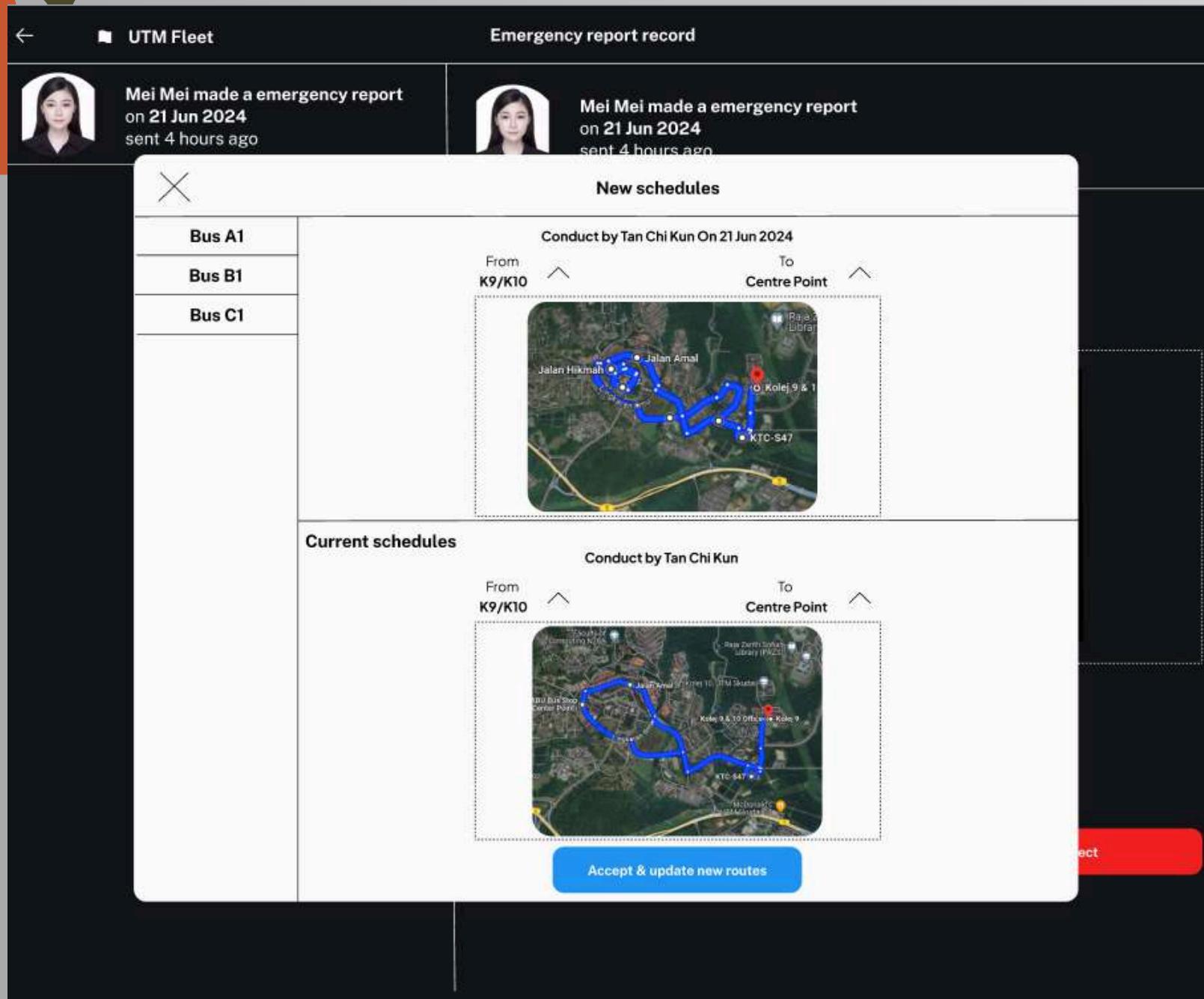
Back

Accept Reject

Leave Request
Records Page
(cont.)



Emergency Report
Record Page



Emergency Report
Record Page
(cont.)



**THANK YOU FOR
LISTENING!**