

# **NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY**

AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELGAUM, APPROVED BY AICTE & GOVT.OF KARNATAKA



## **REPORT**

on

### **College (at NMIT) Transport Tracker**

*Submitted in partial fulfilment of the requirement for the award of a Degree of*

*Bachelor of Engineering*

*in*

*Information Science and Engineering*

*Submitted by:*

PALAK DATTATRAYA KOTA                            1NT22IS110

PURABH PRADEEP SINGH                            1NT22IS122

MONIKA K    1NT22IS097

*Submitted to:*

**Dr. Mohan S.G.**

# Bus Tracking App Prototype:

## Introduction

The Bus Tracking App prototype was developed to address challenges faced by commuters, including uncertainty about bus arrival times, route planning, and real-time tracking. This app aims to enhance user convenience, improve time management, and ensure a seamless public transportation experience. Our prototype was designed using Figma, enabling us to create an interactive model that closely mimics the intended functionality of the final product.

## Prototype Overview

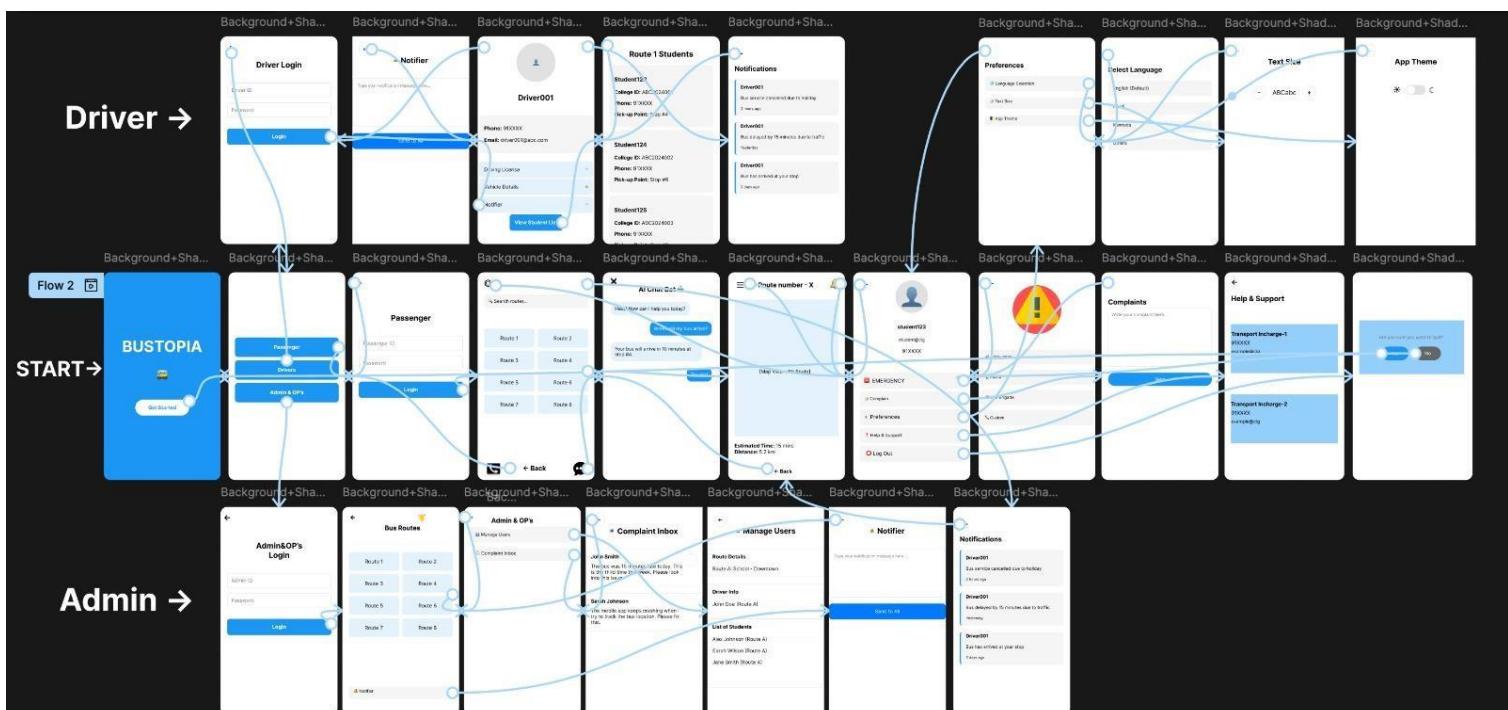
### Link For Prototype:

[https://www.figma.com/proto/XSU19WBCIXWIZjpwwwDnGo/Bus-tracking\\_U8?node-id=0-1&t=LJ8hD0OI3McfafFd-1](https://www.figma.com/proto/XSU19WBCIXWIZjpwwwDnGo/Bus-tracking_U8?node-id=0-1&t=LJ8hD0OI3McfafFd-1)

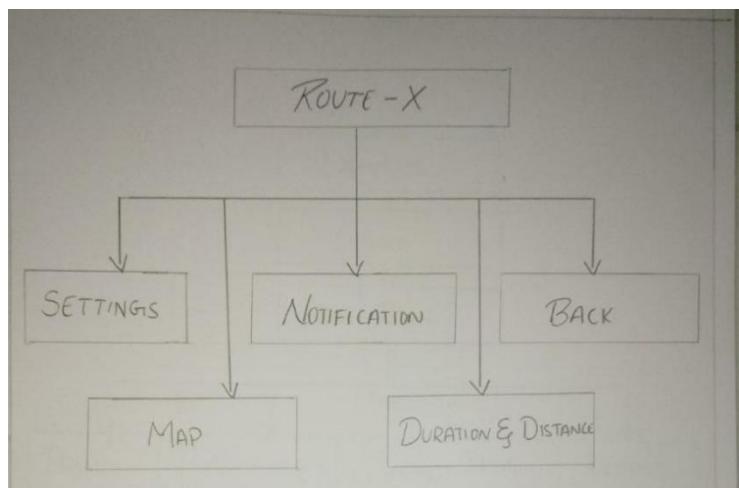
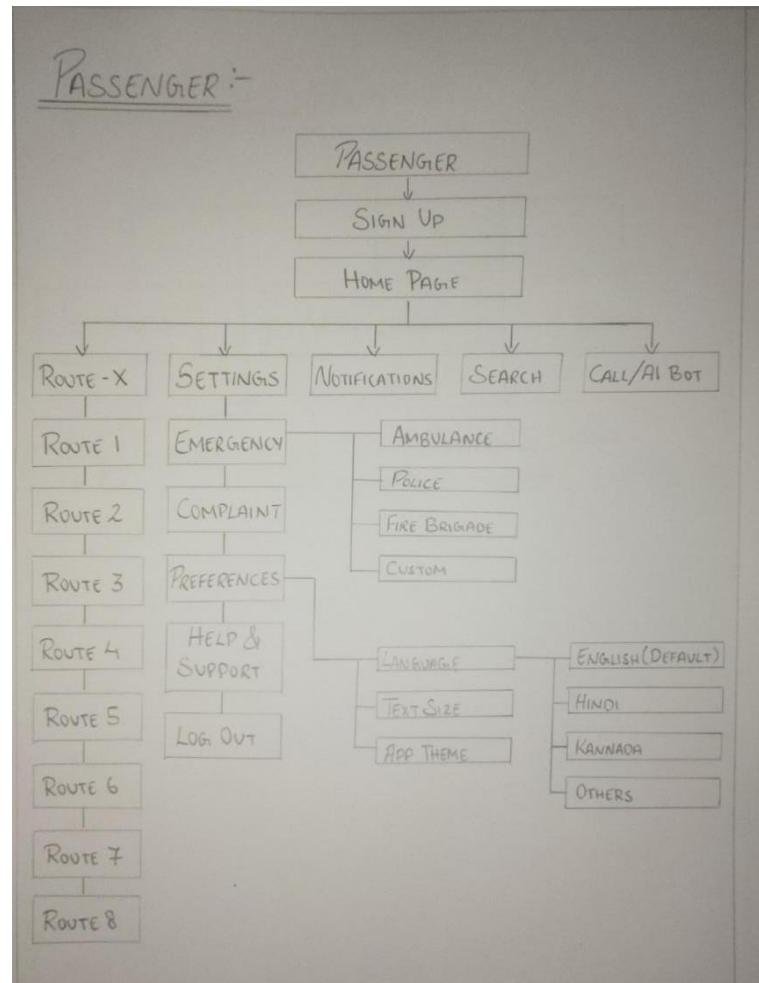
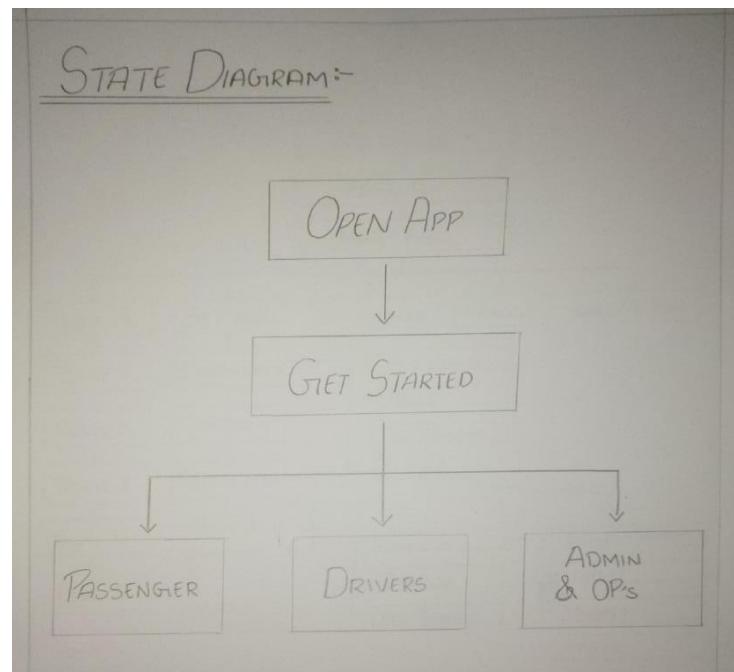
The link contains the functional prototype which is made using Figma.

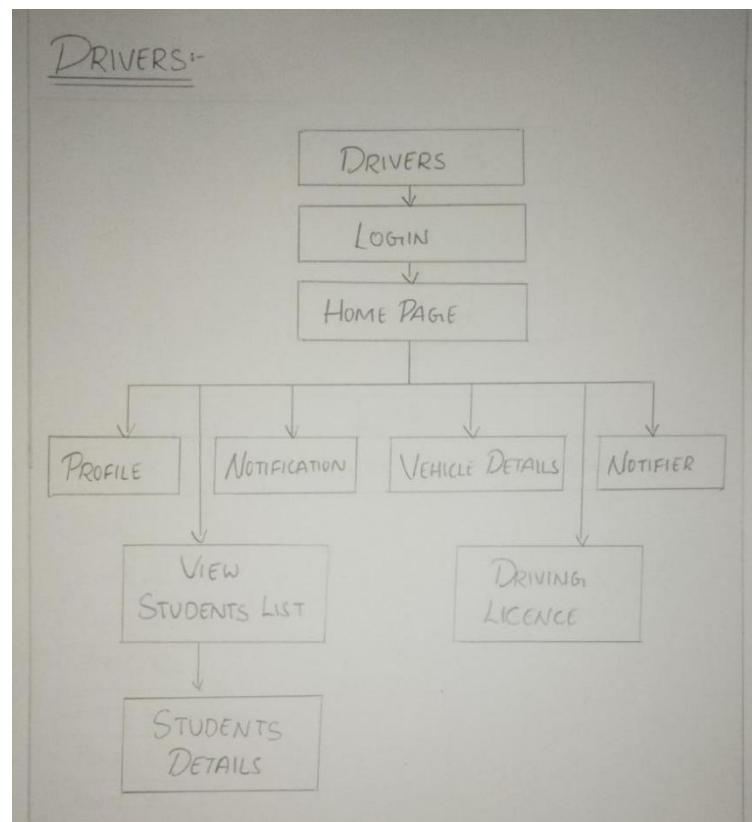
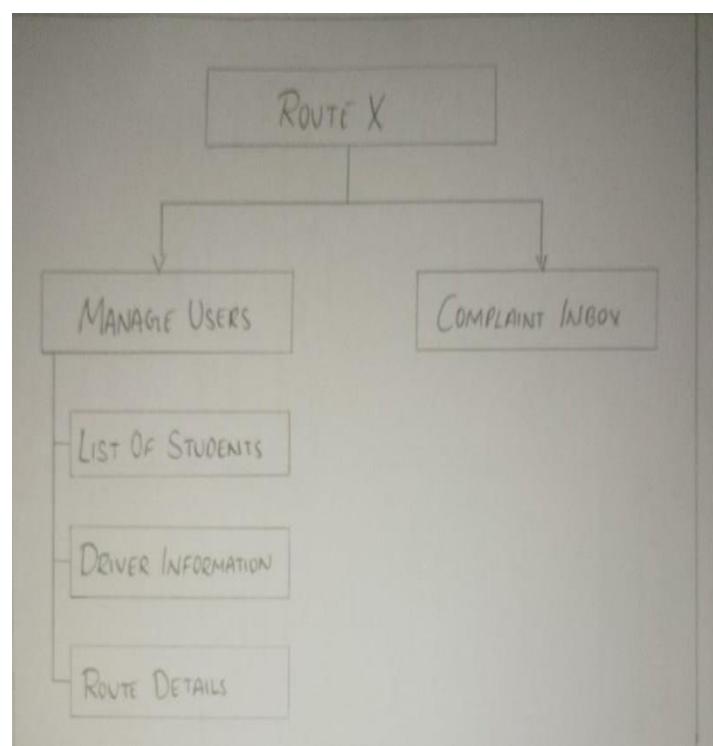
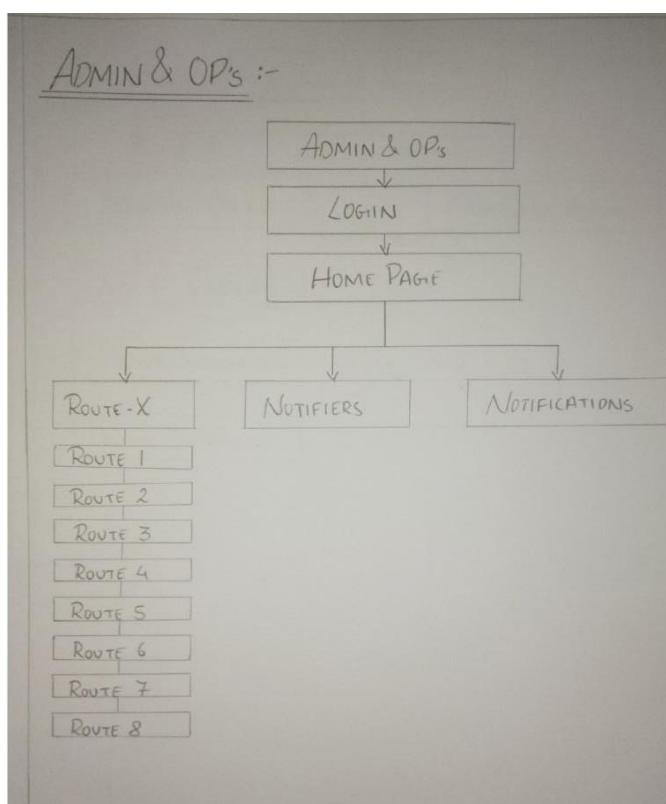
A drive link is provided with a demo video of this prototype.

[https://drive.google.com/file/d/1j39HNZxpgv9ku8k\\_IUNI1IL3MyqskmBJ/view?usp=sharing](https://drive.google.com/file/d/1j39HNZxpgv9ku8k_IUNI1IL3MyqskmBJ/view?usp=sharing)

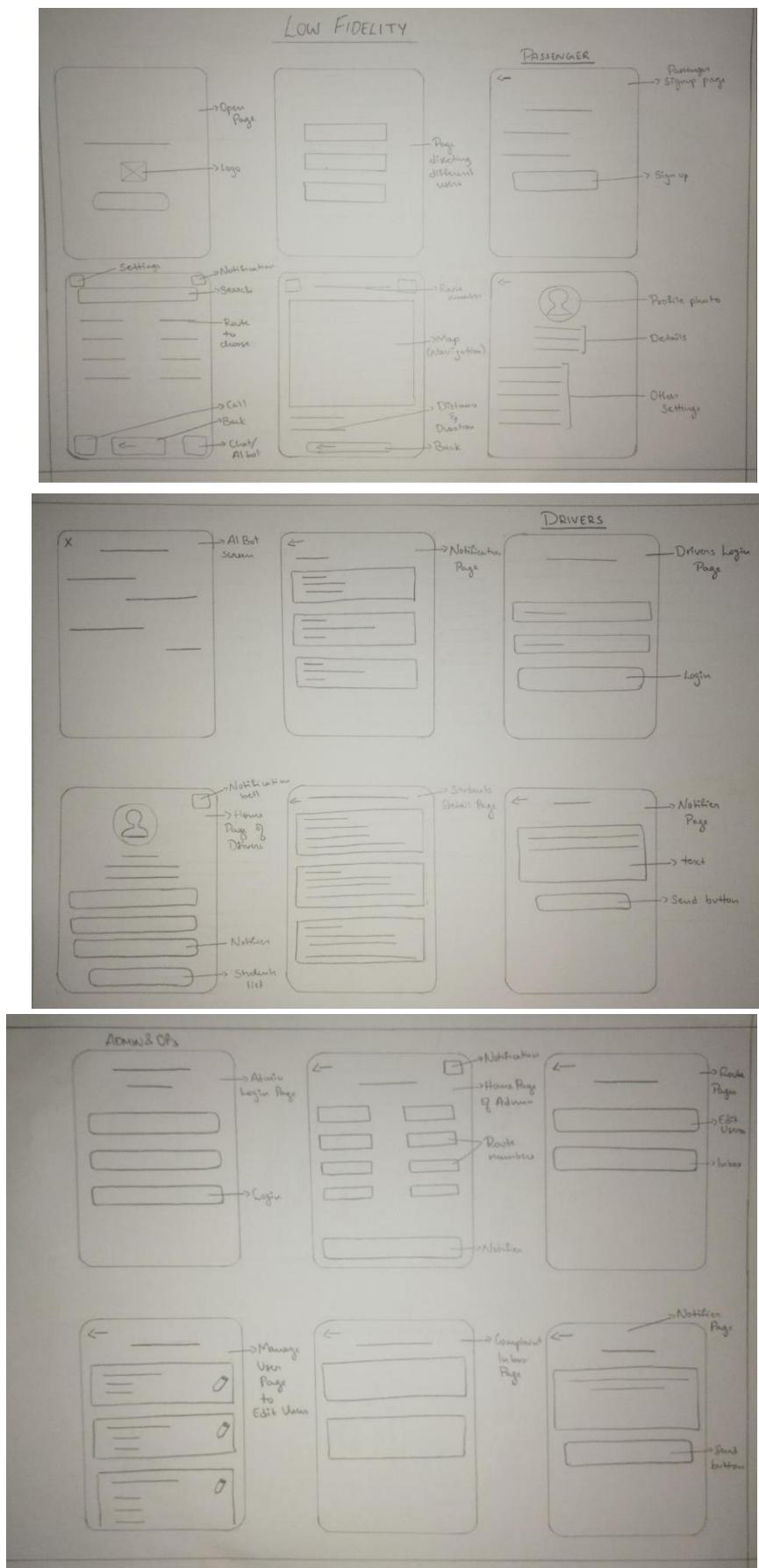


### State Diagram





## Low Fidelity Prototype



## Wireframes

**PASSANGER SECTION**

- PASSANGER**: Login screen with fields for Passenger ID and Password, and a Login button.
- NOTIFICATIONS**: AI Chat Bot interface showing a conversation with a user asking about bus arrival times.
- ROUTE NUMBER X**: Map view with route information, estimated time (15 mins), and distance (5-2km). Includes a Back button.
- NOTIFICATIONS**: Screen showing notifications for bus cancellations and delays.
- ROUTE 1 TO ROUTE 8**: A grid of route selection buttons labeled Route 1 through Route 8.

**BUSTOPIA**

**OPEN PAGE**

**USER SELECTION PAGE**

**PASSANGER**

**NOTIFICATIONS**

**ROUTE NUMBER X**

**DRIVERS SECTION**

- Driver Login**: Login screen with fields for Driver ID and Password, and a Login button.
- Notifier**: Screen for sending notifications to students, with a text input field and a Send to All button.
- Route & Students**: Screen showing route details and student pickup points.
- Driver Profile**: Profile screen for Driver 001 with details like phone number, email, license, vehicle, and notification history.

**ADMIN & OP'S SECTION**

- Admin & OP's Login**: Login screen for Admin and Operational staff.
- Bus Routes**: Screen showing a grid of bus routes from Route 1 to Route 6.
- Notifier**: Screen for sending notifications to drivers.
- Manage Users**: Screen for managing driver details and a Complaint Inbox.
- Complaint Inbox**: Screen showing a list of complaints, including one from John Smith about a 15-minute delay.
- Route Details**: Screen showing route details and a list of students.

## **Key features**

- **Real-Time Bus Tracking:** Users can monitor the live location of buses on their selected routes.
- **Route Information:** The app provides detailed route maps, including stops and estimated arrival times.
- **Notifications:** Alerts for delays, cancellations, and upcoming arrivals.
- **User-Friendly Interface:** A clean and intuitive design for ease of navigation.

## **Usability Test Overview**

This section outlines the usability test process and its findings. The test results and specific participant feedback is also included

### **Objectives**

The usability tests aimed to:

- Evaluate the intuitiveness of the app's interface.
- Identify any usability challenges or pain points.
- Measure the effectiveness of the app in solving real-world commuter problems.

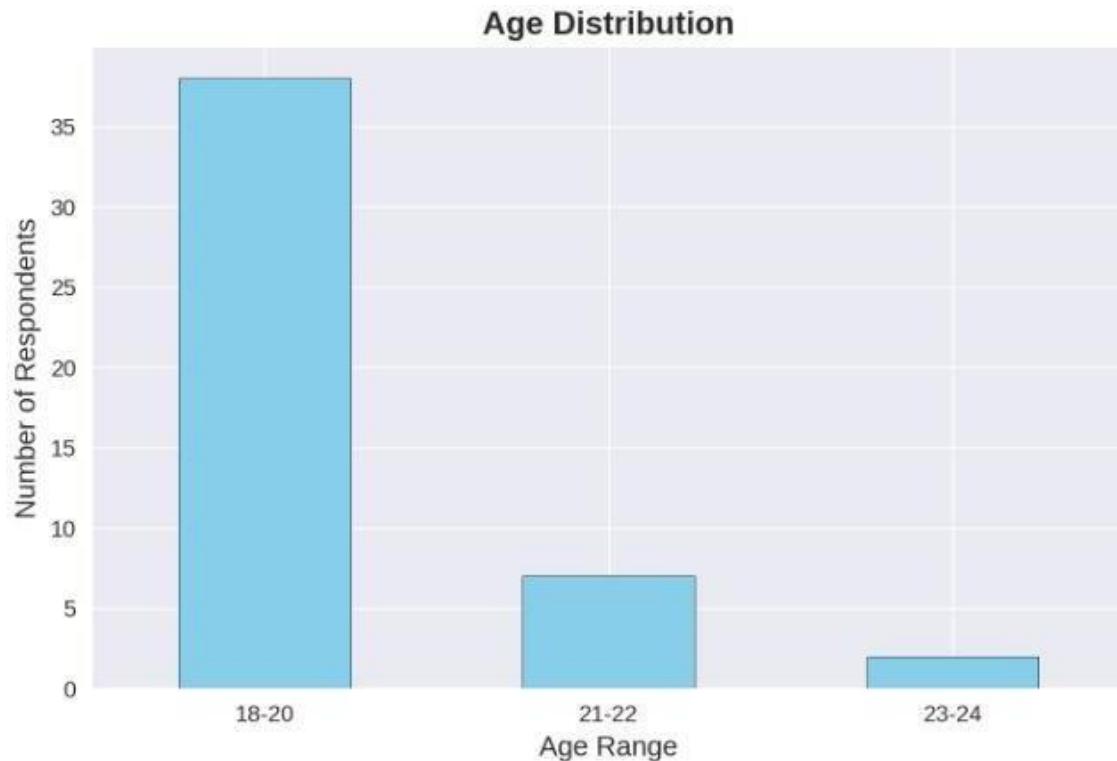
### **Testing Process**

- Each participant was briefed on the app's purpose and features before beginning the tasks.
- Facilitators monitored participants as they interacted with the prototype, noting challenges and behaviours.
- Post-task surveys captured participants' satisfaction and suggestions for improvement.

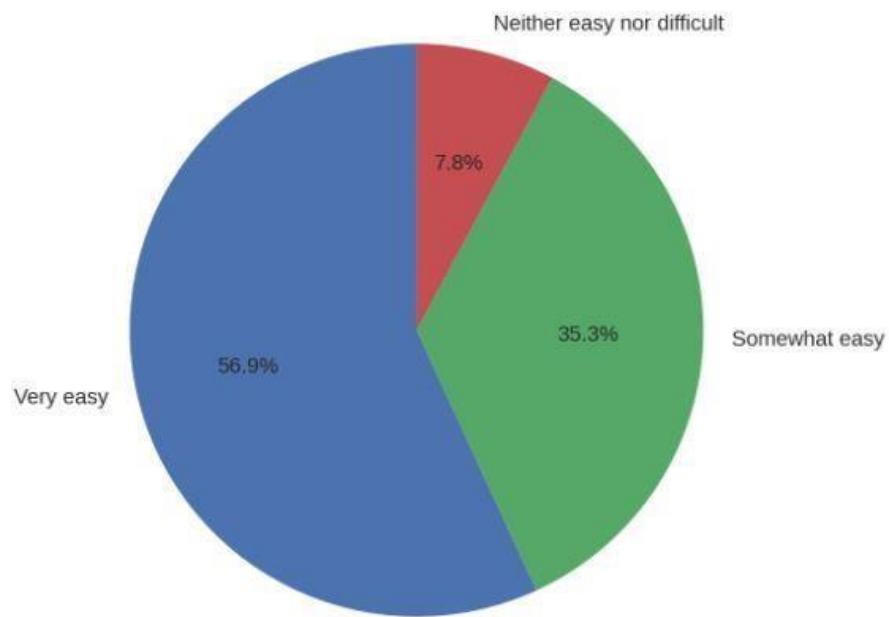
The detailed results and analysis will follow in the next section:

**Data Collected using Google Form**

Amongst the 50 responses from google form, the statistical data is as shown:

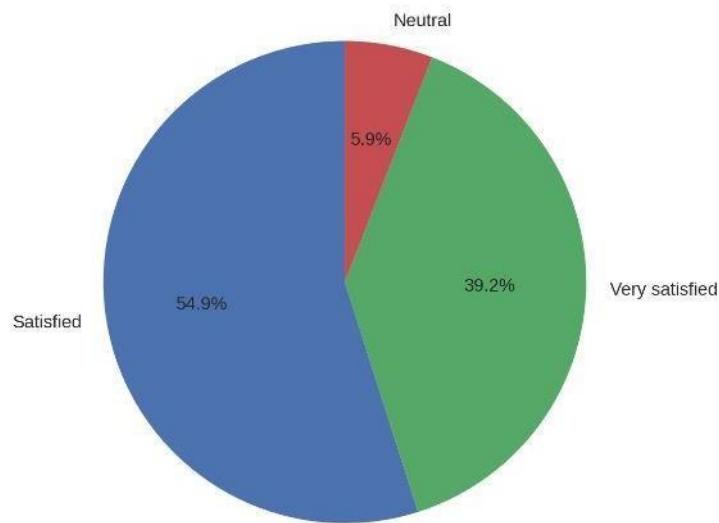


**3. How easy is it to navigate through the app?**

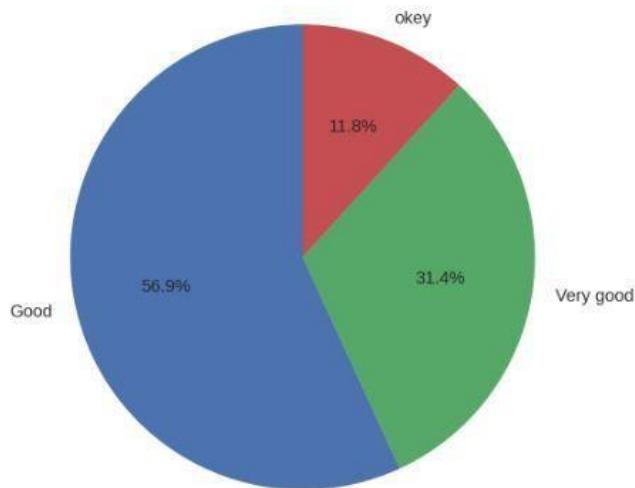


## College (at NMIT) Transport Tracker

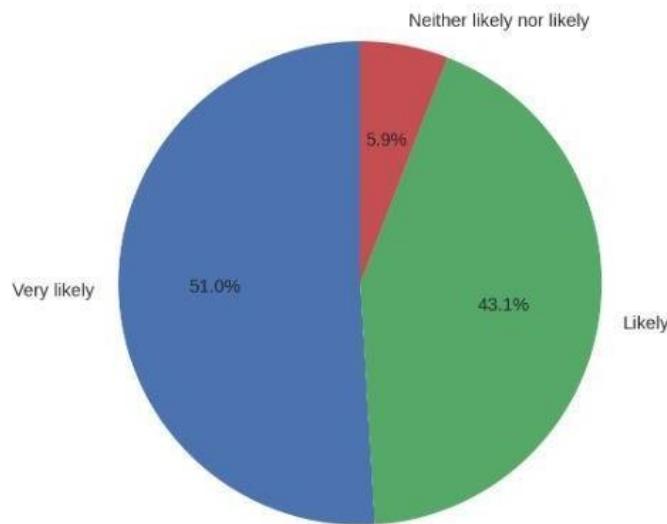
4. How satisfied are you with the overall layout of the app?



5. How effective is the system of handling issues through the app (e.g., like complaints)?

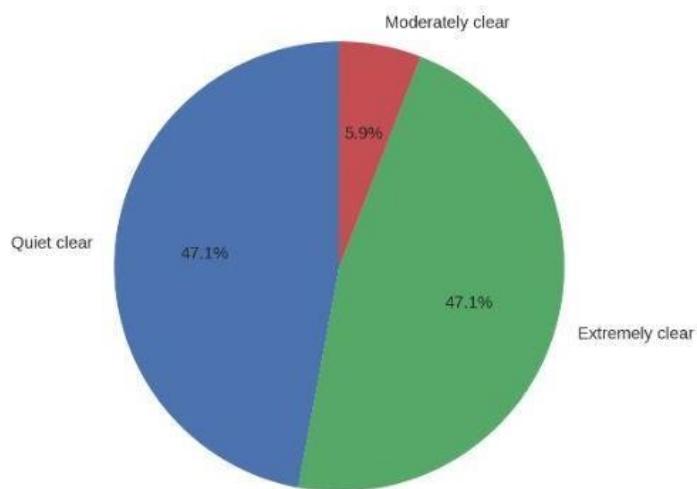


6. How likely are you to recommend this bus tracking app to others based on your experience?

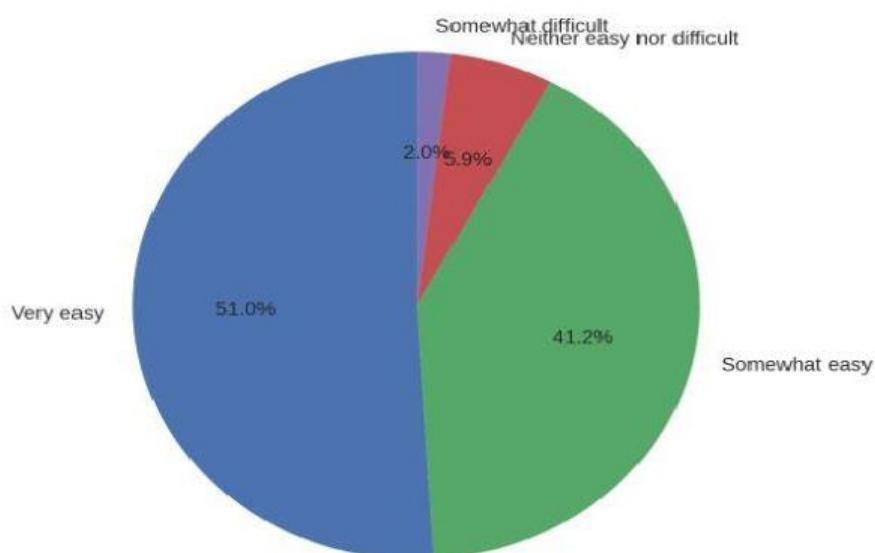


## College (at NMIT) Transport Tracker

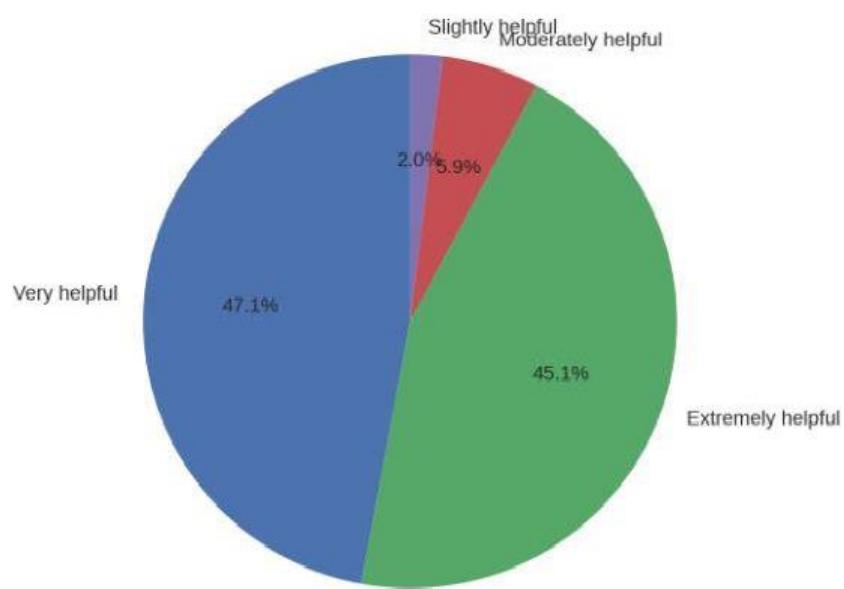
7. How clear are the instructions or prompts for completing tasks (e.g., tracking a bus, viewing the route)



8. How easy is it to track the college buses in real-time?

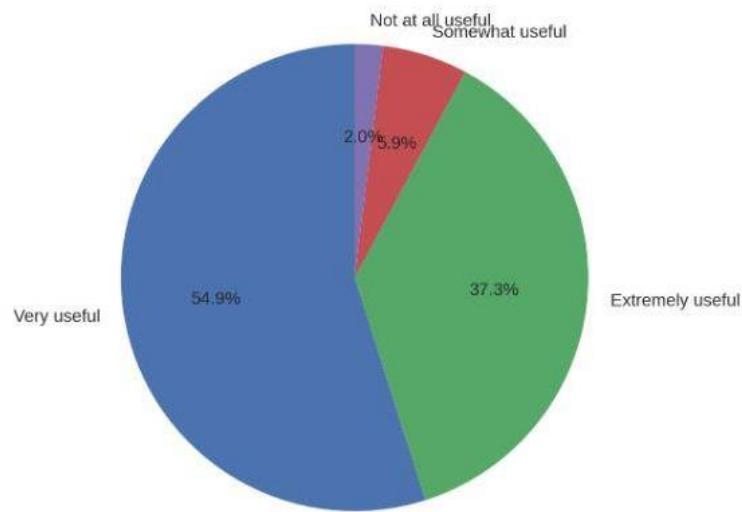


9. How helpful is the estimated arrival time and distance feature?

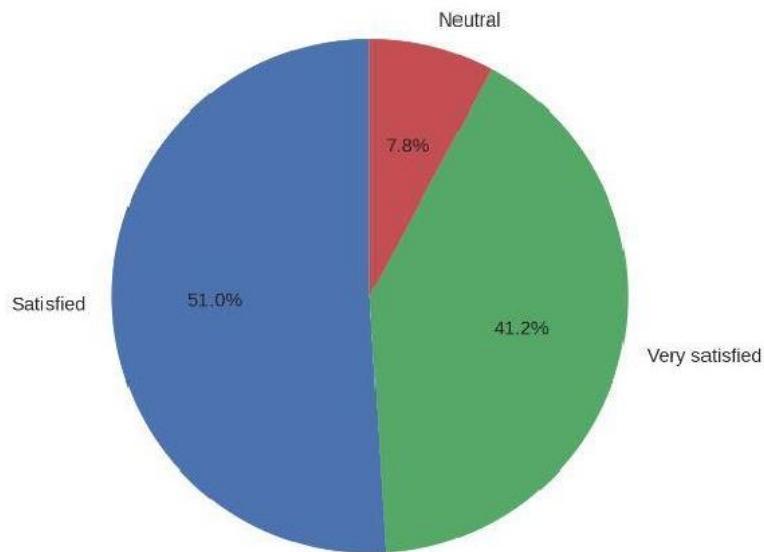


## College (at NMIT) Transport Tracker

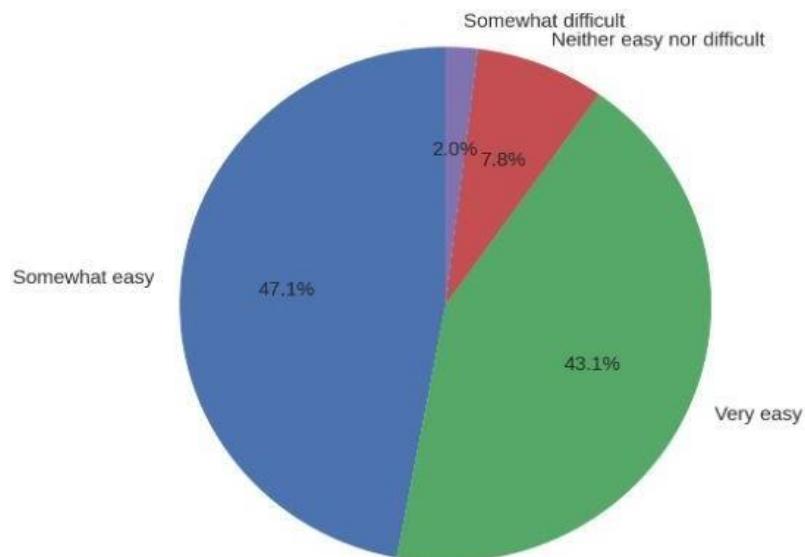
10. How useful are the notifications (e.g., bus arrival updates, delays)?



11. How satisfied are you with the overall bus tracking system?

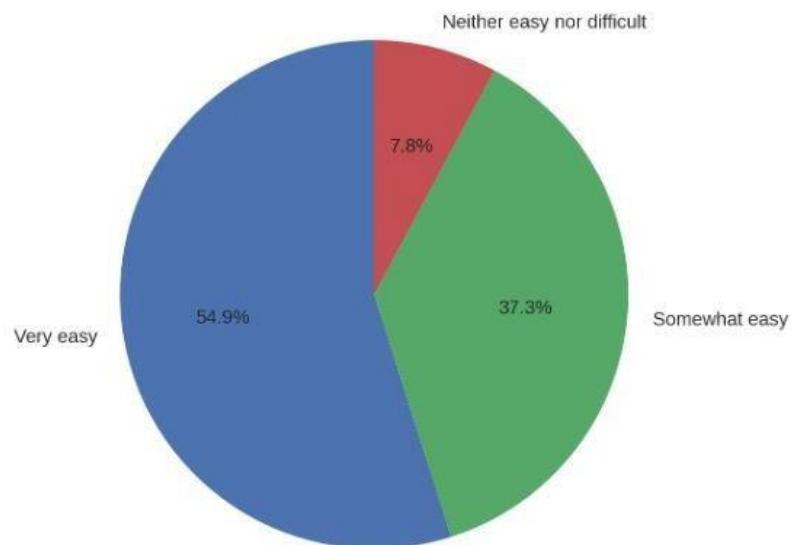


12. How easy is it to receive updates on route changes or delays?

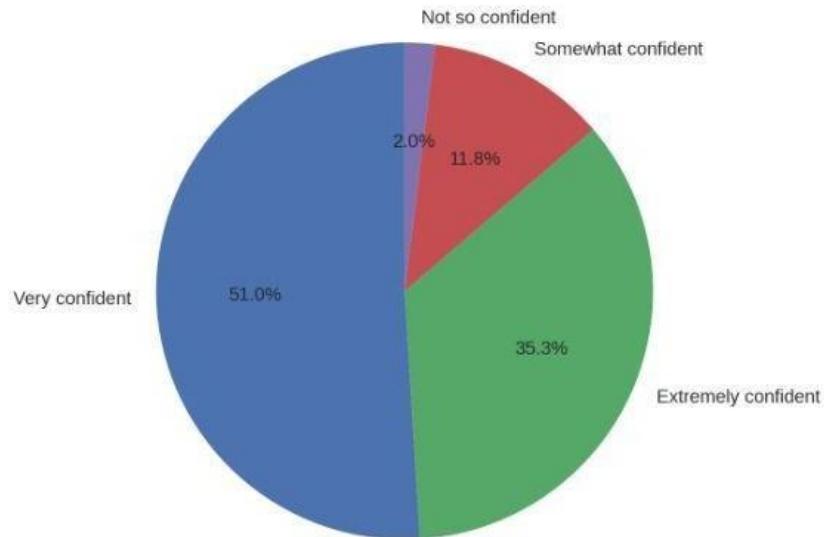


## College (at NMIT) Transport Tracker

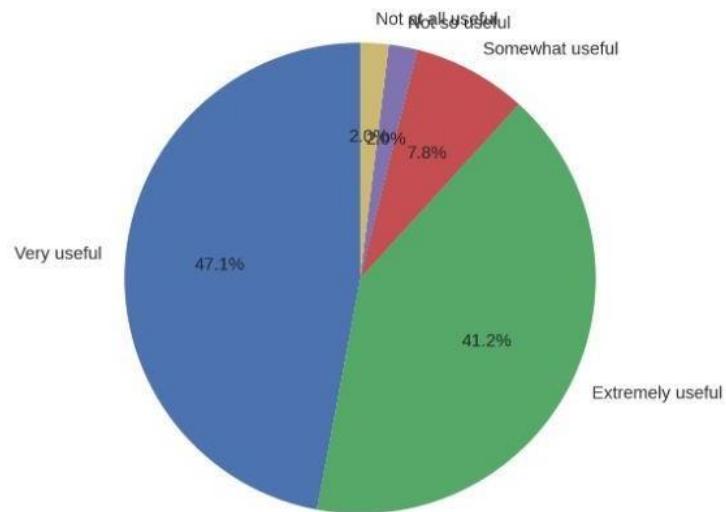
13. How easy is it to notify about emergency and delays using notifier?



14. How confident are you in using the app to update and manage passenger and driver details?

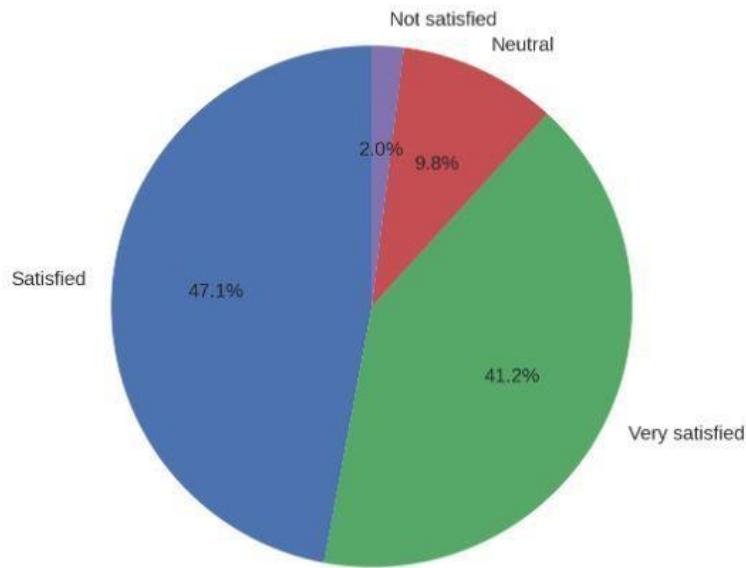


15. How useful are the system alerts (e.g., bus delays, missed stops)?



## College (at NMIT) Transport Tracker

### 16. How satisfied are you with the app's overall usability for tracking the college buses?



## Post Test Questionnaire

We also conducted a post test questionnaire to delve deeper into the user insights for one user:

Interviewer: Hi! Thank you for testing our bus tracking app. Let's start with some quick questions. How was your overall experience with the app?

User: Honestly, it was pretty good. The interface was easy to understand.

Interviewer: That's great to hear! Did you find the sign-up process straightforward?

User: Yes, the sign-up was quick and simple. It didn't take more than a minute.

Interviewer: After signing up, what task did you try first?

User: I clicked on random bus route and checked the screen which had the map and the estimated arrival time and distance.

Interviewer: Did you face any challenges while navigating the app?

User: Not really, but I did take a few seconds to figure out the alert feature. Maybe it could be a bit more visible.

Interviewer: Noted! How did the interface feel overall?

User: It felt clean and modern. Not too cluttered, which I liked.

Interviewer: If you had to rate the app's usability on a scale of 1 to 10, what would it be?

User: Hmm, I'll give it an 8.

Interviewer: Thank you! Would you recommend this app to your friends or family?

User: Yes, sure. Especially to my college friends who rely on buses.

Interviewer: Any additional features you'd like us to add?

User: Maybe offline schedules. That would make it even better.

Interviewer: That's a great suggestion. Lastly, would you use this app if it were a fully functional version?

User: Absolutely! It would save so much time and stress waiting for buses.

Interviewer: Thank you for your feedback! It's super helpful for improving the app.

User: You're welcome!

## **User Recommendations**

- Addition of offline schedules
- Make more informative and interactive interface
- Add more customizations to the settings

## **Recommendations from our side**

- Make the app more visually attractive
- Better transitions between pages