Fundamentals of Software Engineering Project Proposal
Transportation Management System
Mobile Application

1 Team Introduction:

Hamd-Ul-Haq (23i-0081)

- Student at National University of Computer and Emerging Sciences
- Pursuing Bachelors in Artificial Intelligence, currently in 4th semester
- Experienced in basic front-end development tools (HTML, CSS, JavaScript)
- Experienced in UI/UX design (Figma)

Haider Abbas (23i-2558)

- Ex-intern at Adept Tech Solutions
- Student at National University of Computer and Emerging Sciences
- Pursuing Bachelors in Artificial Intelligence, currently in 4th semester
- Experienced in front-end and back-end development

Saif Shahzad (23i-2634)

- Student at National University of Computer and Emerging Sciences
- Pursuing Bachelors in Data Science, currently in 4th semester
- Bronze Medalist and Dean's List Spring 2023
- Experienced in basic back-end development tools and database systems

2 Problem:

As university students commuting by public transport regularly, we have experienced significant inefficiencies in the current system. One of the key issues is the reliance on traditional methods to manage transport operations, leading to inaccurate timing information and frequent miscommunication. These challenges cause delays, missed connections, and uncertainty, making daily travel stressful and unreliable. In this project, we plan to develop an application that will modernize the transport system by integrating smart technology and features for updates and improved communication. Students will be able to plan their entire journey in advance, boosting efficiency and reducing unnecessary wait times. By integrating modern solutions, this system shall be able to improve daily travel, making public transport more accessible, safe, and hassle-free for students.

3 Problem Solution and Scope:

To address these concerns, our project will provide a notification system for students, where they will receive notifications regarding schedule changes, delays, or updated routes. Moreover, we plan to develop a modern verification system, which will facilitate the fees/registration system. This will benefit both students and bus drivers, as there will no longer be a need for a physical verification procedure. Furthermore, our project shall include a feedback system. Through this system, we will take the reviews of both the students and the drivers, and through this feedback, we aim to improve our application for future use. The scope of this project will focus

on universities and student-based transportation systems, with the potential for future expansion to public transit networks.

4 Basic Features:

Our modernized transport system will introduce several key features to enhance efficiency and improve the commuting experience for students:

- Dynamic updation of routes and time to ensure real-time tracking, helping students plan their journeys effectively.
- A notification system keeping students informed about schedule changes, delays, or important announcements.
- An online fee payment system allowing students to conveniently pay their bus fees digitally, eliminating the hassle of cash transactions.
- A verification system ensuring only registered students use the transport service, improving security and accessibility.
- A chat and feedback system enabling students to report issues, suggest improvements, and communicate directly with bus administrators.
- A Seat Availability Voting System to help assess demand and ensure fair seat allocation.

These features will collectively modernize public transport, making it more reliable, transparent, and user-friendly.

5 Project Plan:

Iteration	**Module Deliverables**	**Features Implemented**
Iteration 1	Basic UI & User Authentication	Login, Signup, Dashboard UI
Iteration 2	Core Functionality	Dynamic Updation of Routes and Time, Notification System, Online Fee Payment, and Verification System
Iteration 3	Additional Features & Optimization	Chat and Feedback System, Seat Availability Voting System

Table 1: Modular Breakdown and Iterations

6 Team Roles & Responsibilities:

Name	**Role**
Hamd-Ul-Haq	UI/UX Design, Application Testing
Mohammad Haider Abbas	Front-End Developer
Saif Shahzad	Back-End Developer

Table 2: Team Roles and Responsibilities

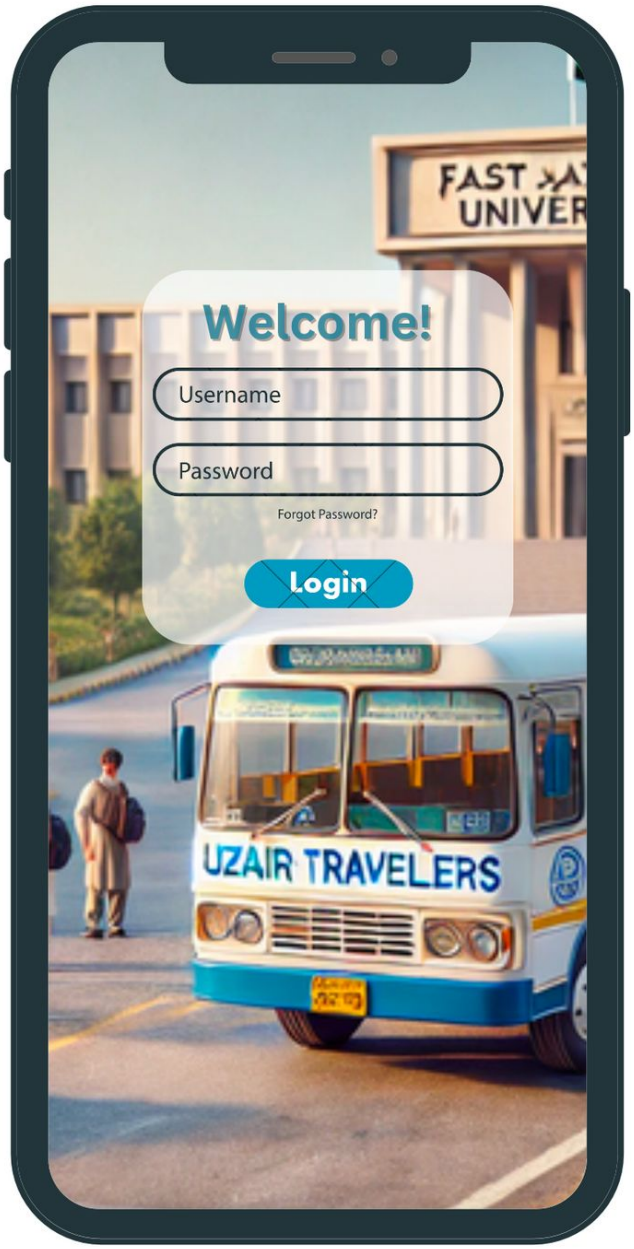

Figure 1: Login Page

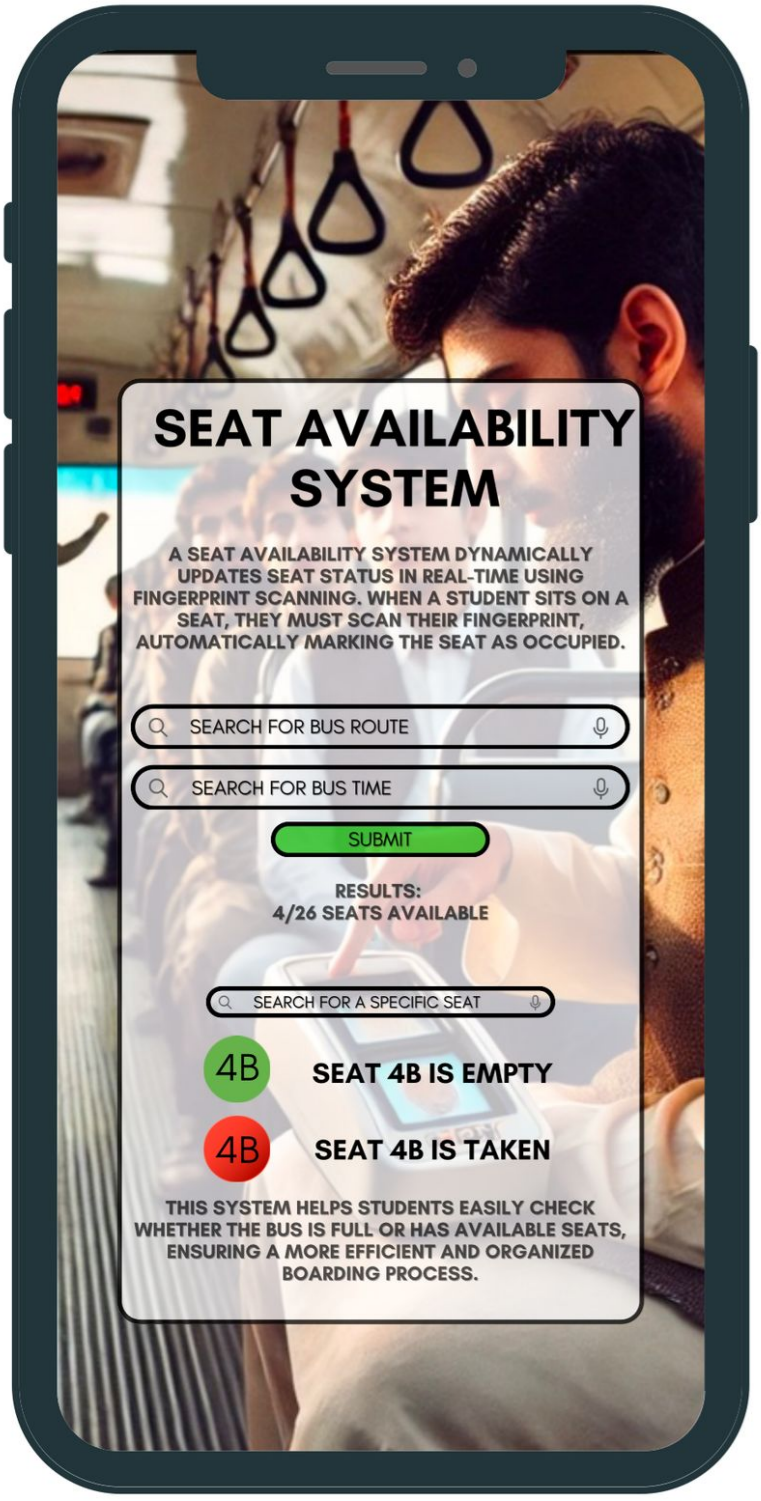

Figure 2: Seat availability voting system

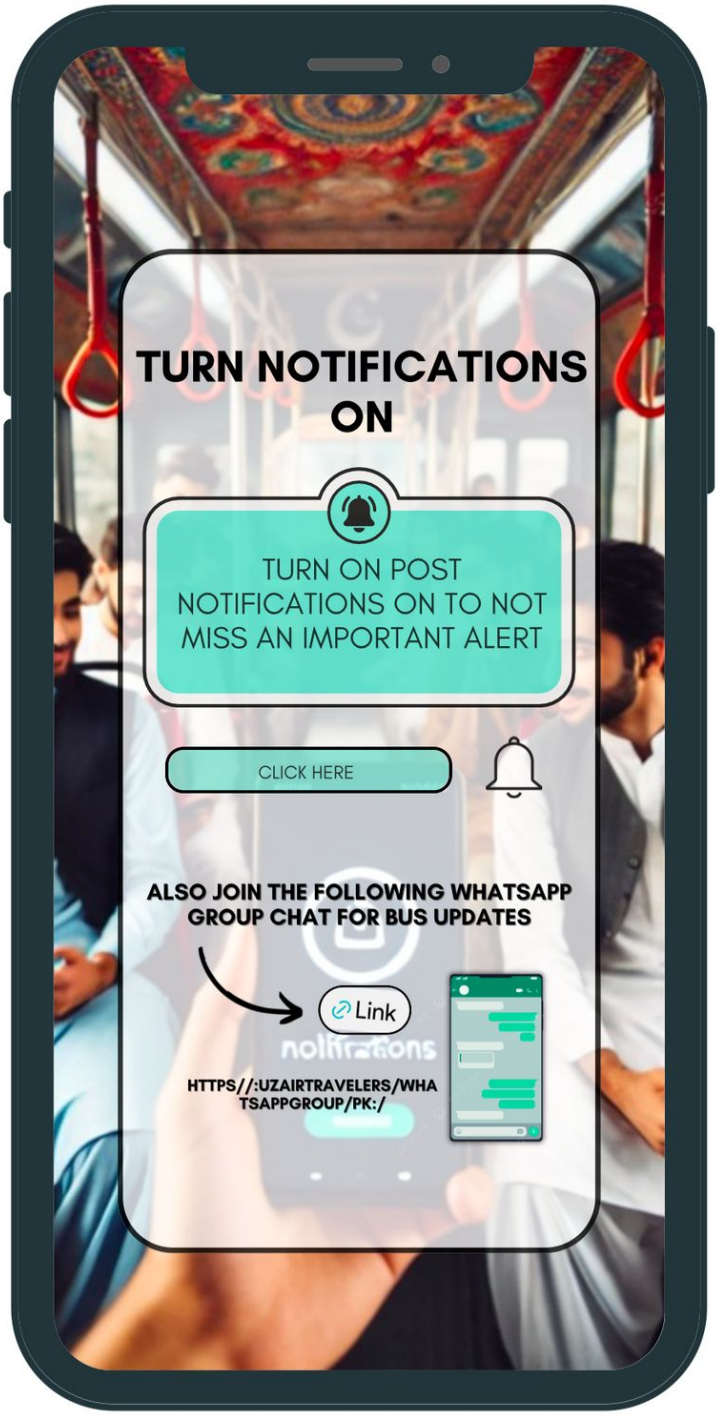

Figure 3: Notification Page

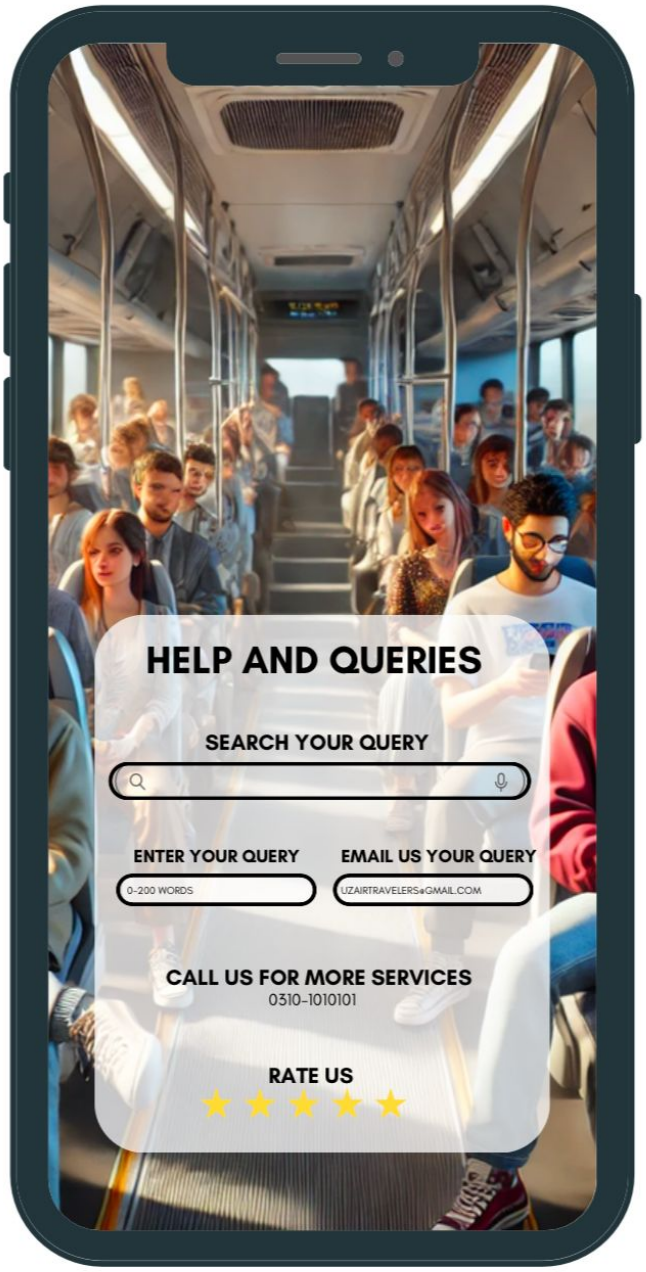

Figure 4: Help and Feedback page