

Functional Requirements of Local bus Management System

Abstract:

The local bus management system is designed to provide a convenient and efficient bus service for passengers, with effective management capabilities for bus managers and administrators. Passengers can easily access information about bus routes, schedules, plan their trips, apply for bus passes, provide feedback, and receive information about trip cancellations, delays, changes in schedules. Bus managers have the ability to manage trips, request cancellations, and communicate delays to administrators. Administrators play a crucial role in creating and modifying trips, verifying bus pass applications, reviewing passenger feedback, configuring system settings, and generating reports. Through these features, the local bus management system aims to enhance passenger experience, streamline operations, and facilitate continuous improvement in service quality.

Types of users:

Passengers:

- Access bus route information.
- Plan trips accordingly.
- Apply for bus passes.
- Provide feedback on their travel experience.
- Receive notifications and updates about the trip(if any).

Bus Managers:

- Manage trips and schedules.
- Communicate delays or changes in routes.
- Handle trip cancellations and modifications.

Administrators:

- Have administrative privileges
- Verify bus pass applications.
- Review and analyse passenger feedback.
- Create and modify bus routes and trips.

Features available to Passenger:

1. Create account
2. Login
3. Query about trip
4. Apply for bus pass
5. Feedback/Complaint

Passenger WorkFlow:

Homepage>Passenger Signup (Create Account)> Passenger landing page

OR

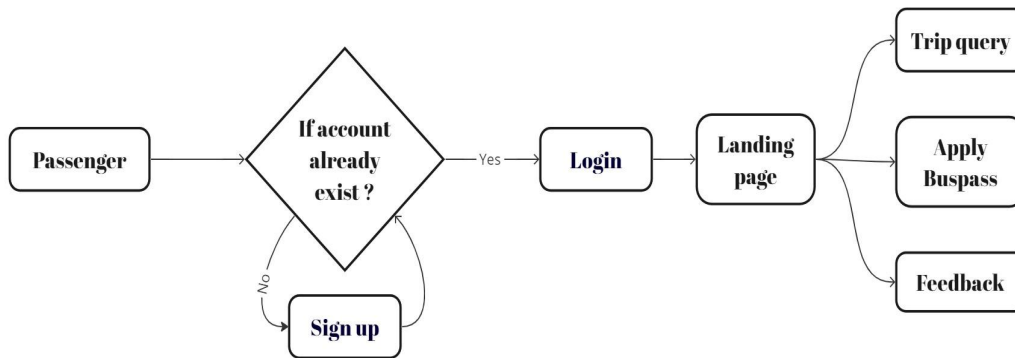
Homepage > Passenger Login > Passenger landing page >Query about trip > Source >Destination > Result Page

OR

Homepage > Passenger Login > Passenger landing page > Apply for Pass > Fill application form >Submit

OR

Homepage > Passenger Login > Passenger landing page > Feedback/Query > >Submit



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1.Create Account

To create an account, the passenger needs to fill out the signup page with the following information:

- **Name:** The full name of the passenger.
- **Username:** A unique username chosen by the user. If the chosen username is already taken by another passenger, an alternative username should be selected.
- **Email ID:** A valid email ID of the passenger for future communication.
- **Password:** A password chosen by the passenger for account security.
- **Confirm Password:** Re-enter the chosen password for confirmation.

Once you have filled in all these fields, click the submit button. After that, you will be redirected to the passenger landing page.

2.Login

To log in as a passenger, enter the following details in the login form:

- **Username:** The username created during the signup process
- **Password:** Your chosen password

If the login is successful, you will be redirected to the passenger landing page.

3.Query about trip

To inquire about a specific trip, enter the following details:

- **Source:** Your current location
- **Destination:** The place where you need to go

Once you have filled in these details, click the "**Get Details**" button. If there is a trip available from the source to the destination, a result page will be displayed in a tabular format. The table will contain the following information:

- **Source:** Name of the source location
- **Departure Time:** Time of departure from the source
- **Destination:** Name of the destination location
- **Arrival Time:** Time of arrival at the destination
- **Delay** (if any)

4.Apply for bus pass

To apply for the bus pass, fill out the application form and click on the submit button

- **Full Name:** The applicant's complete name.
- **Address:** The residential address of the applicant.
- **Contact Information:** Phone number and email address of the applicant for communication purposes.
- **Date of Birth:** The birth date of the applicant for age verification.
- **Identification Details:** A valid identification document number (such as aadhar card or passport) for verification purposes.
- **Pass Type:** The type of bus pass being applied for (e.g., student pass, senior citizen pass, regular pass).
- **Pass Duration:** The desired duration of the bus pass.
- **Supporting Documents:** Any additional documents required for eligibility verification, such as a student ID or proof of age.

- **Passport-sized Photograph:** An uploaded photograph of the applicant for identification purposes.

After submission, a confirmation email will be sent to the applicant.

The applicant can check the status of their application at any time.

Once the application is verified by the admin, the applicant will receive a mail requesting the submission of the original documentation for verification purposes.

5.Feedback/Compliant

If passengers have any queries, complaints, or feedback regarding the service, they can inform the admin for improvement purposes.

Passengers can fill out the feedback form and submit it to provide their input.

The admin will review the feedback and take appropriate steps based on the information received.

Actions may include addressing passenger concerns, resolving complaints, or implementing necessary improvements to enhance the service quality.

Features available to Bus Manager:

- 1. Login**
- 2. Confirm trip**
- 3. Cancel trip**
- 4. Update trip details**

Bus Manager Workflow:

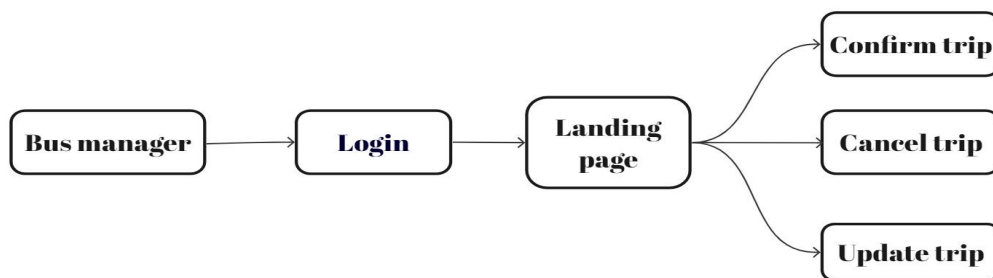
Homepage > Bus Manager Login > Bus Manager landing page > Confirm trip > Done

OR

Homepage > Bus Manager Login > Bus Manager landing page > Cancel trip > Done

OR

Homepage > Bus Manager Login > Bus Manager landing page > Update trip(if any delay) > Done



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1.Login

The bus manager can log in using the following credentials:

- **Bus ID:** A unique ID provided by the admin when adding a new bus.
- **Password:** Provided by the admin during the adding a new bus.

Upon successful login, the bus manager will be redirected to the bus manager landing page.

Note: These login credentials are essential for bus managers to access their designated accounts and perform managerial tasks within the system.

2.Confirm trip

The bus manager can confirm scheduled trips to ensure they take place as planned.

Only the details of buses with confirmed trips will be displayed on the result page for passengers.

This ensures that passengers have access to accurate and up-to-date information about available trips.

3.Cancel trip

The bus manager has the authority to cancel a scheduled trip if necessary due to unforeseen circumstances or operational requirements.

4.Update trip

The bus manager can update a scheduled trip in case of any delay or changes.

The updated information, such as the revised departure or arrival time, will be reflected in the result page of the passenger query.

This ensures that passengers have the most accurate and up-to-date information about their scheduled trips.

Features available to Bus Manager:

- 1. Add bus**
- 2. Remove bus**
- 3. Add trip**
- 4. Remove trip**
- 5. Verify bus pass application**
- 6. Review feedback/Complaint**

Admin Workflow:

Homepage > Admin Login > Admin landing page > Add bus > Enter bus details > Add

OR

Homepage > Admin Login > Admin landing page > Remove bus > Enter bus id > Remove

OR

Homepage > Admin Login > Admin landing page > Add trip > Fill trip details > Add

OR

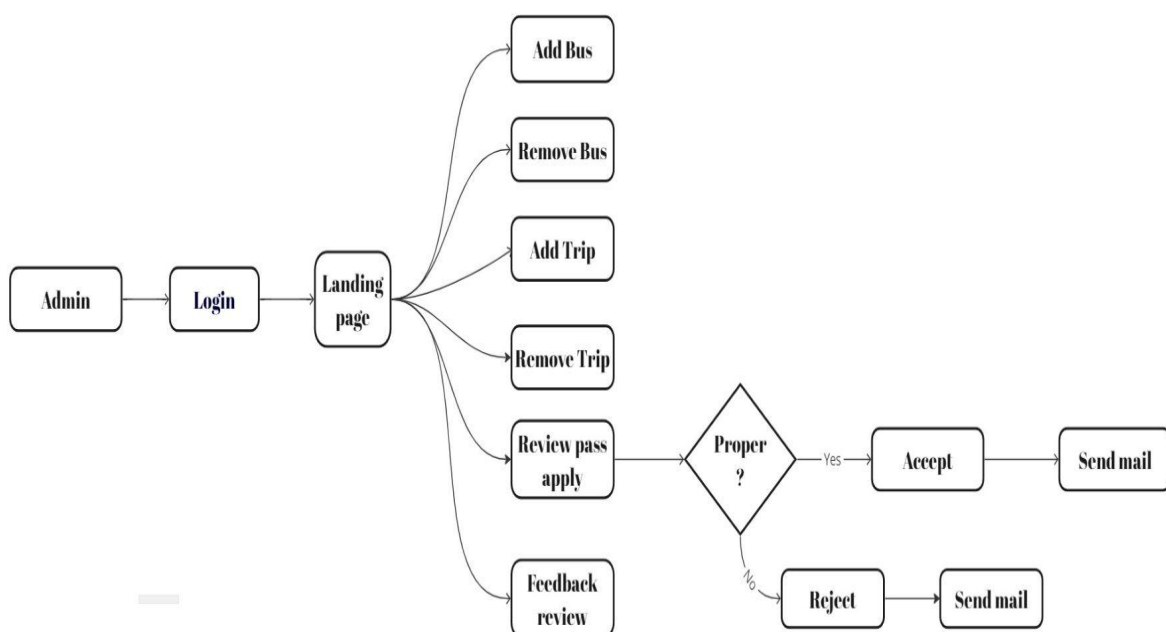
Homepage > Admin Login > Admin landing page > Remove trip > Fill trip id > Remove

OR

Homepage > Admin Login > Admin landing page > Verify Bus Pass > Accept/Reject > Done

OR

Homepage > Admin Login > Admin landing page > Review feedback/Complaint > Done



1.Add bus

The admin has the capability to add a new bus by providing the following details:

- **Bus Name:** The name of the bus.
- **Bus Registration Number:** The unique registration number assigned to the bus.
- **Bus ID:** A unique identification number given to the bus by the admin for internal tracking.
- **Password:** An assigned password for secure access to the bus's information.

These details enable the admin to add a new bus to the system, ensuring proper identification and management of each bus within the local bus management system.

2.Remove bus

The admin can remove a bus from the system by providing the bus ID and password associated with that particular bus. This authentication ensures that only authorised personnel can perform the task of removing a bus.

3.Add trip

The admin can add a trip for a specific bus ID.

Each trip will be assigned a unique trip ID.

The trip ID enables efficient tracking and management of individual trips within the system.

4.Remove trip

The admin has the authority to remove a trip from the system.

The removal process involves identifying the specific trip using its unique trip ID.

Once the trip is successfully removed, it will no longer be available in the system for passenger queries.

5.Verify bus pass

The admin is responsible for verifying the bus pass application

The verification process involves checking if all the submitted documents are in proper order.

The admin can accept or reject the application.

- **Accept:**If the documents are found to be proper, the admin accepts the application and sends a confirmation mail to the applicant, inviting them for the original document verification process.
- **Reject:**In case the documents are incomplete or invalid, the admin rejects the application and sends a mail notifying the applicant about the rejection.

6.Review feedback/Complaint

The admin is responsible for reviewing the feedback and complaints received from passengers.

The admin carefully examines the content of each feedback or complaint to understand the concerns or issues raised.

Based on the feedback or complaint, the admin takes appropriate actions to address the matter, such as investigating the issue, resolving the complaint, or implementing improvements.

The goal is to provide timely and satisfactory responses to passengers, ensuring their feedback and complaints are taken seriously and necessary actions are taken to enhance the bus management system.