

Test plan for "Public Transport Optimization"

The test plan for the "Public Transport Optimization" project includes functional, performance, security, usability, and regression testing across key modules such as Route Search, Map with Bus Suggestions, Bus Information, Ticket Purchasing, Ticket Validity, Live Tracking, and Ticket Scanning. A total of five testers, including a test lead and four test analysts, will conduct unit testing to validate individual components, integration testing to ensure seamless module interaction, system testing for end-to-end functionality, and user acceptance testing (UAT) to confirm the system meets user requirements. These tests will be conducted in a phased manner during development sprints and finalized in a dedicated environment before deployment to ensure the system adheres to stakeholder expectations and operates smoothly in real-world scenarios.

Project Name: Public Transportation Optimization			Test Designed By: Sazid-Al-Abedin	
Test Case ID: FR_U1			Test Designed Date: 17/12/2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: User Login			Test Execution Date:	
Test Title: Verify login with valid username and password				
Description: Test user login functionality with valid credentials				
Precondition (if any): User has valid email and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to the login page	Username: user@gmail.com	Login page should load successfully		
2. Enter valid email and password	Password: User@123	User should be allowed to submit the form		
3. Click the login button		User should be logged in		
4. Validate redirection after login		User is redirected to the home page		
Post Condition: User is logged in successfully, and session details are created.				

Project Name: Public Transportation Optimization			Test Designed By: Sazid-Al-Abedin	
Test Case ID: FR_U2			Test Designed Date: 17/12/2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: User Registration			Test Execution Date:	
Test Title: Verify user registration with valid input data				
Description: Test new user registration functionality in the application				
Precondition (if any): None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to the registration page		Registration page should load successfully		
2. Enter valid registration information	Name: Wyan Bruce Email: bruce@gmail.com Password: Bruce@1	System accepts user input		
3. Click submit		Confirmation email is sent to user		
4. Verify the confirmation email	Email: Confirmation link	Account is successfully verified		
5. Attempt to log in with new credentials	Username: bruce@gmail.com Password: Bruce@1	User should successfully log in		
Post Condition: User account is created, verified, and functional for login.				

Project Name: Public Transport Optimization			Test Designed By: Md. Sadman Hossain	
Test Case ID: FR_U3			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Route Search			Test Execution Date:	
Test Title: Verify bus route search functionality				
Description: Test the "From-To" route search feature				
Precondition (if any): User is logged in				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Input "From" and "To" locations	From : A To : B	System displays available routes		
2. Select a route	Route: Option 1	Selected route details are displayed		
Post Condition: User can search and view bus routes.				

Project Name: Public Transport Optimization			Test Designed By: Md. Sadman Hossain	
Test Case ID: FR_U4			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High):			Test Executed By:	
Module Name: Live Bus Tracking			Test Execution Date:	
Test Title: Verify real-time bus tracking functionality				
Description: Test the ability to track buses in real time				
Precondition (if any): User has searched for a route				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Search and select a bus route	Route: A → B	Route details page opens		
2. Enable live tracking		Real-time bus locations are shown on a map		
3. Check Estimated Time Arrival (ETA) updates		ETA update dynamically		
Post Condition: Real-time location and ETA are displayed for the selected route				

Project Name: Public Transport Optimization			Test Designed By: Md. Saiduzzaman Sohag	
Test Case ID: FR_U5			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High): Medium			Test Executed By:	
Module Name: Bus Information			Test Execution Date:	
Test Title: Verify detailed bus information display				
Description: Test that users can view detailed bus information				
Precondition (if any): User has accessed route information				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Search for a route	Route: A → B	Route details are displayed		
2. Tap on a bus	Bus: Option 1	Bus capacity and location details		
Post Condition: Users can view detailed bus information.				

Project Name: Public Transport Optimization			Test Designed By: Md. Saiduzzaman Sohag	
Test Case ID: FR_U6			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Ticket Purchase			Test Execution Date:	
Test Title: Verify secure ticket purchase functionality				
Description: Test that users can securely purchase tickets				
Precondition (if any): User is logged in and has selected a route				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Select a route	Route: A → B	Route details are displayed		
2. Go to the purchase page		Payment page loads		
3. Select a payment method and pay	Method: MFS(bKash, Rocket etc)	Payment successfully		
Post Condition: Ticket is purchased, and a QR code is issued.				

Project Name: Public Transport Optimization			Test Designed By: Nouroze Tarannum Anannya	
Test Case ID: FR_U7			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High):			Test Executed By:	
Module Name: Save Payment Option			Test Execution Date:	
Test Title: Verify the functionality to save payment information				
Description: Test that users can save their payment details to enable smoother future payments				
Precondition (if any): User has made at least one payment using any payment method				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Initiate a ticket purchase process	Route: A → B, Payment Method: MFS(bKash,Rocket etc)	Payment page is displayed		
2. Enter payment details and enable "Save"	Phone Number: 01611252799	Option to save payment details appears		
3. Complete payment	Payment Amount: 40tk	Payment is successfully processed		
4. Verify payment details saved		System confirms payment details saved		
5. Complete payment using saved details		Payment is processed with one tap		
Post Condition: User's payment information is saved securely and can be used for future payments with one tap.				

Project Name: Public Transport Optimization			Test Designed By: Nouroze Tarannum Anannya	
Test Case ID: FR_U8			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High):			Test Executed By:	
Module Name: Live Notifications			Test Execution Date:	
Test Title: Verify live notifications functionality				
Description: Test push notifications for real-time bus updates				
Precondition (if any): User has enabled notifications				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Enable notifications in settings		Notifications enabled successfully		
2. Track a bus route	Route: A → B	User receives notifications for ETAs		
Post Condition: Notifications are sent based on real-time updates.				

Project Name: Public Transport Optimization			Test Designed By: Seemanta Torafdar	
Test Case ID: FR_U9			Test Designed Date: 17 / 12 / 24	
Test Priority (Low, Medium, High): Medium			Test Executed By:	
Module Name: User Profile Management			Test Execution Date:	
Test Title: Verify user profile management functionality				
Description: Test that users can view and edit their personal information and view their purchase history				
Precondition (if any): User is logged in				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to the "Profile" page		Profile page is displayed		
2. View personal information		User details (name, email, phone, etc.) are displayed correctly		

3. Edit personal information	Name: John Doe → John D., Phone: 1234567890	Updated information is saved and reflected		
4. Verify purchase history		Verify purchase history		
5. Attempt invalid updates	Email: invalid. Email	System displays an error message		
Post Condition: User's personal information is updated successfully, and purchase history is displayed correctly.				

Project Name: Public Transport Optimization			Test Designed By: Seemanta Torafdar	
Test Case ID: FR_U10			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Show Ticket Info			Test Execution Date:	
Test Title: Verify ticket details and PDF generation				
Description: Test that purchased tickets are displayed and downloadable				
Precondition (if any): User has purchased a ticket				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to "My Tickets" section		Purchased ticket details are displayed		
2. Download ticket as PDF		Ticket PDF is downloaded successfully		
Post Condition: Ticket details are shown and downloadable.				

Project Name: Public Transport Optimization			Test Designed By: Sazid-Al-Abedin	
Test Case ID: FR_M1			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Bus Authority Registration and Validation			Test Execution Date:	
Test Title: Verify Bus Authority registration and validation functionality				
Description: Ensure the system allows Bus Authority to register and validates their details through BRTC and NID databases.				
Precondition (if any): None				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to the bus authority registration page		Registration page is displayed		
2. Enter valid National ID (NID) and details	NID: 1234567890, Name: John , Contact: 01736365742	System accepts the details and validates through BRTC/NID database		
3. Submit registration		Registration is completed successfully		
4. Enter invalid NID or incomplete details	NID: invalid	System shows error message: "Invalid NID or incomplete details"		
Post Condition: The Bus Authority registration details are validated and stored in the system.				

Project Name: Public Transport Optimization	Test Designed By: Md. Sadman Hossain
Test Case ID: FR_M2	Test Designed Date: 17-12-2024
Test Priority (Low, Medium, High): High	Test Executed By:
Module Name: Employee Management	Test Execution Date:
Test Title: Verify the functionality to manage employees	
Description: Ensure Bus Authority can add, update, and delete employees.	
Precondition (if any): Bus Authority is logged in	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Go to employee management page		Employee management page is displayed		
2. Add a new employee	Name: Jane Doe, Role: Driver, Password: 12345	Employee is added successfully		
3. Update employee details	Name: Jane Doe → Jane D.	Details updated successfully		
4. Delete an employee	Employee ID: 001	Employees are deleted successfully		
5. Attempt unauthorized password change	Employee ID: 001, Attempted by another user	System shows error: "Unauthorized action"		
Post Condition: Employees are added, updated, and removed successfully, with restrictions in place.				

Project Name: Public Transport Optimization			Test Designed By: Nouroze Tarannum Anannya	
Test Case ID: FR_M3			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Employee Ticket Verification and Bus Information			Test Execution Date:	
Test Title: Verify employee ticket scanning and route information access				
Description: Ensure employees can log in, verify tickets, and access route and passenger information.				
Precondition (if any): Employee is logged in				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Log in as an employee	Username: employee1, Password: emp123	Employees logs in successfully		
2. Scan a valid ticket	Ticket QR Code: valid	Employee is added successfully		
3. Scan an invalid/expired ticket	Ticket QR Code: invalid456	System shows error: "Invalid/Expired Ticket"		

4. View route details	Bus Route: A → B	Route details are displayed		
5. Access passenger details	Passenger Name: John Doe, Contact: 123456789	Passenger information is displayed		
Post Condition: Employee can scan tickets, view passenger details, and access route information.				

Project Name: Public Transport Optimization			Test Designed By: Seemanta Torafdar	
Test Case ID: FR_M4			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Passenger Check-in and Check-out Verification			Test Execution Date:	
Test Title: Verify passenger check-in and check-out functionality				
Description: Ensure passengers are checked in and out properly, with additional charges applied for unverified journeys.				
Precondition (if any): Employee has scanned the ticket when a passenger gets in				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Scan ticket for check-in	Ticket QR Code: checkin123	Passenger is checked in successfully		
2. Scan ticket for check-out	Ticket QR Code: checkout123	Passenger is checked out successfully		
3. Skip check-out	Ticket QR Code: skip123	Additional charge is applied		
4. Attempt check-in with invalid ticket	Ticket QR Code: invalid123	System shows error: "Invalid Ticket"		
Post Condition: Passengers are checked in and out successfully, and additional charges are applied for skipped check-outs.				

Project Name: Public Transport Optimization			Test Designed By: Md. Saiduzzaman Sohag	
Test Case ID: FR_M5			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): High			Test Executed By:	
Module Name: Real-Time Bus Vacancy and Seat Availability			Test Execution Date:	
Test Title: Verify real-time updates for bus vacancy and seat availability				
Description: Ensure the system updates and displays bus occupancy and available seats in real time.				
Precondition (if any): Bus is operating and has passengers				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. View bus occupancy	Bus ID: 12345	Bus occupancy and seat availability are displayed		
2. Bus reaches full capacity		System shows message: "Bus is Full"		
Post Condition: Real-time updates for bus occupancy and seat availability as expected.				

Project Name: Public Transport Optimization			Test Designed By: Md. Saiduzzaman Sohag	
Test Case ID: FR_M6			Test Designed Date: 17-12-2024	
Test Priority (Low, Medium, High): Medium			Test Executed By:	
Module Name: Bus Authority Financial Overview and Reporting			Test Execution Date:	
Test Title: Verify financial report generation and export functionality				
Description: Ensure bus owners can view daily earnings and generate/export reports.				
Precondition (if any): Bus Authority is logged in				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass / Fail)
1. Navigate to financial overview page	Bus ID: 12345	Financial overview page is displayed		
2. View daily earnings		Daily earnings are displayed correctly		

3. Generate a report	Date Range: 01/12/2024 - 05/12/2024	Report is generated successfully		
4. Export report to PDF		Report is exported successfully		
5. Attempt export with no data	Date Range: 01/01/1900 - 01/01/1900	System shows error: "No data available"		
Post Condition: Bus Authority can view and export financial data for further analysis.				