Table of Test Case

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| Test Case ID | Test Scenario | Pre-Conditions | Test Steps | Expected Results |
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| TC-1 | Successful User Registration |  | 1. Navigate to the registration page. 2. Enter valid user details (name, email, password). 3. Confirm email address. 4. Activate account. | 1. Registration form should be displayed. 2. User details should be validated. 3. Confirmation email should be sent. 4. Account should be activated. |
| TC-2 | Invalid User Registration |  | 1. Navigate to the registration page. 2. Enter invalid user details (e.g., existing email, weak password). 3. Submit the registration form. | 1. Error messages should be displayed for invalid details. 2. Registration should not be successful. |
| TC-3 | Successful User Login | User is registered and activated. | 1. Navigate to the login page. 2. Enter valid email and password. 3. Click on the login button. | 1. User should be logged in successfully. 2. User should be redirected to the homepage or dashboard. |
| TC-4 | Invalid User Login | User is registered and activated. | 1. Navigate to the login page. 2. Enter invalid email or password. 3. Click on the login button. | 1. Error message should be displayed. 2. User should not be logged in. |
| TC-5 | Successful Profile Update | User is logged in. | 1. Navigate to the profile page. 2. Update profile details (e.g., name, phone number). 3. Save changes. | 1. Profile details should be updated successfully. 2. Updated details should be reflected on the profile page. |
| TC-6 | Invalid Profile Update | User is logged in. | 1. Navigate to the profile page. 2. Enter invalid details (e.g., existing email, invalid phone number). 3. Save changes. | 1. Error messages should be displayed for invalid details. 2. Profile details should not be updated. |
| TC-7 | Successful Bus Search | User is logged in. | 1. Navigate to the search page. 2. Enter valid search criteria (e.g., origin, destination, date). 3. Click on the search button. | 1. Search results should be displayed based on the criteria. 2. Results should be sorted and filtered correctly. |
| TC-8 | Invalid Bus Search | User is logged in. | 1. Navigate to the search page. 2. Enter invalid search criteria (e.g., invalid origin, future date). 3. Click on the search button. | 1. Error messages should be displayed for invalid criteria. 2. No search results should be displayed. |
| TC-9 | Successful Bus Details View | User is logged in. | 1. Select a bus from the search results. 2. View bus details (e.g., seat map, customer reviews). | 1. Bus details should be displayed correctly. 2. Seat map should be interactive. 3. Customer reviews should be displayed. |
| TC-10 | Successful Booking Confirmation | User is logged in. | 1. Select a bus and choose seats. 2. Enter passenger details. 3. Proceed to payment. | 1. Booking summary should be displayed. 2. Confirmation email should be sent to the user. |
| TC-11 | Invalid Booking Confirmation | User is logged in. | 1. Select a bus and choose seats. 2. Enter invalid passenger details. 3. Proceed to payment. | 1. Error messages should be displayed for invalid details. 2. Booking should not be confirmed. |
| TC-12 | Successful Payment Processing | User is logged in. | 1. Select a payment method. 2. Enter payment details. 3. Complete payment. | 1. Payment should be processed successfully. 2. Payment confirmation page should be displayed. |
| TC-13 | Invalid Payment Processing | User is logged in. | 1. Select a payment method. 2. Enter invalid payment details. 3. Complete payment. | 1. Payment should not be processed. 2. Error message should be displayed. |
| TC-14 | Successful Payment Confirmation | User is logged in. | 1. Complete payment. | 1. Payment confirmation page should be displayed. 2. Confirmation email should be sent to the user. |
| TC-15 | Successful Booking History View | User is logged in. | 1. Navigate to the booking history page. | 1. Booking history should be displayed. 2. Ticket download/print option should be available. |
| TC-16 | Successful Booking Modification | User is logged in. | 1. Navigate to the booking history page. 2. Select a booking to modify. 3. Make changes (e.g., date, seats). 4. Confirm modification. | 1. Booking should be modified successfully. 2. Confirmation email should be sent to the user. |
| TC-17 | Invalid Booking Modification | User is logged in. | 1. Navigate to the booking history page. 2. Select a booking to modify. 3. Make invalid changes (e.g., past date). 4. Confirm modification. | 1. Error messages should be displayed for invalid changes. 2. Booking should not be modified. |
| TC-18 | Successful Booking Cancellation | User is logged in. | 1. Navigate to the booking history page. 2. Select a booking to cancel. 3. Confirm cancellation. | 1. Booking should be cancelled successfully. 2. Refund should be processed (if applicable). 3. Confirmation email should be sent to the user. |
| TC-19 | Invalid Booking Cancellation | User is logged in. | 1. Navigate to the booking history page. 2. Select a booking to cancel. 3. Cancel booking after cancellation deadline. | 1. Error message should be displayed. 2. Booking should not be cancelled. |
| TC-20 | Successful Booking Notifications | User is logged in. | 1. Enable booking notifications. 2. Make a booking. | 1. User should receive notifications about booking status (e.g., confirmation, cancellation). |
| TC-21 | Data Validation and Integrity |  | 1. Enter invalid data in registration form. 2. Enter invalid data in booking form. | 1. System should validate data and display error messages. 2. Data should be consistent and accurate. |
| TC-22 | Data Backup and Recovery |  | 1. Simulate a system failure. 2. Restore data from backup. | 1. Data should be backed up regularly. 2. System should be able to recover data from backup. |
| TC-23 | Secure Communication |  | 1. Access the website using HTTPS protocol. | 1. Website should be accessible through HTTPS protocol. 2. SSL certificate should be valid. |
| TC-24 | Data Privacy |  | 1. Access user profile page. 2. Check for data minimization and encryption. | 1. User data should be minimized and encrypted. 2. Access control should be implemented. |
| TC-25 | Security Measures |  | 1. Attempt to access restricted areas without authentication. 2. Enter invalid login credentials. 3. Submit malicious input. | 1. Access should be restricted to authorized users. 2. System should prevent unauthorized access. 3. System should be protected from malicious input. |
| TC-26 | Privacy Policy |  | 1. Access the privacy policy page. | 1. Privacy policy should be clear and transparent. 2. User consent should be obtained for data usage. |
| TC-27 | Deployment and Maintenance |  | 1. Deploy the system on a cloud platform. 2. Perform regular maintenance and updates. | 1. System should be deployed successfully on the cloud platform. 2. System should be maintained and updated regularly. |
| TC-28 | System Monitoring and Logging |  | 1. Monitor system performance and logs. | 1. System performance should be monitored. 2. System logs should be recorded and analyzed. |
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