Test Plan for Vistara airlines Ticket booking application

1. Test Plan Overview

- **Application Under Test (AUT):** Vistara Airlines Web and Mobile Application

- **Objective:** To validate the application's functionalities, performance, and security, ensuring a seamless user experience.

- **Target Platforms:** Web browsers (Chrome, Firefox, Safari), Android, and iOS devices.

- **Testing Types:** Functional, Integration, System, Performance, Security, and User Acceptance Testing (UAT).

2. Test Scope

In-Scope Features:

- **User Management:** Registration, Login, Profile Management, Password Recovery.

- **Flight Operations:** Search, Booking, Cancellation, Rescheduling.

- **Seat Selection:** Viewing seat maps, selecting seats, checking availability.

- **Payment Processing:** Integration with payment gateways, transaction validation.

- **Notifications:** Email and SMS confirmations, alerts.

- **Check-in Process:** Online check-in, boarding pass generation.

- **Loyalty Program:** Enrollment, point accumulation, redemption.

- **Admin Functions:** Flight scheduling, fare management, user management.

Out-of-Scope:

- Third-party integrations not directly managed by Vistara.

- Hardware-level testing (e.g., device compatibility beyond specified platforms).

3. Test Strategy

Functional Testing:

- **User Scenarios:** Validating user journeys like booking a flight, managing bookings, and checking in.
- **Edge Cases:** Testing inputs like invalid data, boundary values, and error handling

Integration Testing:

- Ensuring seamless interaction between modules like booking and payment systems.

System Testing:

- Validating the complete and integrated application against requirements.

Performance Testing:

- **Load Testing:** Assessing application behavior under expected user loads.
- **Stress Testing:** Determining the application's robustness under extreme conditions.
- **Response Time:** Measuring the application's responsiveness during peak times.

Security Testing:

- **Authentication & Authorization:** Verifying secure login mechanisms and access controls.
- **Data Protection:** Ensuring encryption of sensitive data and secure data storage.
- **Vulnerability Assessment:** Identifying potential security loopholes.

User Acceptance Testing (UAT):

- Gathering feedback from end-users to validate the application's readiness for production.

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4. Test Scenarios

Booking Module:

- Search for flights with valid and invalid inputs.
- Book a flight with different payment methods.
- Apply promo codes and verify discounts.
- Cancel and reschedule bookings.

Seat Selection:

- View seat availability in real-time.

- Select and change seats during booking.

- Handle scenarios where selected seats become unavailable.

Payment Processing:

- Process payments using credit/debit cards, net banking, and wallets.

- Handle payment failures and retries.

- Validate transaction records in the user's booking history.

Notifications:

- Receive booking confirmations via email and SMS.

- Get alerts for flight delays or cancellations.

- Opt-in and opt-out of promotional communications.

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5. Test Environment

- **Web Browsers:** Latest versions of Chrome, Firefox, Safari.

- **Mobile Devices:** Android (v10 and above), iOS (v13 and above).

- **Network Conditions:** Testing under various network speeds (3G, 4G, Wi-Fi).

- **Test Data:** Dummy user accounts, test credit card numbers, mock flight schedules.

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6. Test Schedule

Phase	Duration
Test Planning	1 Week
Test Case Development	2 Weeks
Test Environment Setup	1 Week
Test Execution	3 Weeks

Phase	Duration
Defect Reporting	Concurrent
UAT	1 Week

7. Entry and Exit Criteria

Entry Criteria:

- All development activities are completed.

- Test environment is set up and validated.

- Test cases are reviewed and approved.

Exit Criteria:

- All critical and major defects are resolved.

- Test coverage meets the defined thresholds.

- UAT is signed off by stakeholders.

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8. Deliverables

- Test Plan Document

- Test Cases and Test Scripts

- Defect Reports

- Test Summary Report

- UAT Sign-off Document

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9. Risk and Mitigation

Risk	Mitigation
Late delivery of builds	Buffer time in schedule
Test environment instability	Use of backup environments
Incomplete requirements	Close collabo