**Test Plan for Airline Application**

**1. Introduction**

This test plan outlines the core functionality of the airline application, including booking, payment, flight status, user management and more. To ensure that the airline application performs all the core functions like flight search, bookings, payments, user management, and check ins accurately, securely and efficiently, providing a seamless experience to end users and meeting business requirements.

**2. Objectives**

* Verify usability and accessibility across devices and browser.
* Validate user workflows (searching flights, booking, payment)
* Verify system integration (e.g., payment gateway, airline APIs)
* Ensure the application meets performance benchmarks.

**3. Scope**

IN SCOPE

* User registration and login
* Flight search & booking
* Seat selection
* Ticket cancellation and rescheduling
* Notification (SMS/Email)
* Check in and boarding passes generation
* Payment gateway integration

OUT OF SCOPE

* Backend API testing not owned by team
* Third-party airline systems( Ex. Weather, data, airline alliances)

**4. Test Strategy**

* Functional testing
* Integration testing
* System Testing
* UI / UX Testing
* Performance Testing
* Security Testing
* Compatibility Testing
* Regression Testing

**5. Test Environment**

* Browsers: Chrome, Firefox, Safari, Edge (Latest versions)
* OS: Windows, macOS, Android, iOS
* Mobile Devices: Andriod 10+, iOS 14+
* Backend: Java/NET APIs
* Database – MySQL/Postgre SQL
* Tools: Selenium, Postman, Jmeter, Jira, TestRail
* Test Data: Dummy user accounts, mock payment card details, sample flights (domestic/ international)

**6. Test Scenarios**

* User searches for flights
* User books a flight
* User cancels or reschedules booking
* Payment with valid and invalid card
* Login, registration, password reset
* Admin login and flight management

**7. Sample Test Cases**

TC001: Search Flight  
Steps:  
1. Open homepage  
2. Enter source, destination, and date  
3. Click 'Search'  
Expected: List of flights is displayed  
  
TC002: Book Flight  
Steps:  
1. Select flight  
2. Enter passenger details  
3. Pay with card  
Expected: Booking confirmed page shown

**8. Roles and responsibilities**

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| --- | --- |
| Role | Responsibility |
| Test manager | Define overall test strategy and test plan |
| Test Analyst/ QA Engineer | Execute tests, Report and track bugs/defects. |
| Automation Tester | Develop and run automation scripts |
| DevOps / Test environment Engineer | Support deployment of builds and test data setup |
| Business Analyst | Support in UAT |

**9. Deliverables**

- Test Plan Document  
- Test Cases and test scripts  
- Bug Report  
- Test Summary Report

**10. Schedule**

|  |  |
| --- | --- |
| Phase | timeline |
| Requirement Analysis | Simulate failures, test multiple gateways, implement retry mechanisms |
| Test Case Design | Implement delivery receipts, fallback notification channels |
| Test Execution | Use cloud based devices |
| Bug Fix Verification & Final Report | Perform usability testing, collect user feedback early |
| Final reporting |  |

**11. Risks & Mitigations**

|  |  |
| --- | --- |
| Risk | Mitigation Strategy |
| Payment gateway failure | Simulate failures, test multiple gateways, implement retry mechanisms |
| Booking confirmation not received (email/SMS failure) | Implement delivery receipts, fallback notification channels |
| Limited test devices | Use cloud based devices |
| Poor usability or navigation | Perform usability testing, collect user feedback early |

**12. Exit Criteria**

* 95% + test case execution
* All major functionality tested
* No high severity defects