| |  | | --- |      | **RTM-Requirements Traceability Matrix** | | --- |   **Project Name**    **Breaking the Skies – Travel Booking Platform**   | **Prepared By**  **Thoorpati Swathi Date:** 15-05-2025 | | --- | |
| --- | --- | --- | --- |

## **Purpose**

This RTM ensures that all functionalities, test cases, and business requirements of the FlightSure booking platform are effectively validated. It maintains traceability across test phases and aligns the QA process with key project goals for full coverage and delivery assurance.

## **Key Functionalities to Focus**

1. **Flight & Hotel Search** – Testing with multiple cities, dates, and combinations.
2. **Filtering and Sorting** – Real-time filtering with different data conditions.
3. **Selection and Booking** – Validation of selections, error handling, and pricing.
4. **Passenger Details** – Input validations, formats, and boundary conditions.
5. **Booking Confirmation** – End-of-flow validation with data consistency.
6. **UI Consistency** – Layout responsiveness and uniformity across devices.
7. **Performance** – Load testing with up to 100 users using JMeter.
8. **Regression Coverage** – Scripted validations post mid-cycle updates.

## **Testing Scope**

### **Core Functional Areas**

* **Flight/Hotel Search Module**
* **Booking Flow and Passenger Form**
* **Confirmation and Summary Screens**
* **Cross-Browser and Cross-Device Compatibility**
* **Mid-Cycle Regression Validation**

### **Excluded**

* API Testing (No API exposed publicly)
* Security & Vulnerability Testing
* External Payment Gateway Integration

## **RTM Table**

| **Requirement ID** | **Description** | **Priority** | **Test Type** | **Test Case ID(s)** | **Status** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- |
| R1 | Search flights and hotels | High | Manual/Automation | TC-001, TC-002 | Passed | Covered in functional test suite |
| R2 | Apply filters and sorting options | High | Manual | TC-003, TC-004 | Passed | Real-time combinations validated |
| R3 | Flight and hotel selection functionality | High | Manual | TC-005 | Passed | With valid and edge cases |
| R4 | Passenger/traveler form validation | High | Manual/Automation | TC-006 | Passed | Format and boundary tests done |
| R5 | Booking confirmation and flow validation | High | Automation | TC-007 | Passed | Final screen validation & UX |
| R6 | Performance under load (100 concurrent) | Medium | Performance | TC-008 | Passed | JMeter TPS under SLA |
| R7 | UI consistency on browsers and devices | Medium | Manual | TC-009 | Passed | Chrome, Firefox, Safari checked |
| R8 | Mid-cycle change regression coverage | High | Automation | TC-010 | Passed | Scripts rerun and updated |
| R9 | API response and integration | Low | OOS[out of Scope] | N/A | N/A | No public API available |
| R10 | Security validation (XSS, SQLi) | Low | OOS | N/A | N/A | Not in scope for current cycle |

## **Manual and Automation Testing Approach**

### **Manual Testing**

* Exploratory sessions on primary user flows
* Cross-browser visual validation and error messages
* Negative scenarios and usability issues
* Compatibility testing on Windows, macOS, Android, iOS

### **Automation Testing**

* **Selenium with Java** for regression suite
* **TestNG** for grouped execution (Smoke, Sanity, Regression)
* **ExtentReports** for reporting
* Scripts run on **ChromeDriver & FirefoxDriver** with Page Object Model

## **Tools and Frameworks**

| **Category** | **Tools Used** |
| --- | --- |
| UI Automation | Selenium WebDriver + TestNG |
| Reporting | ExtentReports |
| Performance Testing | Apache JMeter |
| Test Management | Excel, TestRail |
| Bug Tracking | JIRA |
| Communication | Google Docs, Slack |

## 

## **Conclusion**

This RTM serves as a single source of traceability for validating that all critical requirements of the FlightSure platform are met. Through a mix of manual, automation, and performance testing, the team ensures that the product meets quality benchmarks and is ready for production release