**ASR Aviation – Phase 2 Business Requirements Document (BRD)**

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| **Version** | **Date** | **Author** | **Description** |
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### 1. Executive Summary

Phase 2 of the ASR Aviation website builds on the flight-booking platform delivered in Phase 1. Objectives include enhancing user experience, expanding booking capabilities, strengthening performance and security, and introducing admin analytics. This BRD captures “what” we need to build and “why,” forming the foundation for all downstream planning, design, development, and testing.

### 2. Objectives & Scope

#### 2.1 Objectives

* Improve UX: Modernize UI, optimize mobile/responsive layout.
* Extend Functionality: Add booking-modification, flight-status alerts, feedback channels.
* Boost Performance: Page loads < 3 s; support 10K concurrent users.
* Enable Insights: Provide admin dashboard with usage analytics.
* Ensure Security & Compliance: Encrypt data at rest/in transit; meet WCAG 2.1 AA.

#### 2.2 In-Scope

* Frontend enhancements (React)
* Backend API extensions (FastAPI)
* Payment-gateway integration (UPI, cards)
* Flight-status notification service (SMS/email)
* Admin analytics module

#### 2.3 Out-of-Scope

* Native mobile apps (to be addressed in Phase 3)
* Third-party loyalty/rewards systems
* Legacy Phase 1 feature rewrites

3. Stakeholders & Roles

| Stakeholder | Role | Responsibility |
| --- | --- | --- |
| Business Sponsor | CEO, ASR Aviation | Funding approval, strategic alignment |
| Product Manager | Aanya Mittal | BRD authoring, prioritization, stakeholder sign-off |
| UX/UI Designers | Design Team | Wireframes, mockups, interactive prototypes |
| Dev Team | Frontend & Backend Engineers | Implement features per spec |
| QA Team | QA Engineers | Test planning, execution, defect tracking |
| Operations | IT/Ops | Deployment, monitoring, incident response |

### **4. Project Workflow**

**Discover → Plan → Design → Build → Test → Deploy → Iterate**

1. **Discover & Align** (this BRD): Stakeholder workshops → draft & sign-off BRD
2. **Plan & Prioritize**: Break into user stories → estimate → backlog + release plan
3. **Design & Prototype**: UX wireframes → UI mockups → API contract
4. **Build & Document**: Code per spec → inline docs & traceability matrix
5. **Test & Validate**: Unit/integration/UAT → bug log → stakeholder feedback
6. **Deploy & Review**: Release notes → staging → production → post-mortem
7. **Iterate**: Gather analytics/feedback → refine in next sprint

*(Embed a simple cycle diagram here via diagrams.net or Google Drawings.)*

**5. Functional Requirements**

| ***ID*** | ***Requirement*** | ***Priority*** | ***Owner*** |
| --- | --- | --- | --- |
| *FR-1* | ***Flight Search:*** *origin/destination/date/passenger filters → result list* | *High* | *Dev Lead* |
| *FR-2* | ***User Auth:*** *signup, login, password-reset, 2FA* | *High* | *Dev Lead* |
| *FR-3* | ***Booking Management:*** *select, modify, cancel bookings; view itinerary* | *High* | *Dev Lead* |
| *FR-4* | ***Payment Integration:*** *support credit/debit cards, UPI, net-banking* | *High* | *Dev Lead* |
| *FR-5* | ***Profile:*** *view/update personal details, payment methods* | *Medium* | *Dev Lead* |
| *FR-6* | ***Notifications:*** *SMS/email alerts for booking confirmations & flight-status changes* | *Medium* | *Dev Lead* |
| *FR-7* | ***Admin Dashboard:*** *usage analytics, booking trends, system health metrics* | *Medium* | *Dev Lead* |
| *FR-8* | ***Feedback & Support:*** *in-app form to submit queries/feedback* | *Low* | *Dev Lead* |

**6. Non-Functional Requirements**

| ID | Description | Category |
| --- | --- | --- |
| NFR-1 | Performance: page load < 3 s (95th percentile) | Performance |
| NFR-2 | Scalability: handle 10 000 concurrent users | Scalability |
| NFR-3 | Availability: 99.9 % uptime | Reliability |
| NFR-4 | Usability: responsive UI across desktop, tablet, mobile | Usability |
| NFR-5 | Security: TLSv1.3; AES-256 encryption at rest | Security |
| NFR-6 | Accessibility: WCAG 2.1 AA compliance | Accessibility |

### **7. Assumptions & Constraints**

* **Assumptions:** Phase 1 APIs remain backward-compatible. 3rd-party gateways offer sandbox environments.
* **Constraints:** Budget capped at ₹X lakhs. Deployment window: Sept 2025. No major infra changes.

8. Acceptance Criteria & KPIs

| **Feature** | **Acceptance Criteria** | **KPI/Target** |
| --- | --- | --- |
| Flight Search | Returns correct results < 3 s; handles edge cases | Avg. search time < 2 s |
| Booking Flow | Complete booking with < 5% abandonment | Booking success ≥ 95 % |
| Payment Module | Secure transactions; failures < 1 % | Failure rate < 1 % |
| Mobile Responsiveness | Render correctly on ≥ 90 % tested devices | Device coverage ≥ 90 % |
| Dashboard Metrics | Real-time data refresh ≤ 5 min | Data latency < 5 min |

### **9. Appendices**

* **A. Glossary** (e.g., UPI, 2FA, API)
* **B. Reference Docs**: Phase 1 BRD; Phase 1 API Spec; UI style guide
* **C. Template Forms**: Change Request Form; Test Case Template

**Draft BRD Report**

* **Section 1:** Executive Summary
* **Section 2:** Objectives & Scope
* **Section 3:** Stakeholders & Roles
* **Section 4:** Current System Overview (ASR stack)
* **Section 5:** Competitor Benchmark (JetSetGo vs ASR)
* **Section 6:** Phase 2 Roadmap & Feature Mapping
* **Section 7:** Development Cycle & Process Flow
* **Section 8:** Acceptance Criteria & KPIs
* **Appendices:** API matrix tables, glossary