**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 30-06-2025 |
| Team ID | LTVIP2025TMID43096 |
| Project Name | Flight Finder: Navigating Your Air Travel Options |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through form (email/password)  Registration as Customer/Admin/Flight Operator |
| FR-2 | User Confirmation | Admin approval/rejection for Flight Operators |
| FR-3 | Flight Management | Add flights (Flight Operator)  Edit/Delete flights  View assigned flights |
| FR-4 | Booking Management | Search flights  Book tickets  Cancel bookings  View booking history |
| FR-5 | Authentication | Login with role-based access control (Customer/Admin/Operator) |
| FR-6 | Dashboard Views | Operator: View bookings  Customer: View/cancel own bookings  Admin: Manage users |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Simple and intuitive UI using React.js. Easy for users to register, search, and book. |
| NFR-2 | **Security** | Passwords hashed with bcrypt, role-based access control, secured routes via token validation. |
| NFR-3 | **Reliability** | Ensures consistent data storage and retrieval using MongoDB and Mongoose; proper error handling in backend |
| NFR-4 | **Performance** | Optimized API responses, minimal load times using efficient queries and component rendering. |
| NFR-5 | **Availability** | Always-on Express backend with MongoDB Atlas cloud DB ensures users can book anytime. |
| NFR-6 | **Scalability** | Easily scalable architecture using modular MERN stack design; supports more users/flights as needed. |