**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 26-05-2025 |
| Team ID | LTVIP2025TMID59691 |
| Project Name | Flightfinder |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

Flight Finder is designed with a scalable 3-tier architecture consisting of:

* Presentation Layer (Frontend):  
  User-friendly interface for travelers and flight operators to search, book, and manage flights.
* Business Logic Layer (Backend):  
  Handles flight search, booking management, user authentication, notifications, and payment processing.
* Data Storage Layer:  
  Secure storage of user profiles, flight listings, booking records, and payment transactions.

The platform integrates with third-party APIs for notifications (SMS/email) and payment gateways to enhance usability and trust.

**Table-1 : Components & Technologies:**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1. 1. | User Interface | Web and mobile-friendly interface for travelers and flight operators | HTML, CSS, JavaScript, React.js |
| 1. 2. | Application Logic-1 | Flight search, filters, booking, and cancellation logic | Node.js, Express.js |
| 1. 3. | Application Logic-2 | Admin dashboard, flight operator management, transaction reporting | React.js (Admin UI), Node.js (Backend) |
| 1. 4. | Database | Stores user profiles, flight listings, bookings, and payment transactions | MongoDB or PostgreSQL |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 5. | Open-Source Frameworks | Frontend and backend frameworks for UI and server logic | React.js, Node.js, Bootstrap, Tailwind CSS |
| 6. | Scalable Architecture | 3-tier architecture with RESTful APIs and modular service-based design | Microservices, Express.js |

**References:**

* [React.js Documentation](https://react.dev/)
* [Node.js Best Practices](https://github.com/goldbergyoni/nodebestpractices)
* [JSON Web Server Reference](https://www.npmjs.com/package/json-server)
* [How to Draw Useful Technical Architecture Diagrams](https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d)