Project Design Phase
Solution Architecture

Date	26 -05-2025
Team ID	LTVIP2025TMID59024
Project Name	Flightfinder-navigating your air travel options
Maximum Marks	4 Marks

Solution Architecture:

The solution architecture for *FlightFinder* ensures a scalable, secure, and user-friendly platform for travelers to explore and book flight options. The system is built on the **MERN stack** with separate modules for **user**, **airline**, and **admin** roles.

The architecture emphasizes:

- Seamless flight search and booking functionality

- Real-time flight status and availability updates

- Secure user, airline, and admin authentication

- Scalable backend APIs with RESTful architecture

- Structured data flow between frontend, backend, and database

- Role-based dashboards with conditional rendering (e.g., user bookings, airline management, admin controls)

- Admin oversight for managing airlines, promotions, and system visibility

Example - Solution Architecture Diagram:

```
+-------------------+        +-------------------+        +-------------------+
|     Frontend      |        |      Backend      |        |     Database      |
| (React.js)        |<--->|  (Node.js/Express)  |<--->|  (MongoDB)          |
| - Flight Search   |        | - REST APIs       |        | - Users           |
| - Booking UI      |        | - Auth Middleware |        | - Flights         |
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|   Third-Party     |                                     |    Deployment     |
| (Payment Gateway, |                                     | (AWS/Docker)      |
|  Flight Data APIs)|                                     +-------------------+
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```