🏗️ **Technology Stack & Architecture**

Title: *Flight Finder: Navigating Your Air Travel Options*
Date: *27 June 2025*
Team ID: *LTVIP2025TMID49881*
Maximum Marks: *4 Marks*

1️⃣ **Solution Architecture Overview**

The Flight Finder platform will follow a **3-tier architecture**:

1. **Presentation Layer (Frontend)**

   * Web & mobile interface for users
   * Provides search, comparison, booking, and notifications

2. **Application Layer (Backend)**

   * Handles business logic, API integration with airlines
   * Processes user authentication, payments, and booking history

3. **Data Layer**

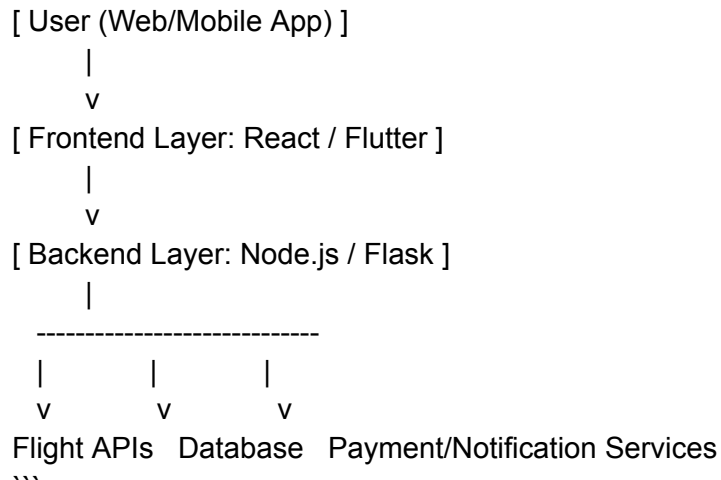   * Stores user profiles, flight data, and transaction history

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2️⃣ **Technology Stack**

Layer	**Technology**	**Purpose**
Frontend (UI/UX)	React.js / Flutter	Responsive web & mobile app UI
Backend (Logic)	Node.js / Python Flask	API development & business logic
Database	MySQL / MongoDB	Store user & flight data
External APIs	Airline REST APIs, Payment Gateway APIs	Fetch flight schedules, pricing, payments
Notifications	Firebase Cloud Messaging / Twilio	Real-time alerts & updates

| **Hosting** | AWS / Azure Cloud | Scalable deployment & load balancing |
| **Security** | SSL/TLS, OAuth 2.0 | Data encryption & secure authentication |

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3 **High-Level Architecture Diagram**

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[ User (Web/Mobile App) ]
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      v
[ Frontend Layer: React / Flutter ]
      |
      v
[ Backend Layer: Node.js / Flask ]
      |
   ----------------------------
   |         |          |
   v         v          v
Flight APIs   Database   Payment/Notification Services
```

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4 **Key Benefits of this Stack**

* ✅ **Scalable** – Can handle large user traffic
* ✅ **Cross-platform** – Works on web & mobile seamlessly
* ✅ **Secure** – Encrypted payments & user data protection
* ✅ **Flexible** – Easy integration with new airline API