Project Design Phase-II

Technology Stack (Architecture & Stack)

Team ID	LTVIP2025TMID58532
Project Title	Flight finder: navigating your air travel options

Technical Architecture

The Flight Ticket Booking Website consists of a multi-tier architecture with a web/mobile interface, backend services for search, booking and payments, integration with external APIs, cloud-hosted databases, and optional ML models for intelligent suggestions. It is deployed on scalable cloud infrastructure.

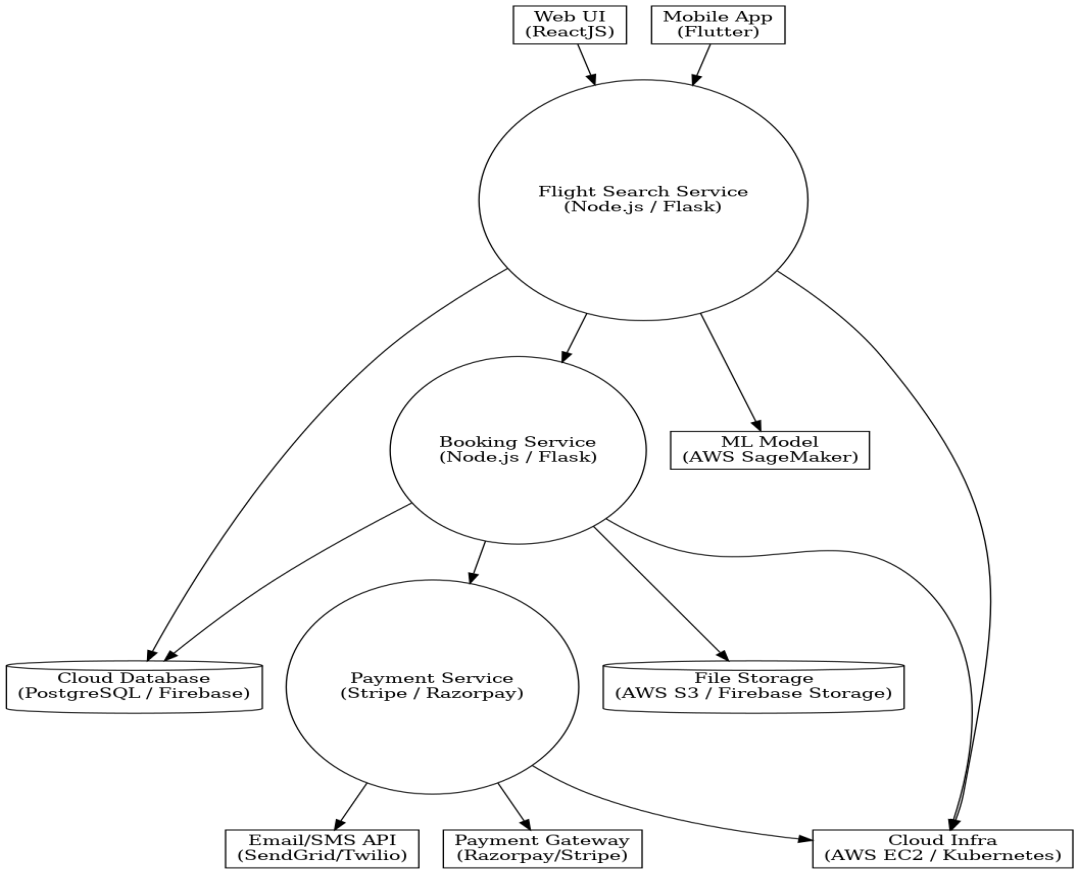

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web and mobile interface for users	HTML, CSS, JavaScript, ReactJS, Flutter
2	Application Logic-1	Flight search, filters, and display results	Node.js / Python Flask
3	Application Logic-2	Booking and seat selection logic	Node.js / Flask
4	Application Logic-3	Payment gateway and confirmation logic	Stripe API / Razorpay SDK
5	Database	Stores user info, flights, bookings, transactions	PostgreSQL / MongoDB
6	Cloud Database	Managed cloud database service	AWS RDS / Firebase Firestore
7	File Storage	Store e-tickets and logs	AWS S3 / Firebase Storage
8	External API-1	Payment integration	Razorpay / Stripe
9	External API-2	Email and SMS confirmation	SendGrid / Twilio
10	Machine Learning Model	Flight pricing trends, user behavior tracking	AWS SageMaker
11	Infrastructure	Deployed on scalable cloud infrastructure	AWS EC2 / Docker / Kubernetes

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Web and backend development frameworks	ReactJS, Flask, Node.js
2	Security Implementations	Login auth, HTTPS, encryption, access control	OAuth 2.0, HTTPS, JWT, SHA-256, IAM
3	Scalable Architecture	Microservices for search, booking, and payments	Docker, Kubernetes
4	Availability	Redundant servers, load balancing	AWS ELB, Multi-AZ Deployments
5	Performance	CDN for static content, caching for APIs	CloudFront, Redis, CDN, Nginx