**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| --- | --- |
| Date | 24 June 3035 |
| Team ID | LTVIP2025TMID30989 |
| Project Name | Airlines Management System |
| Maximum Marks | 4 Marks |

## Technical Architecture:

This project aims to enhance the efficiency and effectiveness of managing flights, reservations, and passenger information. Built using Salesforce, it streamlines airline operations including:  
- Managing fleet and scheduling flights   
- Seat allocation and ticket booking   
- Passenger check-ins and baggage handling   
- Real-time alerts and notifications   
- Reports and dashboards for operational insights  
  
The system enables communication between airlines, airports, and passengers, supporting seamless workflows and improved user experience.

## Table-1: Components & Technologies

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Component | Description | Technology |
| 1 | User Interface | Web interface for managing flights and bookings | Salesforce Lightning App Builder |
| 2 | Application Logic-1 | Business logic for seat reservations, scheduling, etc. | Salesforce Flows / Apex |
| 3 | Application Logic-2 | Check-in & baggage handling logic | Salesforce Flows / Apex |
| 4 | Application Logic-3 | Real-time notifications to passengers | Process Builder / Flows / Apex |
| 5 | Database | Stores passenger, flight, and booking information | Salesforce Standard & Custom Objects |
| 6 | Cloud Database | Cloud-hosted storage of all objects | Salesforce Platform Database |
| 7 | File Storage | Attachment storage (e.g., ticket PDFs, IDs) | Salesforce Files / ContentVersion |

## Table-2: Application Characteristics

|  |  |  |
| --- | --- | --- |
| S.No | Characteristics | Description / Technology |
| 1 | Open-Source Frameworks | Not directly applicable as Salesforce is a managed platform / N/A |
| 2 | Security Implementations | Object-level, field-level, role-based access, profile control / Salesforce Security Model, IAM |
| 3 | Scalable Architecture | Built on Salesforce multi-tenant cloud architecture / Salesforce Platform Architecture |
| 4 | Availability | Highly available through Salesforce global infrastructure / Salesforce Load Balancing, CDN |
| 5 | Performance | Optimized via indexing, governor limits, efficient data access / SOQL, Caching, Asynchronous Apex |

## Milestones Implemented:

- Object Creation – Custom objects for Flights, Passengers, Bookings   
- Tabs – Navigation tabs for all major entities   
- The Lightning App – Consolidated app for airline admin   
- Fields – Custom fields for detailed record management   
- Milestone 6: User Adoption – Setup user profiles, permissions, interface walk-through   
- Milestone 7: Profiles – Different profiles for Admin, Agent, etc.   
- Milestone 8: Role Hierarchy – Role-based access defined   
- Milestone 9: Users – Multiple test users created for testing use cases   
- Milestone 10: Reports – Reports on passenger data, flight occupancy, etc.   
- Milestone 11: Dashboards – Visual dashboards for executive overview   
- Milestone 12: Apex – Triggers for ticket generation and custom logic   
- Milestone 13: Flows – Automated processes like booking confirmation, seat updates

## References:

- https://www.salesforce.com/products/platform/overview/  
- https://c4model.com/  
- https://developer.ibm.com/patterns/  
- https://help.salesforce.com/s/articleView?id=sf.flow\_build.htm