Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	Team-592447
Project Name	Airline review classification using machine learning
Maximum Marks	4 Marks

Technical Architecture:

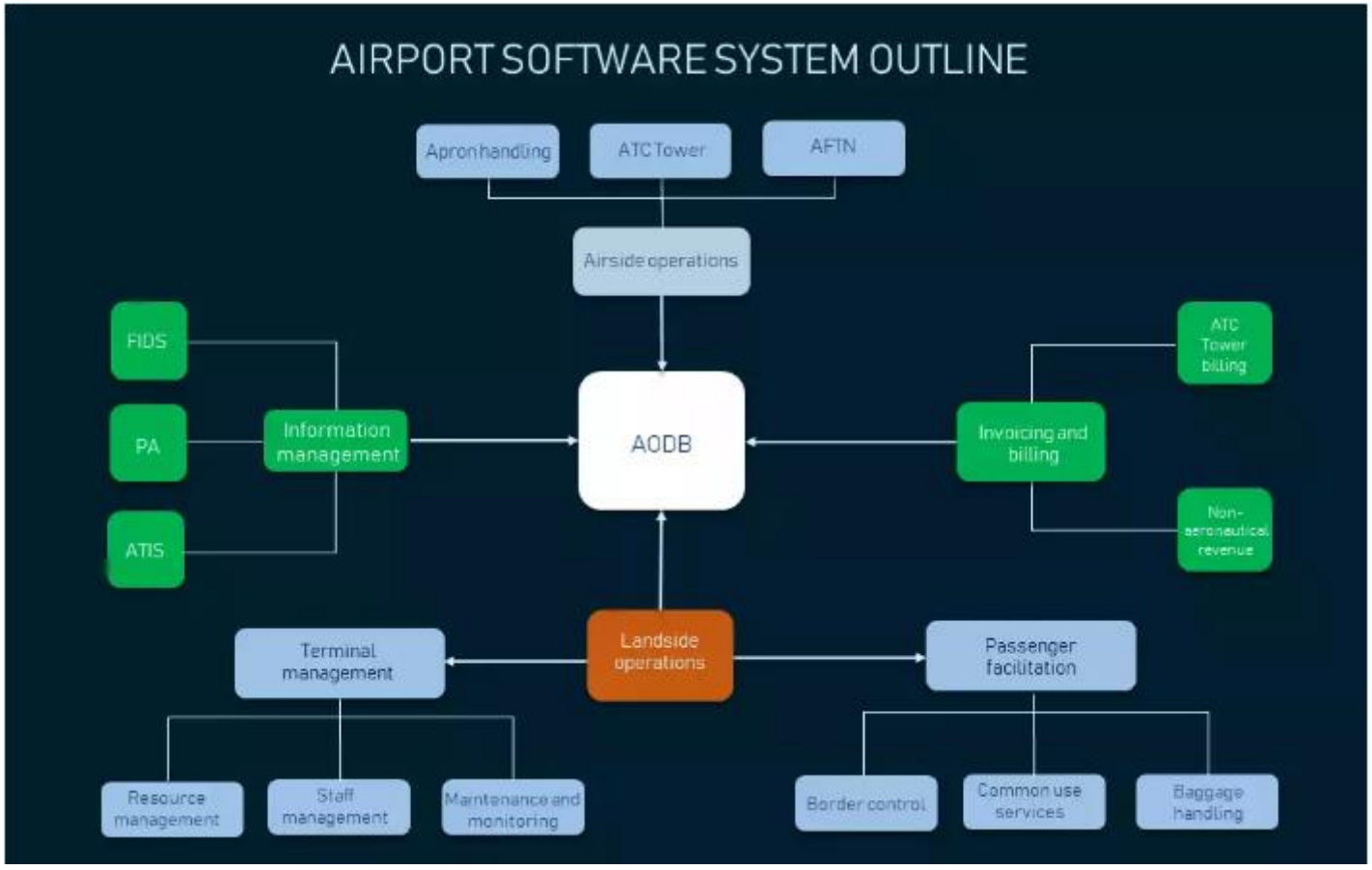

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	user interaction with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript,Bootstrap
2.	Application Logic-1	Data preprocessing	Python
3.	Application Logic-2	Training the model and testing the model	Scikit-learn,python
4.	Application Logic-3	Training and testing with various algorithms	Scikit-Learn,random-forest,KNN etc
5.	Database	For managing and storing data	SQlite,PostgreSQL
6.	Hosting platform	Deploying flask applications and ML models	Heroku,AWS or Azure
7.	git	To track changes in project and collobrate effectively with team members	Github
8.	Unit Testing	Frameworks for testing code components	pytest
9.	External API-1(optional)	For API documentation	swagger
10.	Communication tools	For effective team colloboration and project tracking	Slack,Microsoft Teams
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	FLASK,Bootstrap	Used for frontend and backend applictions
2.	Security Implementations	Apply proper authentication mechanisms for APIs, such as API keys, OAuth, or JWT.	JWT
3.	Scalable Architecture	Use containerization technologies such as Docker to package and deploy microservices consistently across different environments.	Docker

S.No	Characteristics	Description	Technology
4.	Availability	Deploy components across multiple geographic regions to mitigate the impact of regional outages.	Content delivery networks
5.	Performance	Implement caching mechanisms to store and retrieve frequently accessed data.	Redis