Project Design Phase-II: BookNest - Where Stories Nestle

Date: 27 June 2025

Team ID: LTVIP2025TMID20432

Project Name: BookNest: Where Stories Nestle

Maximum Marks: 4 Marks

Technical Architecture

This architectural diagram illustrates the complete technology stack of BookNest.

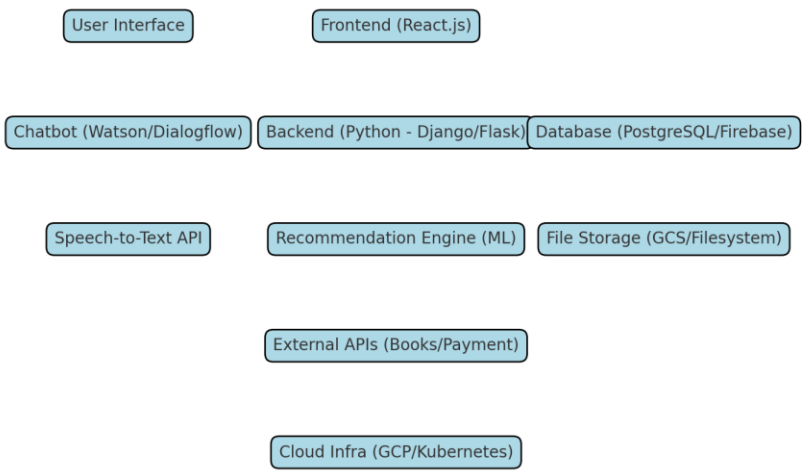

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web-based interface for users	HTML, CSS, JavaScript, React.js
2	Application Logic-1	Core logic for user and book handling	Python (Django/Flask)
3	Application Logic-2	Speech to text conversion	Google Cloud Speech-to-Text API

4	Application Logic-3	Chatbot for user assistance	Dialogflow / IBM Watson Assistant
5	Database	Stores user, book, review data	PostgreSQL
6	Cloud Database	Managed scalable DB	Google Cloud SQL / Firebase
7	File Storage	Store images and files	Google Cloud Storage / Local FS
8	External API-1	Book metadata	Google Books API
9	External API-2	Payment/Auth services	Razorpay API / Auth0
10	Machine Learning Model	Recommend books	Collaborative Filtering / NLP
11	Infrastructure	Cloud deployment	Google Cloud Platform, Kubernetes

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Frameworks used for frontend/backend	React.js, Django, Flask
2	Security Implementations	Auth, encryption, firewall	JWT, OAuth 2.0, HTTPS, IAM
3	Scalable Architecture	Microservices, containerized deployment	Docker, Kubernetes
4	Availability	Redundant setup, high uptime	Load Balancer, GCP Multi-zone
5	Performance	Optimized data flow and caching	Redis, Cloud CDN

References

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