

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	24 Jun 2025
Team ID	LTVIP2025TMID5942
Project Name	Smart SDLC – AI Requirement Analyzer
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

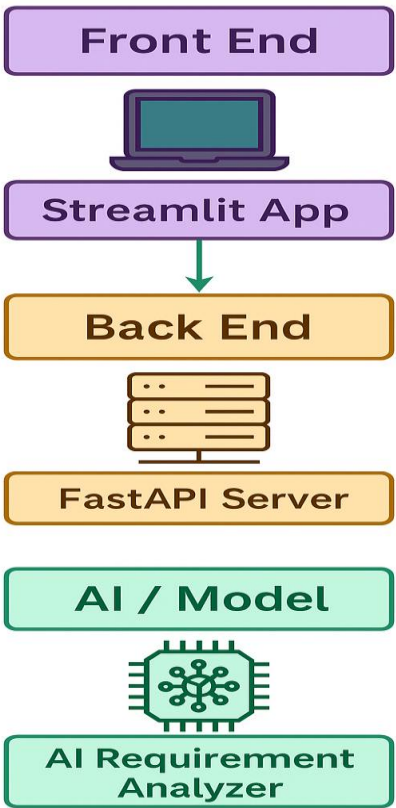


Table 1 : Technology Stack

S.No	Characteristics	Description	Technology
1	Application Logic-1	Logic to parse and preprocess uploaded .txt requirement files	Python, re, string manipulation
2	Application Logic-2	Logic to send prompts and receive responses from the AI model	Python, requests, OpenRouter API
3	Application Logic-3	Logic for web UI interactions, file upload, result display	Streamlit, Python
4	Database	Not required for MVP, as data is processed in-memory	N/A
5	External API-1	Language model to extract structured requirements	OpenRouter API (Mistral model)
6	External API-2	Secure key and model access configuration	.secrets.toml (Streamlit Secrets Manager)
7	File Storage	Temporary storage of uploaded .txt files (if needed)	Local memory (Streamlit upload buffer)
8	Machine Learning Model	Pre-trained LLM used via API for requirement analysis	Mistral-3.2 (via OpenRouter)
9	Infrastructure (Cloud)	Hosted on Streamlit Community Cloud for public access	Streamlit Cloud