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

Date	06 February 2026
Team ID	LTVIP2026TMIDS66199
Project Name	TransLingua: AI-Powered Multi-Language Translator
Maximum Marks	4 Marks

Technical Architecture:

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

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

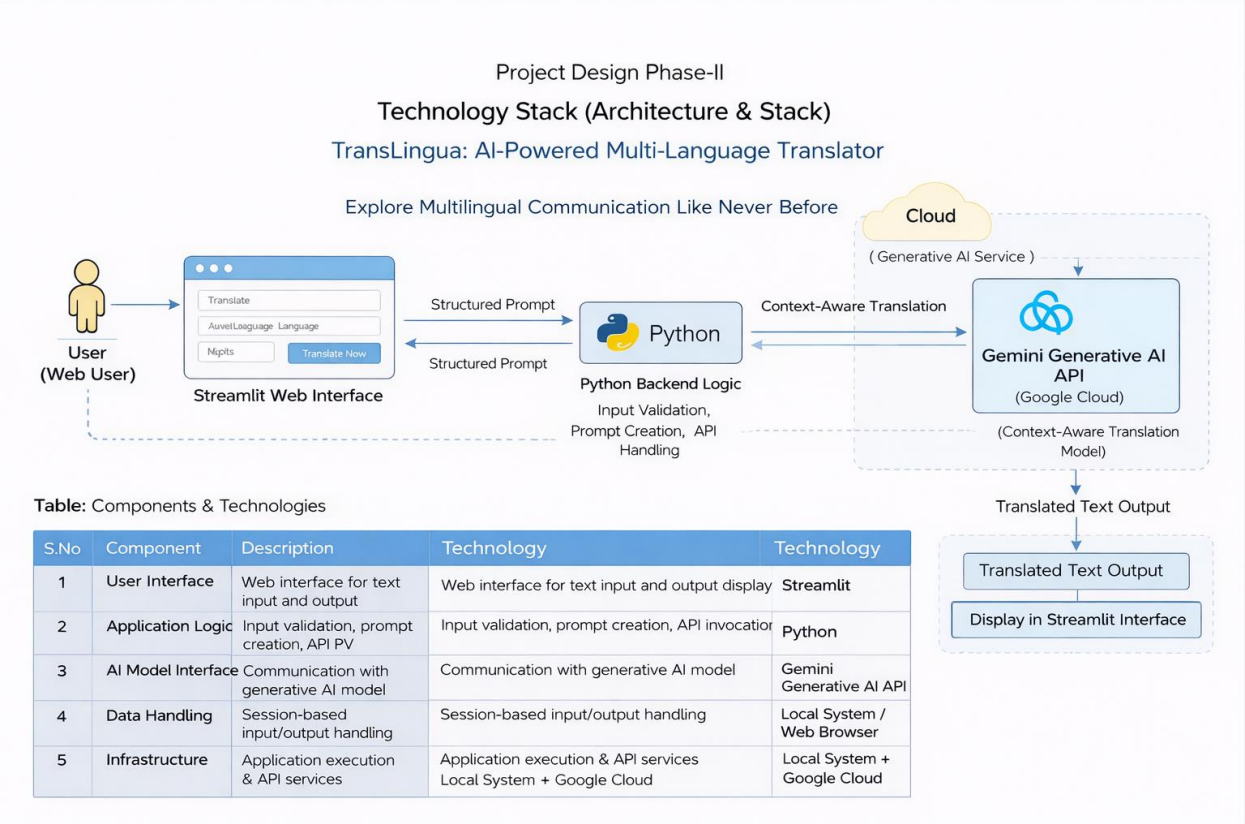

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Web interface for entering travel details and viewing results	Streamlit
2	Application Logic	Input validation, prompt creation, API invocation	Python

3	AI Model Interface	Communication with generative AI model	Google Generative AI API (Gemini)
4	Data Handling	Temporary session-based input data	Streamlit session handling
5	External API	Generative AI service for multiple language creation	Gemini Flash Model
6	Infrastructure	Application execution environment	Local System / Web Browser

Table-2: Application Characteristics:

S.No	Characteristic	Description	Technology
1	Open-Source Frameworks	Used for UI and backend development	Python, Streamlit
2	Security Implementations	API key protection and input validation	Secure API configuration, Input Validation
3	Scalable Architecture	Easily extendable to include new features	Modular Python Architecture
4	Availability	Accessible when application server is running	Streamlit Server
5	Performance	Real-time AI response generation	Optimized API call handling

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d