

## Project Design Phase Solution Architecture

Date	18 Feb 2026
Team ID	LTVIP2026TMIDS80588
Project Name	TransLingua: AI-Powered Multi-Language Translator
Maximum Marks	4 Marks

### Solution Architecture:

- **Goal:** To bridge the gap between foreign language accessibility and user productivity using the Gemini 3 Flash model.
- **Structure:** A 3-tier architecture consisting of a Streamlit Frontend, a Python Backend (SDK), and the Google Gemini API for processing.
- **Behavior:** The system accepts multimodal inputs (PDF/Image), extracts text using OCR, translates it while maintaining context, and returns a formatted document.
- **Specifications:** High-speed processing using "Flash" series models with an automated failover to Gemini 2.5 for reliability.

### Example - Solution Architecture Diagram:

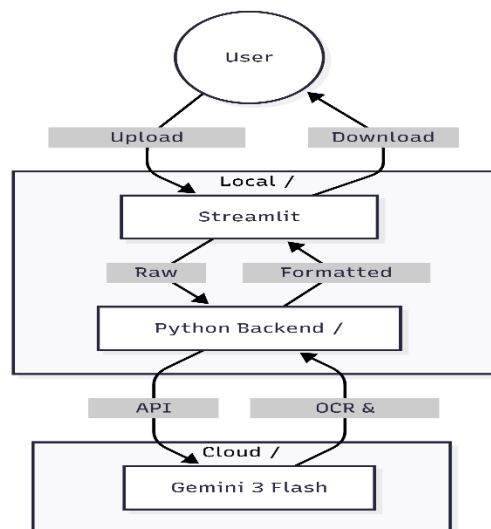


Figure 1: Architecture and data flow

Reference: <https://ai.google.dev/docs>

<https://docs.streamlit.io>

<https://c4model.com/>

<https://pypi.org/project/google-genai/>