Project Design Phase
Proposed Solution Template

Date	11 February 2026
Team ID	LTVIP2026TMIDS49772
Project Name	TransLingua: AI-Powered Multi-Language Translator
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Many students, professionals, and global users struggle to communicate effectively across different languages. Existing translation tools often provide literal translations, lack contextual understanding, and sometimes produce grammatically incorrect or unnatural outputs. There is a need for an AI-powered system that delivers accurate, context-aware, and fast translations through a simple and user-friendly interface..
2.	Idea / Solution description	TransLingua is an AI-powered web application that translates text between multiple languages using Google's Gemini 2.5 Flash model. Users enter text, select source and target languages, and receive context-aware translations instantly. The system constructs structured prompts and processes them via the Gemini API to generate accurate and natural-sounding translations through a clean Streamlit-based interface.
3.	Novelty / Uniqueness	Unlike traditional rule-based translators, TransLingua leverages advanced Generative AI to understand context, tone, and meaning rather than translating word-by-word. The system dynamically generates natural translations in real-time and provides a modern, responsive interface with secure API integration.
4.	Social Impact / Customer Satisfaction	The solution enhances global communication by enabling students, researchers, professionals, and travelers to translate content accurately and efficiently. It improves productivity, reduces misunderstandings, and builds confidence in multilingual communication. The simple interface makes advanced AI translation accessible to non-technical users.
5.	Business Model (Revenue Model)	The application can adopt a freemium model where basic translation is free, and advanced features (higher request limits, document translation, tone customization, enterprise API usage) are available through subscription plans. Revenue can also be generated through API licensing or enterprise integration.
6.	Scalability of the Solution	The application is cloud-deployable and uses a scalable generative AI API. It can handle multiple users simultaneously when deployed on cloud infrastructure.