Project Design Phase

Proposed Solution Template

Date	11 Feb 2026
Team ID	LTVIP2026TMIDS49957
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)	How might we automate and accelerate the process of translating text between multiple languages with high accuracy using artificial intelligence to support global communication? Existing manual translation methods and traditional tools are time-consuming, require skilled translators, and may lack consistency, leading to communication barriers, delays, and misinterpretation in multilingual environments.
2	Idea / Solution Description	Translingua offers an AI-powered web-based translation system that enables users to input text, automatically detect the source language, and translate it into the desired target language in real time. The system leverages neural machine translation models integrated through a Flask backend and a simple, user-friendly interface, providing fast and accurate multilingual translations.
3	Novelty / Uniqueness	Translingua combines automatic language detection with a transformer-based neural translation model in a lightweight, modular web application. The solution supports scalable language expansion and can function with minimal infrastructure, making it suitable for educational institutions, businesses, and individual users.

4	Social Impact / Customer Satisfaction	The system bridges language barriers, promotes inclusive communication, supports education and global collaboration, and enables users from diverse linguistic backgrounds to access information easily. By providing fast and accurate translations, it enhances user satisfaction and improves communication efficiency.
5	Business Model (Revenue Model)	The basic version is offered as a free or open-source tool for students and individual users. Advanced features such as cloud deployment, API access, enterprise integration, and high-volume translation services can be provided through subscription-based or licensing models.
6	Scalability of the Solution	Translingua is designed to scale from a local deployment to cloud-hosted services. The architecture supports the addition of new languages, improved translation models, and integration with third-party platforms, enabling future expansion and enterprise-level usage.