

# Software Requirements Specification (SRS)

## Language Translator Web Application (English to Hindi)

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### 1. Introduction

- Purpose: Define requirements for English to Hindi Language Translator Web Application.
- Model Used: Helsinki-NLP/opus-mt-en-hi.
- Backend: Python Flask.
- Deployment: Render Cloud Platform.

### 2. Overall Description

- The system translates English text to Hindi using a transformer-based NLP model.
- Architecture: Client -> Flask Server -> NLP Model -> Response.
- Users: General Users and Admin (optional).

### 3. Functional Requirements

- FR1: Accept English text input.
- FR2: Provide Translate button.
- FR3: Display Hindi translated output.
- FR4: Handle empty input errors.
- FR5: Load model at server startup.

### 4. Non-Functional Requirements

- Performance: Response time less than 5 seconds.
- Security: Input validation implemented.
- Usability: Simple and responsive UI.
- Reliability: Automatic restart on crash.

### 5. Deployment Requirements

- Include requirements.txt file.
- Include Procfile for Render deployment.
- Run using Gunicorn server.

## **6. Future Enhancements**

- Add Hindi to English translation.
- Add Speech-to-Text.
- Add Text-to-Speech.
- Add Multi-language support.