

Functional Prototype Product Requirements Document

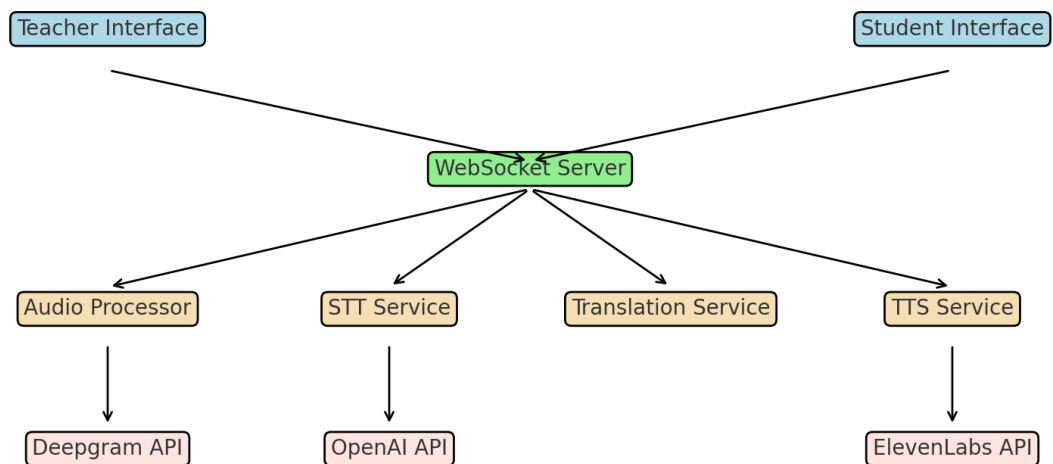
This updated version includes both the traditional STT -> Translation -> TTS pipeline and a new direct speech-to-speech translation approach using OpenAI's Realtime API.

New Section: Direct Speech-to-Speech Translation with OpenAI Realtime API

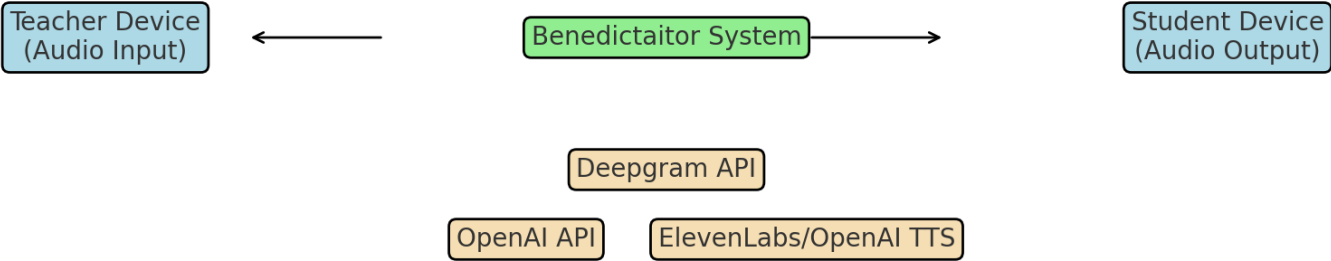
OpenAI's Realtime API enables direct audio-to-audio translation via streaming. This updated architecture provides:

- Reduced latency
- Improved prosody and natural speech
- Simpler system design

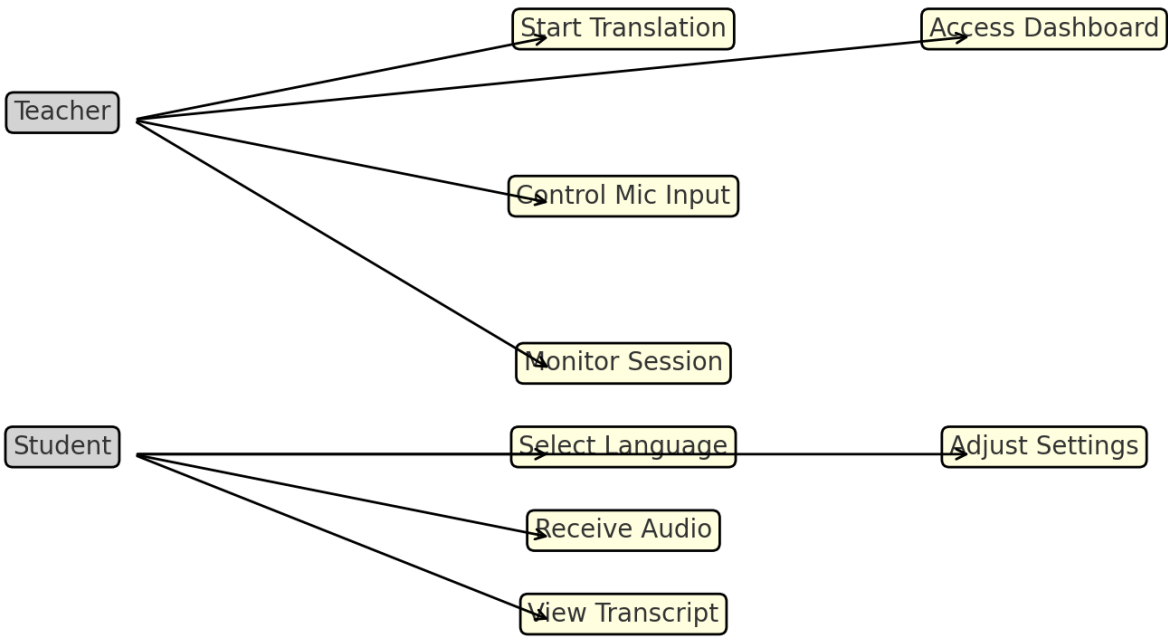
It replaces the traditional STT -> Translation -> TTS pipeline with a unified endpoint that handles all three stages internally.



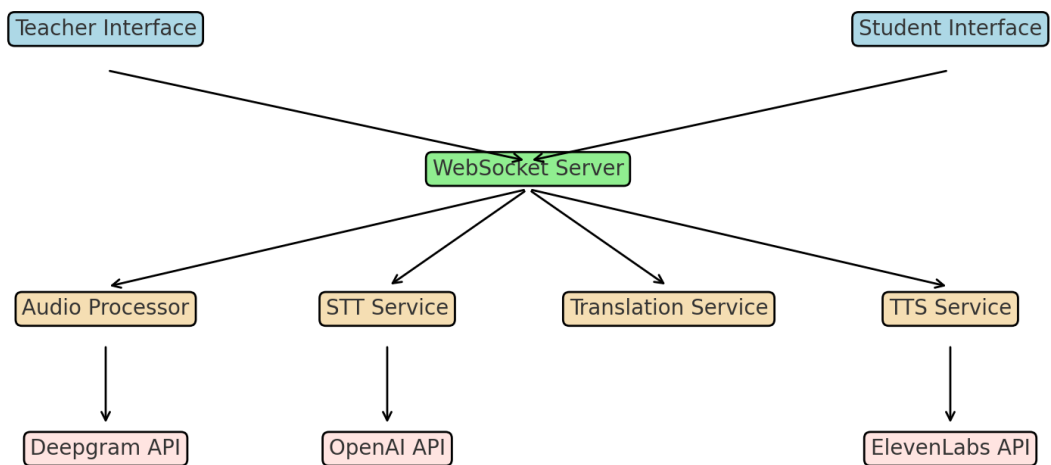
System Context Diagram



Use Case Diagram



Component Diagram



Sequence Diagram

