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