# AI For Accessibility

End to End Real Time Transcription & TTS

# Importance of Accessibility

6.1 percent of U.S. adults are deaf or have serious difficulty hearing. - CDC

23% percent of disabled respondents say they "never" go online - Pew Research

217 million people worldwide had moderate to severe vision impairment in 2015, with this number expected to rise to 588 million by 2050 - WHO

Web Content Accessibility Guidelines
Few platforms are compliant!
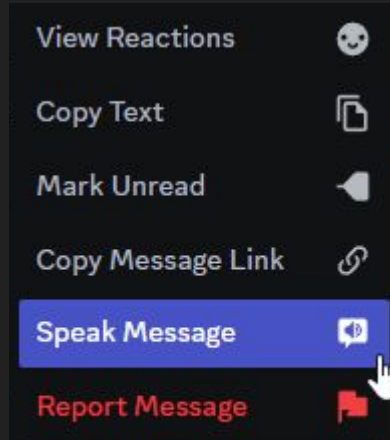
# Voice Accessibility

Voice Commands, Speech to text, etc.

Existing tools are built on decades old technology.

# Voice Accessibility Problems

Platforms like Discord, Teamspeak, & others have some accessibility tools, but there is no way to truly grant access to a group voice call for hearing or speech impaired users.

Regardless of tooling on platform, accessibility options do not provide the same level of usability.

# Our approach

# Multi-model applications

Using modern AI models, results and accuracy of voice related accessibility tools can be improved significantly.

With parallelism and asynchronous code, real time conversations can be both transcribed and synthesized back and forth between users.

Becoming an end to end solution, seamlessly integrating into your favorite VOIP platform.

# End to End solution

Leveraging API based models, our project delivers a real time voice substitute for our accessibility users.

A Whisper model runs real time transcriptions on everyone in the voice call, splitting transcription per speaker.
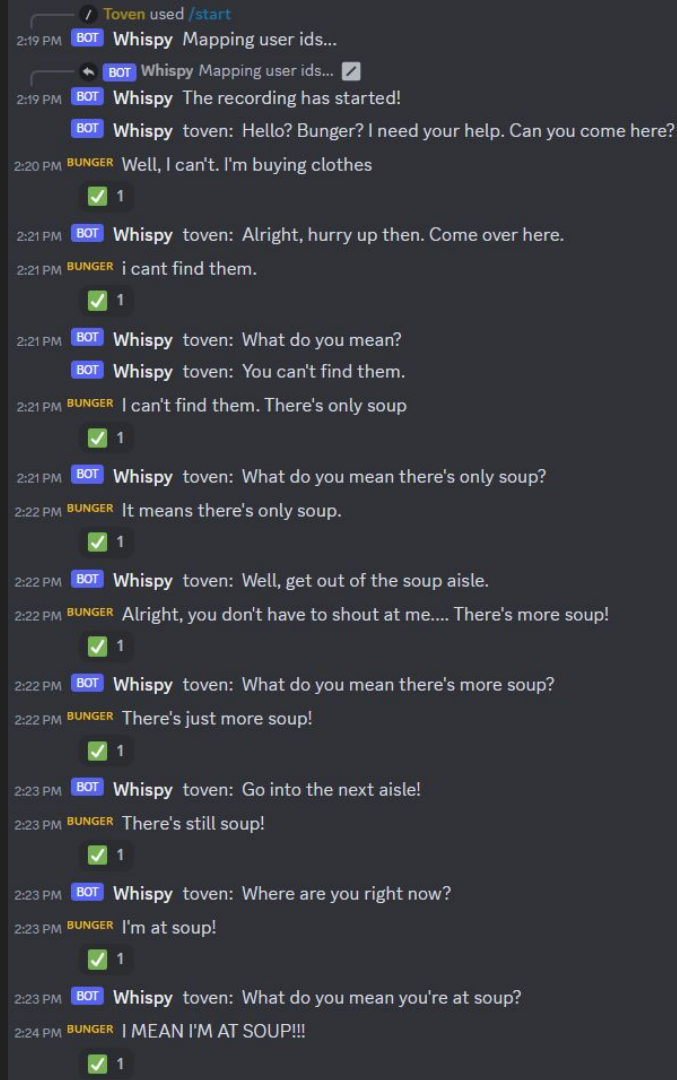
Elevenlab's API plays a user selected voice model Text to Speech of the user's message content.
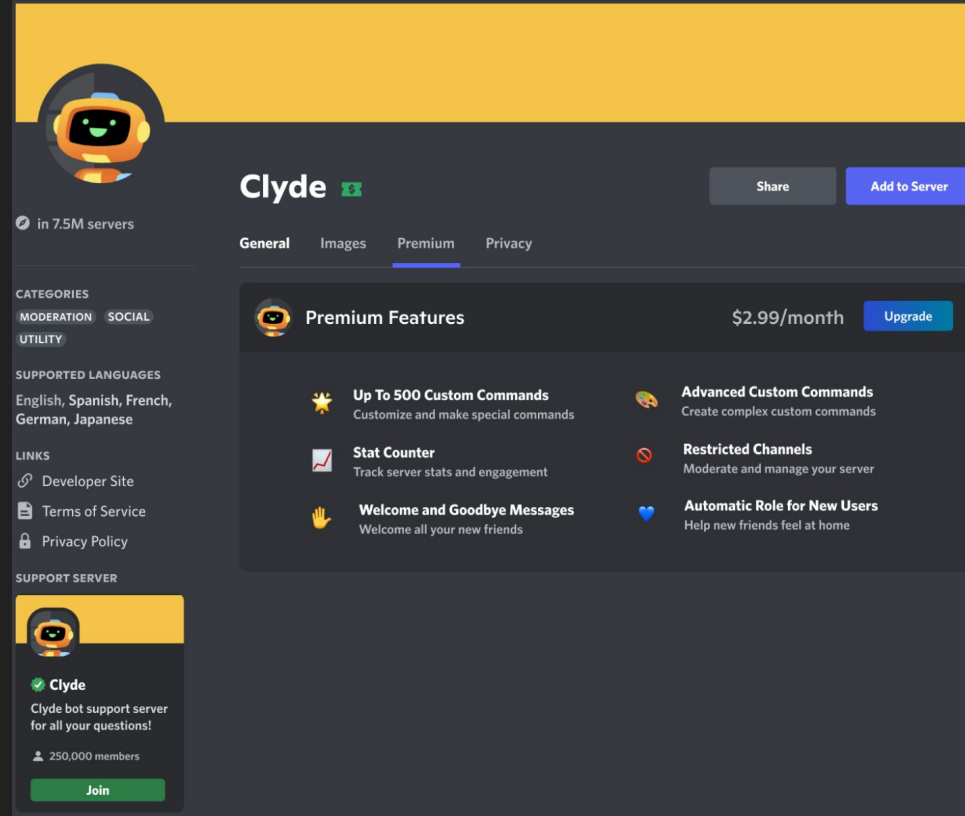
# Behind the scenes:

- Whisper model transcribes chunks from voice call audio stream

- Elevenlabs Toven instant voice clone synthesizes messages into speech

- Discord Text & Voice channels are used to output results of both models

- Seamless voice channel accessibility for users of any level of ability.

# Example Transcript + TTS Usage

# Pricing model

- Discord Premium Bot

- Future integrations into other platforms

- Additional offering as a standalone tool