EXECUTIVE SUMMARY:

multi-platform designed to break down communication barriers for individuals who cannot speak (mute individuals).
With the power of-the-art computer vision, deep learning, and intuitive user interfaces, it translates sign language gestures into real-time text (and optional speech), provides customizable animated GIF "phrase-cards" for quick expression, and offers a gamified sign-language learning module. With seamless integration into video-conferencing (via a Chrome extension), mobile/web apps, and smart-device ecosystems, our application empowers users to participate fully in personal, educational, and professional contexts.

IDEA:

Develop a cohesive ecosystem where non-verbal users can:

1. **Sign-to-Text in Live Calls**: Install a lightweight Chrome extension that captures hand gestures via webcam, converts them into text captions during video conferences (e.g., Google Meet), and supports multi-language translation.
2. **Animated Phrase-Cards**: Use a companion mobile or web app presenting animated GIF cards for common words/phrases. Tapping a card speaks the phrase via TTS and can be sequenced into custom sentences.
3. **Learning and Practice**: Access progressive, interactive sign-language lessons with real-time pose feedback, quizzes, and community challenges, all tracked through a gamified progress system.

PROBLEM:

- **Social Isolation**: Individuals who cannot speak often find themselves excluded from voice-centric digital meetings and everyday conversations.
- **Lack of Real-Time Sign Recognition**: Existing captioning systems and assistive apps do not translate live sign language gestures into text or speech.
- **Learning Accessibility**: There is a shortage of engaging, immediate-feedback tools for self-learning sign language, leading to slow progress and limited adoption.

SOLUTION & OBJECTIVES

Solution Features:

- **We provide a Chrome extension that captures sign-language gestures via webcam and displays real-time captions in video calls (e.g., Google Meet), with language auto-detection and confidence scoring.**

- **We deliver a companion mobile/web app featuring animated GIF "phrase-cards" for quick communication; cards can be sequenced to form custom sentences and played back via text-to-speech.**

- **We offer a gamified sign-language learning platform with progressive lessons, real-time pose-feedback, quizzes, and community challenges—accessible online or offline.**

Our Goals:

- **Enable individuals who cannot speak to participate fully in digital and in-person conversations by reducing communication breakdowns by 50% in user trials.**

- **Achieve ≥90% sign-recognition accuracy on a core vocabulary of 500 signs, with <200ms inference latency in the extension.**

- **Engage at least 1,000 users to complete one lesson and use the phrase-cards in real calls within three months of launch.**

- **Support two major sign languages (ASL, BSL) and offline operation at release, ensuring broad accessibility.**

REQUIREMENTS:

Term	Description
Silent Communicators	Individuals who cannot speak and rely on sign language for communication.

Sign-to-Text Engine	AI-driven model that processes webcam video to recognize and transcribe sign-language gestures into text.
Chrome Extension	Browser plugin that overlays live captions in video-conferencing platforms (e.g., Google Meet), with customization options.
Phrase-Cards	Animated GIF cards representing common signs; tappable to speak phrases via TTS and sequence into custom sentences.
Data Analytics Dashboard	Backend presenting usage heatmaps, lesson completion rates, and accuracy metrics for educators and caregivers.
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FEATURES:

Registration and Authentication

- User Registration: Allow users to create accounts using email or social media.
- Authentication: Secure login processes to protect user accounts.

User Profiles

- Create and update personal profiles, including preferred sign language (ASL, BSL), display name, and avatar.Student Portfolio: students can showcase their skills, past projects, and expertise

Live Caption Overlay:

Automatically capture webcam feed on Google Meet (and other platforms) to display real-time sign-language subtitles.

Clipboard & Keyboard Extension:

Convert typed text anywhere (chat apps, docs) into GIF-card sequences via a custom keyboard plugin customize keyboard for gif that we create

Ultimate model :

transcribe sign to what language he decide (he can open camera and make signs then he choose the language then the model convert it to talk)

Mobile App

Web App with Admin Dashboard

USED TECHNOLOGIES:

DESIGNS:

OUR PROGRESS:

GITHUB ORGANIZATION:

FEATURE PLAN: