

AI Powered Silent Communicator

Problem Statement

In noisy environments—such as factories, airports, train stations, and concerts—people often struggle to hear announcements, instructions, or critical alerts like sirens and fire alarms. For hearing-impaired individuals, this challenge is even greater, putting them at risk of missing critical information.

Challenges:

- **Missed Announcements** – Important messages, alerts, or instructions over loudspeakers go unnoticed in noisy settings or by hearing-impaired users.
- **Lack of Context Awareness** – Current systems cannot distinguish casual background speech from high-priority alerts.
- **Ineffective Notifications** – Transcribed speech is rarely highlighted or delivered in ways that demand instant attention.
- **Limited Accessibility** – Hearing-impaired users face complex transcriptions, with few simplified or translated versions.
- **Device Fragmentation** – Inconsistent delivery across phones, web apps, and wearables reduces reliability.
- **Language Barriers** – Regional language announcements are not universally understood.
- **Missed Recurring Information** – Repetitive alerts (e.g., train arrivals, school bells) are not predicted or automated.
- **Poor Wearable Integration** – Wearables aren't leveraged effectively for subtle but reliable alerts (e.g., vibrations, smart notifications).
- **Dashboard Customization** – Users can control which alerts and warnings appear, how they are displayed, and access analytic data for better monitoring.

Design an **AI-powered silent communication system** that:

- Captures and identifies high-priority announcements in real time.
- Translates, simplifies, and delivers them instantly across multiple devices (mobile, web, wearables) in a feasible way (Visual + Haptic).
- Ensures accessibility for hearing-impaired users and inclusivity across languages.
- Uses context-awareness to highlight urgent alerts while filtering out background noise.
- We encourage creativity —Bring in Your own ideas