



COMMUNISPECS

:~Smart glasses for the deaf and mute

PROBLEM STATEMENT:

"A pen is mightier than a sword", is a well-known quote that we use daily. One person who has perfectly personified this fact is Helen Keller. She was deaf and blind from a young age but she overcame her disabilities to become the best author who advocated for the rights of people with disabilities. There were no supporting technologies for the deaf and mute during that time still, many people like her have achieved great things. This fact sparked the idea of creating something exciting for the deaf and mute so that they can achieve even more without any hindrances. Our idea is to develop an application that can translate speech to text and actions or hand movements(sign language) to text for better communication. The inclusion of sensors for identifying whether there is a person who is talking to them from any other side helps them understand the world even better. Most interestingly all these are further integrated into a daily use device-Spectacles. The spectacles can play a dual role, that is they can act as power glasses for improved vision and also switch their application when there are external or self-vibrations like speech or sounds. This would be a revolutionary change in the era of technologies as we try to bring technology, comfort and efficiency all into a single device.

Model Design- how our model will look and work

Model Design- how our model will look and work*It is a spectacle with a thick frame where on the left template 4 buttons will be provided*all the sensors and speaker will be embedded in the left template along with a green responder which will blink on detection of an unknown voice or sound* 4 buttons have the following functionalities, the 1st button is for normal mode i.e. for normal vision(power lens or normal lens), and the 2nd button is for converter mode where the sound of maximum frequency can be obtained by subtracting all other frequencies (can be enabled on the glow of green responder), 3rd button is for converting hand gestures or sign language into speech for smooth communication and the 4th button is for recording familiar voices as per user where voice recognition is used *the green responder will only blink for voices un-recognized by voice recognition out of the recorded voices *All lenses, for normal vision as well as for displaying converted sound into a text message (involving a combination of lenses) will be attached to the rim*at the nose bridge a hand movement recognition sensor will be embedded

DEMO-Model

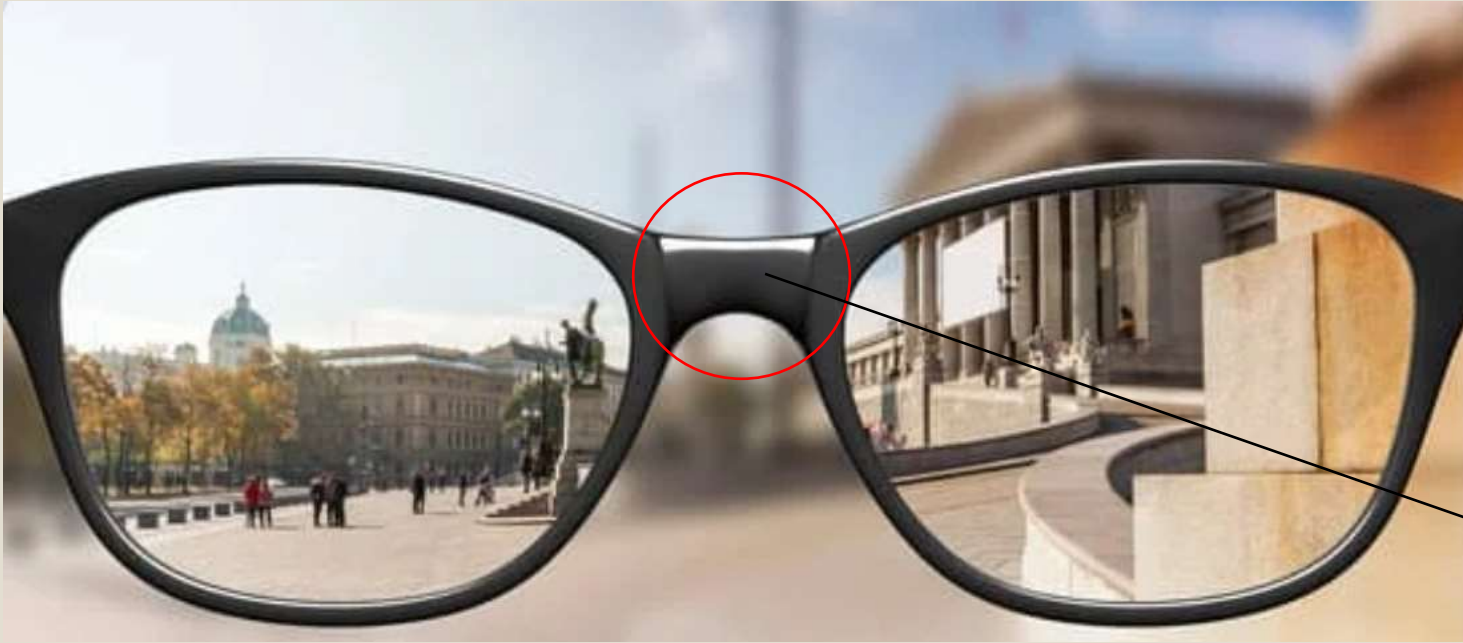




This device sense the sound

Integrating AI and machine learning (ML)
into a system that converts sound to text .

This text will be transfer to projector .



Compact projector
will be placed in
middle to display the
text of the sound
sensed

The displayed will be in text format



IMPACT OF SMART GLASSES ON SOCIETY

- These smart glasses can help in enhanced communication for deaf and mute individuals, with in-built technologies they can transcribe spoken words into text displayed on the lenses and also convert sign language into spoken words.
- These glasses can provide alert systems for emergencies in the form of visual text.
- In workplace environments, it can help deaf and mute people access equal opportunities as hearing individuals. Real-time transcriptions can enable deaf and mute individuals to fully participate in meetings.
- In educational settings, deaf and mute individuals can avail the support of real-time captions to interact better in the class.
- Overall, the usage of smart glasses can reduce the reliance on third parties for communication in a social setting, providing these individuals with a sense of independence. Hence, it also reduces the stigma and isolation faced by the deaf and mute community.

