Good afternoon sir ,

Read problem statment----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------how to start

According to the World Health Organization (WHO), over 5% of the world's population suffers from disabling hearing loss. Five percent may seem like a small number, but that totals **over 360 million** people across the globe.

**Born deaf---They may often never be able to speak because they have never heard normal sounds and speech**.

The project is aimed to break the barriers between deaf people and the rest of the world. The scopes for this project are as followed:

1. Converting text to speech and speech to text.

3. Provides real-time call to text.

4. Provides Subtitles for videos.

5. Convert text / audio to animated sign language Vice – versa**.**

This leads to the elimination of the middle person who generally acts as a medium of translation. This would contain a user-friendly environment for the user by providing speech/text output for a sign gesture input. The product is supposed to work as a mobile application as it can be accessible with user anywhere.

Converting text to speech and speech to text, Provides real-time call to text. ,Provides Subtitles for videos.

**Explain how we are going to do this.. :**

1. **Text-To-Speech:**

Basically we are using android studio for making this . Here android studio introduces one **<Edittext>** for writing the text and **onClick speak** method for converting that particular text into speech form.

1. **Speech-To-Text:**

For **Speech to text** we have different api’s but we are using android studio so it has

Its own API which is nothing but **“package Android” .** It helps for taking the Audio input and convert it into text form. Before converting we have to take the permission from android for record audio after that we are going to use and text window with help of XML.

**Technology Related**: So here we are using two different lanagaues i.e XML and JAVA . In case frontend XML is preferable for designing the front side.

And backend langauge is java and this can implemented in android studio.

Which is nothing but a platform we are going to use.

Which API you are going to use:

In present we have different API are available like (Voice maker for text to speech),( Google cloud speech API for speech to text conversion) but our platform is android studio so it has its own API’s i.e. text-To-Speech TTs API is available and for speech to text android studio has its own API called “**Package Android”.**

Sign language recognizationvice versa:

Recognition of hand gestures and motions is based computer vision and image processing techniques.

The main objective is to translate sign language to text/speech and vice versa. The framework provides a helping-hand for deaf to communicate with the rest of the world using sign language.

An animated character that will be used to interact with deaf.

The avatar will be based on animated motions for each alphabet and word. The translation and capturing of sign language is based on trained machine learning model.

1. We can give audio or text as input.
2. Then we convert audio to text using the Google Speech API.
3. Presently utilizing NLP i.e Natural language processing we breakdown the text into smaller, simpler and understandable text.
4. We have a reliance parser for analyzing the grammatical structure of the sentence and building up the connection between words.
5. By utilizing some AI we can prepare a model and now we have data sets of predefined sign language and ISL Generator can input sentences using ISL grammar rules.
6. By using AI we can display the converted audio into the sign.
7. Finally, we converted audio into Sign language.

It is toally depend on how effectively we train model according to that we get result.

**Product perspective;**

The target product is a development of previous related products for the same problem. Other sign language translator applications only translate text character by character to its analogous hand gesture and motion. Other products translate text by displaying for deaf person a sequence of images or short video clip. Other available products are only translation from text/speech to sign language and do not the reverse. Most. One of available products uses gloves which attempt to convert the motions of a sign language into written or spoken words, but this is unpractical.

Our proposed product is a combination thinks and also machine learning based service that dynamically translates English language to Indian Sign Language and vice versa.

**Case usage:**

There are many possible situations where our project is used.

Depending on usage, the situation may give arise to projects that range from small to big ideas. Examples of these situations are:

A deaf student who cannot attend a course, or any learning session because his/her disability of hearing.

• Teaching sign language to concerned people.

• Enabling a deaf to communicate with the other people easily without intermediate human translator.

• A corporation may need sign language translation for dealing with deaf people.

• TV programs need the translation from normal language to sign language.

• Deaf person wants to converse with his family members or friends.

End:

This is how where we can remove the barrairs coming in the communication.**It is our little approach in the favor of Government UNCRPD Act as we have to see persons not their disability** .