Idea/Approach Details

Technology Bucket : Software - Mobile App development   **Category: Software**

Company Name: VMware Software India Pvt   **Problem Code : SV1**

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Description Of The Idea

- Realtime communication with speech and hearing impaired person and common people is always challenging.

- Hence we have come up with a mobile application with following salient features:
  - ➤ Provides a model to show the sign language.
  - ➤ Taking input in the form of text or speech in English or in other Indian languages and show that in sign language.
  - ➤ Able to run in offline mode as well for real-time translation from multiple Indian languages and English to sign language.
  - ➤ Videographing the speech and hearing impaired people's action and detecting the sign language performed by them using CNN and tensorboard techniques. Thus enabling two communication.

- Other special features :
  - ➤ Provision of special portal to chat with others, where each text or speech can be shown in sign languages.
  - ➤ Provides call recording feature and converts the recorded audio clip into sign language so that call can be made from even without this app.
  - ➤ Provides feature of learning sign language of the available spoken languages.
  - ➤ Dedicated sign language dictionary will be available.
  - ➤ Sends notification to the user as each word is updated to the app.
  - ➤ Predict the next words in chat box using machine learning for ease of use.

Technology stack:

- ❖ **Android Studio** – Client Side
- ❖ **Fire Base** – Server Side

- ❖ **Tensor-flow -** Machine learning
- ❖ **Google keras** -Machine learning

Use case

Primary actors:

1. Normal People

2. Speech and hearing impaired people

Secondary actors:

Admin.

Preconditions :

Speech and hearing impaired people should be aware about sign language.

Showstoppers:

❑ Unstable Internet Connection(while chatting).

❑ Occasional slow server response(while chatting).

❑ Unable to detect informal sign language.

Requirements :

Data base about the sign language in different languages.

Talking finger

user

Admin

Login

Signup

Verify password

Enter word or a line.

chat with others

shows in sign language

Dictionary

Adds new word to the dictionary

notification on adding new words

profile and support