

**Project Design Phase-II**  
**Functional Requirement Template**

Date	14 October 2022
Team ID	PNT2022TMID15704
Project Name	Project – Real -Time Communication System Powered By AI For Specially Abled
Maximum Marks	2 Marks

## **Functional Requirements:**

- Here , **Desktop along with Camera is presented as black box.**
- Deaf/Dumb is the person, who will **show different signs based on the type of information being conveyed.**
- **Normal Person is the passive user** of the desktop.

The **System requirements** that are required are specified below,

- Deaf/Dumb person should be able to **perform a sign that represents digit/number.**
- Deaf/Dumb person should be able to **perform a sign that represents a character.**
- Deaf/Dumb person should be able to **perform a sign , where group of characters forms a word.**
- Deaf/Dumb person should be able to **perform a sign, where group of words forms a sentence.**
- Especially Deaf person should be able to **see the translation of sign to text format.**
- Dumb person should be able to **understand the conversion of text into voice mode.**
- **Normal user should be able to understand the corresponding information conveyed by disabled through sign language.**

### **Default Operation:**

- User of the app **faces the camera and perform the concerned hand sign to convey information.**
- System/Desktop **analyses the sign made by the user.**
- Once analysis gets finished, then the **concerned signs together are shown as a text based and also through voice.**

## Unexpected Operations:

- Desktop indicates that user's hand sign is not within the frame or in Region of Interest( ROI).
  1. User of the app **show the hand sign towards the camera.**
  2. Desktop shows that **sign is not within ROI.**
  3. Still User , make sure to present his/her sign within frame.
  4. At last, **Desktop finally detect the hand sign.**
- Signs are not recognized
  1. Excepts the signs that are trained and included in the dataset, the Desktop will never detect the sign rather than this.
  2. User Performs the sign and see that after 50ms, **the concerned letter occupy in the space of text.**
- **Speech/Voice assistant is implemented**

Speech assistant is to be implemented in order to **convert the output text into voice .**