Project Design Phase-II Functional Requirement Template

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| 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 .**