

Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID24857
Project Name	Project - Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In our society, we have people with disabilities. The technology is developing day by day but no significant developments are undertaken for the betterment of these people. Communications between deaf-mute and a normal person has always been a challenging task. It is very difficult for mute people to convey their message to normal people. Since normal people are not trained on hand sign language. In emergency times conveying their message is very difficult. The human hand has remained a popular choice to convey information in situations where other forms like speech cannot be used. Voice Conversion System with Hand Gesture Recognition and translation will be very useful to have a proper conversation between a normal person and an impaired person in any language.
2.	Idea / Solution description	The project aims to develop a system that converts the sign language into a human hearing voice in the desired language to convey a message to normal people, as well as convert speech into understandable sign language for the deaf and dumb. We are making use of a convolution neural network to create a model that is trained on different hand gestures. An app is built which uses this model. This app enables deaf and dumb people to convey their information using signs which get converted to human-understandable language and speech is given as output.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">• Facial Emotion Detection• Language customization• User-friendly interface.• Greater accuracy.
4.	Social Impact / Customer Satisfaction	The proposed solution is keen on providing a friendly user interface and user experience. User Interface (UI) is aimed to be developed in such a that way that it can be very handy and easy to learn. The system is also aimed to be light weight which would make the system provide faster and accurate results and hence it provides a better User Experience (UX).

5.	Business Model (Revenue Model)	The proposed solutions help to ease the communication between deaf and dumb people and normal people. The customization and emotion detection feature can make it lot more reliable. Hence, the solution has wide usability and requirement.
6.	Scalability of the Solution	This proposed solution is highly extensible in terms of the features that is been offered by the system. It can be seen as a highly improvised and light weight model when compared to the existing systems. The system can further be scaled in such a way that enables tasks being assigned and completed in system through gestures.