Project Design Phase-I
Proposed Solution

Date	19 September 2022
Team ID	PNT2022TMID00615
Project Name	Project –Real time communication using AI for specially abled
Maximum Marks	2 Marks

Proposed Solution :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Nearly everyone faces hardships and difficulties at one time or another. But for people with disabilities, barriers can be more frequent and have greater impact. Effective communication should be clear, concise, and meet the needs of all persons involved. Augmentative communication techniques, for example, can ensure the process is open, two-way and inclusive, as well as being sensitive to the needs of the person. Communication styles vary among individuals with an intellectual disability. Some may have verbal language, some sign language and others use non-verbal communication styles such as gestures, vocalisations or even eye movements. However, overall communication can pose challenges for you as a health care professional and the person with the intellectual disability. 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.
2.	Idea / Solution description	The project helps the deaf and dumb person to communicate with the rest of the world using sign language. It 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. Deaf and Dumb people rely on sign language interpreters for communications. A real time Sign Language Recognition system was designed and implemented to recognize 26 gestures from the Indian Sign Language by hand gesture recognition system for text generation. The signs are captured by using web cam.

		Hand gesture recognition technology made based on image processing and computer vision. Computer vision is a system in image processing that obtained an image from electronic cameras and similar to human vision systems where the brain processes images from the eye. To enhance raw image from camera so we can improve the pictorial information .
		The technology that will be developed to help speech impaired, deaf and normal people to communicate is a technology that applies computer vision, namely hand recognition using the CNN algorithm. 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	This software provides an enhanced facility of understanding the sign language, Though there are several software's for specially abled to overcome their difficulties, This software is specially designed for the people to understand the sign language so that they can do the needful for the disabled people in case of emergency.
4.	Social Impact / Customer Satisfaction	Social exclusion as a result of disability means a lack of belonging in a given social context. A person with disability may face limitations in interacting with colleagues at work, fellow students and also family members. This may be as a result of his pushing these people away or from the stereotypes and societal attitudes toward disability. The impact of exclusion is that a person with disability may lack social support and social skills, such as communication, to cope with the disability. The importance of accessibility to information and communication in enabling people with disabilities to fully enjoy all human rights and fundamental freedoms is acknowledged by the convention on the rights of persons with disabilities (CRPD). Using this application we paved a way for the deaf person who can easily interact with normal person anywhere. It enables deaf and dumb people to convey their information using signs which get converted to human-understandable language and speech is given as output.

5.	Business Model (Revenue Model)	The financial benefits of this project includes few methodology, such as , opportunity for risk sharing, extending the debt capacity, the release of free cash flow and maintaining a competitive advantage in a competitive market, this project provides an enhanced facility of making things more easier, effective and efficient.
6.	Scalability of the Solution	The scalability of solution deals with the functional requirements and it's impact to the society, The scalability of this project depends on the performance and cost in response to changes in application and system processing demands.