

Project Design Phase-I Proposed Solution Template

Date	21 October 2022
Team ID	PNT2022TMID39159
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.

SNo	Parameter	Description
1.	Problem Statement (Problem to be solved)	To provide an Efficient communication app which translates the hand signs into text and voice mode for deaf and dumb people.
2.	Idea / Solution description	<ul style="list-style-type: none"> Convolution Neural Networks are to be used to take hand sign as an input to extract edges, corners. Dataset is used for training CNN. One dataset for hand detection and the other for gesture detection. Voice assistant is implemented that take input as speech patterns and convert the text into voice.
3.	Novelty / Uniqueness	We have number of symbols to be trained for our project and many of them look similar to each other like the gesture for symbol 'V' and digit '2'. To produce better accuracies, we keep the background of hand a stable single colour, so that we don't need to segment it on basis of skin colour.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> AI enables people with disabilities to lead an independent life with this app. Supporting them in activities of daily living It changes the mind set of the disabled, that even they can too be involved in a common conversation like others.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> Faster and efficient, the concerned text or voice as output is produced, the more it leads to optimize the app with new advancements. The productivity is gained and at the same time, leads to improved speed of business.
6.	Scalability of the Solution	<p>A convolutional neural network can be scaled in three dimensions: <i>depth</i>, <i>width</i>, <i>resolution</i>.</p> <ul style="list-style-type: none"> Depth of the network corresponds to the number of layers in a network. Width is associated with the number of neurons in a layer. Resolution is the image resolution that is being passed to CNN. <p>Increasing the depth, by stacking more convolutional layers, allows the network to learn more complex features.</p>

