**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 23 September 2022 |
| Team ID | PNT2022TMID09766 |
| 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.

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| **S.No** | **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 | * **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 | * 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) | * 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 | A convolutional neural network can be scaled in three dimensions: *depth, width, resolution*.   * **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.   **Increasing the depth**, by stacking more convolutional layers, allows the network to learn **more complex features**. |