**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID20889 |
| Project Name | Project – A Novel Method for Handwritten Digit Recognition System |
| 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** |
|  | Problem Statement (Problem to be solved) | Handwritten digit recognition is one of the compelling research works going on because every individual in this world has their own style of writing. It is the capability of computer applications to recognize the human handwritten digits. With the progress in the field of science and technology, everything is being digitized to reduce the human effort. Here, it comes the need of handwritten digit recognition in real time applications. |
|  | Idea / Solution description | We need to create a model that will be able to recognize and determine the handwritten digits from its image by using the concepts of Convolution Neural Network (CNN). MNIST is a dataset which is widely used for handwritten digit recognition. The dataset consists of 60,000 training images and 10,000 test images. |
|  | Novelty / Uniqueness | Uses advanced digital techniques compared to conventional techniques is high. It accurately recognise the digits rather than recognising all the characters like OCR. |
|  | Social Impact / Customer Satisfaction | It has impact on physically impaired people and helps them in terms of safety. There are many benefits associated with handwritten digit recognition system. Example: Reading postal addresses and reading forms. As a result, this system fulfils the customer expectations as it is novel method for recognising handwritten digits. |
|  | Business Model (Revenue Model) | This system can be integrated with traffic surveillance cameras to recognise the vehicle’s number plates for effective traffic management. It is used in cybersecurity applications and it can also be used for blind people by using sound output. |
|  | Scalability of the Solution | Ability to recognise the digits in more noisy environments. There is no limit in the number of digits it can be recognised. |