PROJECT DESIGN PHASE -1

PROPOSED SOLUTION TEMPLATE

DATE	24 September 2022
TEAM ID	PNT2022TMID35898
PROJECT NAME	A Novel Method for Handwritten Digit Recognition System
MAXIMUM MARKS	2 Marks

Proposed Solution:

S.NO	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Statement:** The handwritten digit recognition is the capability of computer applications to recognize the human handwritten digits. **Description:** It is a challenging task for the machine because handwritten digits are not perfect and can be made with many different shapes and sizes.
2.	Idea / Solution description	1. It is the capability of a computer to fete the mortal handwritten integers from various sources like images, papers, fetch defenses. 2. It allows the user to translate all those signatures and notes into electronic words in a text document format and this data only requires far less physical space than the storage of the physical copies. 3. Build a machine learning model using neural networks and CNN that captures similar patterns from image dataset.

3.	Novelty / Uniqueness	1. Accurately recognize the digits rather than recognizing all the characters like OCR. 2. GAN layers can be used for better accuracy in the handwritten digit recognition system. Normalization can be used for better efficiency.
4.	Social Impact / Customer Satisfaction	1. Artificial Intelligence developed the app called Handwritten digit Recognizer. 2. It converts the written word into digital approximations and utilizes complex algorithms to identify characters before churning out a digital approximation. 3. Old people who have eye sight issues with handwritten digits can use this system to recognize the handwritten digits correctly.
5.	Business Model (Revenue Model)	1. This system can be integrated with traffic surveillance cameras to recognize the vehicle's number plates for effective traffic management. 2. Can be integrated with Postal system to identify and recognize the pin-code details easily. 3. In banking sectors handwritten numbers are involved like account numbers, figures of cash and checks. By this system we can avoid human mistakes.
6.	Scalability of the Solution	1. Ability to recognize digits in more noisy environments. 2. There is no limit to the number of digits it can be recognized.