Project Design Phase-I
Proposed Solution Template

Date	29 October 2022
Team ID	PNT2022TMID21423
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.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	It is a hard task for the machine because handwritten digits are not perfect and can be made with many different shapes and sizes.
2.	Idea / Solution description	The handwritten digit recognition system is a way to tackle this problem which uses the image of a digit and recognizes the digit present in the image. Convolutional Neural Network model created using PyTorch library over the MNIST dataset to recognize handwritten digits .
3.	Novelty / Uniqueness	Number recognition has numerous operations like number plate recognition, postal correspondence sorting, bank check processing, etc . In Handwritten number recognition, we face numerous challenges . because of different styles of jotting of different peoples as it is not an optical character recognition. This exploration provides a comprehensive comparison between different machine literacy and deep literacy algorithms for the purpose of handwritten number recognition.
4.	Social Impact / Customer Satisfaction	Handwriting recognition helps to transform the writings in the papers to a text document format which can also be said as readable electronic format. By this way, historical facts can be stored, reviewed and shared easily too many people. Lastly, the advantage is textual studies.
5.	Business Model (Revenue Model)	The global Handwriting Recognition (HWR) market was valued at over 1,340.37 million in 2020 and is expected to generate a cumulative growth opportunity valued at over USD 4,291.27 million during the forecast period. The

		global Handwriting Recognition (HWR) industry is expected to post a lucrative CAGR of over 16.97%.
6.	Scalability of the Solution	Today, OCR technology provides higher than 99% accuracy with typed characters in high-quality images. However, the diversity in human writing types, spacing differences, and irregularities of handwriting causes less accurate character recognition, as you can see in the featured image. Thus, tools that read handwriting cannot provide the same degree of accuracy that OCR systems offer on typed characters. But, our model improves its accuracy by introducing highly sophisticated algorithms designed to solve this problem.