Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	22 October 2022
Team ID	PNT2022TMID18280
Project Name	A Novel Method for Handwritten Digit Recognition
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement	Sub Requirement (Story / Sub-Task)
1	Input image	Input images must be given by the user. The inputs are handwritten digits from 0 to 9. The model classifies them and convert them into digitalized form
2	Algorithm	Convolution Neural Network using keras is being used to implement handwritten digit recognition
3	Website	We are going to build a GUI in which you can draw the digit and recognize it straight away
4	Dataset	The MNIST dataset is an acronym that stands for the Modified National Institute of Standards and Technology dataset. It is a dataset of 60,000 small square 28×28 pixel grayscale images of handwritten single digits between 0 and 9
5	Cloud	The cloud allows employees to access files on any device. Cloud services are a good option for anyone looking to train and deploy memory-intensive, complex Machine Learning/Deep Learning models. Cloud services provides cost-effective solution

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
1	Usability	It is user-friendly and can be used by users of all skill levels. It is used in the identification of car numbers, reading of checks at banks and post offices, and the addressing of letters

2	Security	Authentication can be used to verify the user
3	Accuracy	Diversity in human writing types, spacing differences, and irregularities of handwriting causes variation in accuracy
4	Performance	Performance metric is accuracy. Instantaneous recognition of the handwritten digits is also a metric
5	Availability	The website will be made public for everyone touse.
6	Scalability	In future, accuracy can be enhanced further and all the handwritten digits by the users can be stored and updated automatically in the dataset