

PROJECT DESIGN PHASE-II
FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS

Team ID	PNT2022TMID09375
Project Name	A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Functional Requirements:

FR No:	Functional Requirement and description
FR-1	Image Data: Handwritten digit recognition is one of the problem statement that is of boundless-research in the field of deep learning. Handwritten digit recognition is the ability of a computer to recognize the human handwritten digits from different sources like images, papers, touch screens, etc, and classify them into 10 predefined classes (0-9).
FR-2	Website: Web hosting makes the files that comprise a website (code, images, etc.) available for viewing online. Every website you've ever visited is hosted on a server. The amount of space allocated on a server to a website depends on the type of hosting. The main types of hosting are shared, dedicated, VPS and reseller.
FR-3	Digit_Classifier_Model: Use the MNIST database of handwritten digits to train a Network such as convolutional neural network to predict the digit given an image. To obtain the training and validation data.
FR-4	MNIST dataset: The MNIST dataset is an acronym that stands for the Modified National Institute of Standards and Technology dataset.

FR-5	Databases, software, virtual storage, and networking, among others. Cloud Computing is defined as a virtual platform that allows you to store and access your data over the internet without any limitations.
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Non-functional Requirements:

NFR No.	Non-Functional Requirement
NFR-1	Usability: One of the practically important issues in pattern recognition applications is Handwritten character recognition. The applications of digit recognition include postal mail sorting, bank check processing, form data entry, etc.
NFR-2	Reliability: 1) We extend our System to provide rich description of the instantiation parameters which can yield information such as the writing style in addition to classification of a digit 2) The generative models can perform recognition driven segmentation.
NFR-3	Performance: The neural network automatically infer rules for recognizing handwritten digits using the examples. By increasing the number of training examples, the network can learn more about handwriting, and so improve its accuracy. There are a number of ways and algorithms to recognize handwritten digits, including Deep Learning/CNN, SVM,

	Gaussian Naive Bayes, KNN, Decision Trees, Random Forests, etc.
NFR-4	Accuracy: Optical Character Recognition (OCR) technology provides higher than 99% accuracy with typed characters in high quality images. The diversity in human writing types, spacing differences, and irregularities of handwriting causes less accurate character recognition.