

PROJECT DESIGN PHASE-II

Solution Requirements(Functional &Non-functional)

Date	22.10.2022
Team ID	PNT2022TMID33236
Project Name	A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR NO	Functional Requirement(Epic)	Sub Requirment(story/sub-task)
FR-1	User Registration	Registration through Google or any registered mails
FR-2	User Confirmation	❖ Confirmation via email ❖ Confirmation via OTP
FR-3	Image data	Handwritten digit recognition is the ability of a computer to recognize the human handwritten digits from different sources like images, papers, touch screens, etc
FR-4	Website	Web hosting makes the code, graphics, and other items that make up a website accessible online. A server hosts every website you've ever visited
FR-5	Digit Classifier Model	To train a convolutional network to predict the digit from an image, use the MNIST database of handwritten digits. get the training and validation data first.
FR-6	MNIST Dataset	It is a collection of 60,000 tiny square grayscale photographs, each measuring 28 by 28, comprising handwritten single digits between 0 and 9 that allows you to store and access your data over the internet without any limitations

NON-Functional Requirements:

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

NFR NO.	NON-Functional Requirements	Description
NFR-1	Usability	One of the very significant problems in pattern recognition applications is the recognition of handwritten characters. Applications for digit recognition include filling out forms, processing bank checks, and sorting mail.
NFR-2	Reliability	The system not only produces a classification of the digit but also a rich description of the instantiation parameters which can yield information such as the writing style.
NFR-3	Performance	The neural network uses the examples to automatically infer rules for recognizing handwritten digits.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. However, the diversity in human writing types, spacing differences, and irregularities of handwriting causes less accurate character recognition.