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

Date	19 November 2022
Team ID	PNT2022TMID45883
Project Name	Project - 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 Requirement (Story / Sub-Task)
FR-1	Pre-processing	The role of the pre-processing step is it performs various tasks on the input image. It basically upgrades the image by making it reasonable for segmentation.
FR-2	Segmentation	In this step an edge detection technique is being used for segmentation of dataset images.
FR-3	Feature Extraction	In the feature extraction stage redundancy from the data is removed.
FR-4	Classification and Recognition	feature vectors are taken as an individual input to each of the classifiers

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Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The usability of this Handwritten digit recognition system is to identify and understand hand written digits or characters automatically.
NFR-2	**Security**	The security will be high because since the handwritings has been recognized one cannot upload copy of others document
NFR-3	**Reliability**	The MNIST data set is widly used for this recognition process and it has 70000 handwritten digits.since it is reliable
NFR-4	**Performance**	The performance of this web application is high because we use Artificial neural networks to train these images and build a deep learning model.
NFR-5	**Availability**	Since it is web application one can use it easily and the availability is good ,can be used in laptop, mobile, desktop etc

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NFR-6	**Scalability**	Even though the count of handwritings increased it wont be slow because we are using MNIST data set as it used for recognition process and it has 70000 handwritten digits, so it is very scalable.

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