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

Date	19 October 2022
Team ID	PNT2022TMID26041
Project Name	Project – A Novel Method for Hand Written 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	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Input data	The system process the input given by the user only if it is an image file (JPG, PNG..,). System should detect and retrieve characters present in the image and display them in the user
FR-4	Reporting errors	System shall show the error message to the user when the input given is not in the required format.
FR-5	Data Pre-processing	Performing some normalization and pre-processing in the given input.
FR-6	Classification	The feature extraction method trained on training images dataset of MNIST and then tested on test dataset of MNIST dataset.
FR-7	Accuracy	In his experiments with the MNIST dataset, the deep neural network model provided 99.53% accuracy rate, the convolutional neural network model provided 99.88% accuracy rate, and the iterative neural network model provided 99.05% accuracy rate**.**

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	A handwriting recognition system handles formatting, performs correct segmentation into characters, and finds the most plausible words.
NFR-2	**Security**	This system assures all data inside the system or its part will be protected against malware attacks or unauthorized access.
NFR-3	**Reliability**	Reliability is the extent to which the software system consistently performs the specified functions without failure.
NFR-4	**Performance**	It essentially specifies how the system should behave and that it is a constraint upon the systems behaviour.
NFR-5	**Availability**	It describes how likely the system is accessible to a user at a given point in time. While it can be expressed as an expected percentage of successful requests, you may also define it as a percentage of time the system is accessible for operation during some time period.
NFR-6	**Scalability**	Scalability is the capability of a Handwritten recognition system is to handle an enhanced level of operations without constraints or structural bottlenecks.