

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

Date	08 October 2022
Team ID	PNT2022TMID24119
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	Website	The code, graphics, and other components of a website are made available online through web hosting. Every website you've ever visited is on a server. The amount of space a website has on a server is determined by the type of hosting.
FR-2	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-3	User Confirmation	Confirmation via Email Confirmation via OTP
FR-4	Digit Classifier Model	Packages - tensorflow
FR-5	MNIST Dataset	MNIST is a handwritten digits dataset which can be used for training various image processing systems. It has 60,000 training and 10,000 testing examples.

**Non-functional Requirements:**

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

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Users should be able to understand and use the system easily. In addition, it ought to be simple for users of all skill levels to navigate.
NFR-2	<b>Security</b>	All users should be able to use their individual usernames and passwords to sign in to the system on their own.
NFR-3	<b>Reliability</b>	The samples are used by the neural network to automatically deduce rules for reading handwritten digits. Furthermore, the network may learn more about handwriting and hence enhance its accuracy by increasing the quantity of training instances. Numerous techniques and algorithms, such as Deep Learning/CNN, SVM, Gaussian Naive Bayes, KNN, Decision Trees, Random Forests, etc., can be used to recognise handwritten numbers.

NFR-4	<b>Performance</b>	The delay in providing the information when hundreds of requests are given should be minimum.
NFR-5	<b>Availability</b>	Access to information is restricted to each user.
NFR-6	<b>Scalability</b>	Ten thousand concurrent site visitors should be manageable for the system.