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

Date	03October 2022
Team ID	PNT2022TMID46416
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	❖ A Website is created where the user can login into their workspace with their username and password.
FR-2	Input Data	❖ The user should upload the handwritten digits in the form of image (JPG or PNG).
FR-3	Pre-processing of the data	❖ An input image is subjected to various operations like noise reduction, document skew correction, slant correction, normalization, smoothing.
FR-4	Feature extraction	❖ Feature extraction is analysing the images and deriving some characteristics from these images that identify each specific element.
FR-5	Classification	❖ To predict the handwritten digits, the MNIST dataset is used for training and testing the input data performed by Convolution neural networks.
FR-6	Output data	❖ System will produce the output data with better accuracy.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	❖ Handwritten digit recognition be used are banking sector where it can be used to maintain the security pin numbers.
NFR-2	**Security**	❖ Individual user provided with username and password to access the system. The data those entered in the system are secured and protected from intruder.
NFR-3	**Reliability**	❖ Handwritten digit recognition with 98% accuracy.

			❖ Reliability is the extent to which the software system consistently performs the specified functions without failure.
NFR-4	**Performance**		❖ Quick response ❖ It essentially specifies how the system should behave and that it is a constraint upon the systems behaviour.
NFR-5	**Availability**		❖ Since we use cloud, the availability of this software is all over the world only internet facility is needed.
NFR-6	**Scalability**		❖ Handles more amount of data without compromising on performance and accuracy of result.