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

Team ID	PNT2022TMID05774
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	Input Correlation	Digital image correlation is a technique that combines image registration and tracking methods for accurate 2D measurements of changes in images and recognizes the characters from the images.
FR-2	Data Preparation	Data preparation is the process of preparing raw data so that it is suitable for further processing and analysis.
FR-3	Feature Extraction	Feature extraction refers to the process of transforming raw data into numerical features that can be processed while preserving the information in the original data set.
FR-4	Character Classification	In character classification phase, the attributes of the data in the picture are compared to the classes in the database to determine in which class the picture belongs to.

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 is one of the major important issues in pattern recognition applications. Some of the applications for digit recognition include data entry forms, Bank check processing etc,.
NFR-2	Security	The applications of handwritten digit recognition can be used in the banking sector where it can be used to maintain the security pin numbers safely. It can be also used for blind-people by using sound output.
NFR-3	Reliability	Reliability indicates the probability that the system will perform its intended function for a larger period of sufficient time and also it will operate in a secured environment without any failures.
NFR-4	Performance	The standard implementations of neural networks achieve an accuracy of approximately (98–99)

		percent in correctly classifying the handwritten digits.
NFR-5	**Availability**	The features for handwritten digit recognition have been Acquainted. These features are based on shape analysis of the digit image and extract slant or slope information. They are effective in obtaining good recognition of accuracy.
NFR-6	**Scalability**	The scalability in the task of handwritten digit recognition, using a classifier, has great importance and it makes use of online handwriting recognition on computer tablets, recognizing zip codes on mail for postal mail sorting, processing bank check amounts, numeric entries in forms filled up manually(for example - tax forms) and so on.