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

Date	03 October 2022
Team ID	PNT2022TMID07699
Project Name	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.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Applications for digit recognition is one of the significant problems that includes filling out forms, processing bank checks, and sorting mail.
NFR-2	**Security**	The security will be high because since the handwritings has been recognized one cannot upload copy of others document. The system should authenticate all users with their unique username and password.
NFR-3	**Reliability**	The samples are used by the neural network to automatically deduce rules for reading handwritten digits. 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	**Performance**	Should reduce the delay in information when hundreds of requests are given

| 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. |
| NFR-6 | **Scalability** | The system should be able to handle 10000 users accessing the site at the same time. |