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

Date	17 October 2022
Team ID	PNT2022TMID52735
Project Name	Project - A Novel Method for Hand Written Digit Recognition
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	GUI	Allows the user to insert the handwritten image and get the digitalized form of the digits. Created for easy virtualization.
FR-2	Uploading image	User can upload the handwritten image
FR-3	Writing in Canvas	User can directly draw/write in the canvas
FR-4	Evaluation	• The MNIST dataset should be trained using CNN to create a trained the model • The trained model has to be tested by using a test data • Predict the output for the input data and display it in a GUI

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The recognition of handwritten characters is one of the major issues with pattern recognition applications. Filling out forms, processing bank checks, and sorting mail are examples of applications using digit recognition.
NFR-2	**Security**	• The segmentation capabilities of the generative models are powered by recognition. • The method makes use of a relatively.
NFR-3	**Reliability**	• The neural network uses the data to automatically determine rules for reading handwritten numerals. By increasing the number of training instances, the network may also learn more about handwriting and hence improve its accuracy. • To recognise handwritten numbers, a wide range of approaches and algorithms can be employed, including Deep Learning/CNN, SVM, Gaussian

		Naive Bayes, KNN, Decision Trees, Random Forests, etc.
NFR-4	**Performance**	Optical character recognition (OCR) technology gives more accuracy rates for typed text in high-quality pictures.
NFR-5	**Availability**	Available for the user who wants to convert handwritten image to digital format
NFR-6	**Scalability**	The task of handwritten digit recognition using a classifier is of great importance and use in a variety of applications, including online handwriting recognition on computer tablets, the processing of bank check amounts, numeric entries in forms filled out by hand and more.