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

Date	05October 2022
Team ID	PNT2022TMID40635
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	IMAGE DATA	Handwritten digit recognition refers to a computer's capacity to identify human handwritten digits from a variety of sources,such as photographs,documents,etc..., and categorise them into ten established classifications(0-9)).
FR-2	WEBSITE	Web hosting makes the code ,graphics,and other items that make up a website accessible online.A server hosts every website you have ever visited.The type of hosting determines how much soace is allotted to a website on a server.Shared,dedicated,VPS,and reseller hosting are the four basic varieties.
FR-3	DIGIT CLASSIFIER MODEL	To train a convolutional networkto predict the digit from an image,use the MNIST database of handwritten digits,get the training and validation data first.
FR-4	CLOUD	The cloud offers a range of IT services:including virtual storage,networking,servers,databases and applications.Simply,Cloud computing is a virtual platform that enables unlimited storage and access to your data over the internet.
FR-5	MODIFIED NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY DATASET	The MNIST stands for MNIST dataset.It is a collection of 60,000 tiny square grayscale photographs,each measuring 28 by 28 ,comprising handwritten single digits between 0 and 9.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	One of the very significant problems in pattern recognition applications is the recognition of handwritten characters.Applications for digit recognition include filling out forms,processing bank

		cheques and sorting mail.
NFR-2	**Security**	The system generates a whole description of the instantiation parameters,which might reveal information like the writing style,in addition to categorization of the digits.
NFR-3	**Reliability**	The neural networks may learn more about handwriting and enhance its accuracy by increasing the quantity of training instances. Numerous techniques and algorithms,such as :Deep learning,CNN,SVM,Gaussian NaiveBayes,KNN,Decision trees,Random forests,etc..,can be used to recognise handwritten numbers.
NFR-4	**Performance**	With typed text in high –quality photos,opyical character recognition(OCR) technology offers accuracy rate performance of greater than 99%.
NFR-5	**Availability**	Its availability usage is present in various areas where informational detail is collected like bank,postal areas,hospitals,education fields,crime detection areas,etc..,.