Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID35898
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 Requirements	Description
FR-1	**User input**	Handwritten Digit as a input.
FR-2	**Pre-processing**	The role of the Pre-processing steps is it performs various tasks on input image and train the model.
FR-3	**Analysis**	With the help of pre-trained model, Analysis the current hand written digit with the help of DL and CNN algorithm.
FR-4	**Prediction**	With the power of pre-trained data and model ,the output becomes more accurate.

Non-Functional Requirements:

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

FR No.	Non-Functional Requirements	Description
NFR-1	**Usability**	Handwritten digit recognition is the ability of a computer system to recognize the handwritten inputs like digits, characters etc.
NFR-2	**Security**	The applications where these handwritten digit recognition can be used are Banking sector where it can be used to maintain the security pin numbers, it can be also used for blind peoples by using sound output.
NFR-3	**Reliability**	This software will work reliably for low resolution images and not for graphical images.
NFR-4	**Performance**	Most standard implementations of neural networks achieve an accuracy of ~ (98–99) percent in correctly classifying the handwritten digits. Beyond this number, every single decimal increase in the accuracy percentage is hard.

NFR-5	**Availability**	This is probably one of the most popular datasets among machine learning and deep learning enthusiasts. The MNIST dataset contains 60,000 training images of handwritten digits from zero to nine and 10,000 images for testing. So, the MNIST dataset has 10 different classes.
NFR-6	**Scalability**	Hand written digit Recognition helps thousands and thousands of users to help them the digit better.