**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID23612 |
| 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.

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| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | **Dataset** | Import MNIST |
| FR-2 | **Neural networks** | Build the networks  Activate the neural networks |
| FR-3 | **GUI** | Upload the handwritten digit images |
| FR-4 | **Prediction** | Predict the images using NLP and neural networks. |

**Non-functional Requirements:**

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | postal mail sorting, bank check processing, form data entry, etc. |
| NFR-2 | **Security** | It ensures security in a way that the images uploaded for recognition will not be stored once the recognition is done. |
| NFR-3 | **Reliability** | Failure free operation Recognize digits without interruption |
| NFR-4 | **Performance** | accuracy of approx(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** | to recognize the human handwritten digits from different sources like images, papers, touch screens, etc, and classify them into 10 predefined classes (0-9). |
| NFR-6 | **Scalability** | They are effective in obtaining good recognition accuracies. |