**Project Design Phase-II**

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

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID35588 |
| 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 | Image upload | Upload image through web application  Use of file system to store the uploaded image on server side |
| FR-2 | Image validation & Preprocessing | Validating the give image format as in JPG and PNG.  Preprocessing the image such as reshaping to standard size, Noise removal, Normalization. |
| FR-3 | Sequence Detection & Digit Isolation | From entire area identify the area contain the sequence of digits  From sequence isolation each digit |
| FR-4 | Recognition | Classify the digit to one of the 10 digits  use of deep learning tech |
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**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** | Website is user friendly. |
| NFR-2 | **Security** | The uploaded images are stored safely and is encrypted. |
| NFR-3 | **Reliability** | It works for all kinds of inputs. |
| NFR-4 | **Performance** | It can be also used for sequence of digits. |
| NFR-5 | **Availability** | IBM cloud is used which ensures that the application is highly available across multiple regions through redundancy and maintaining replications. |
| NFR-6 | **Scalability** | IBM cloud servers are used which can be scaled dynamically according to the demand, providing elasticity |