**Project Design Phase-II**

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

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| Date | 16 October 2022 |
| Team ID | PNT2022TMID22465 |
| Project Name | Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy. |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR NO.** | **FUNCTIONAL REQUIRMENT** | **SUB REQUIREMENT** |
| FR-1 | User Registration | The user can register to the website through  either email id or phone number with new  password for their account. |
| FR-2 | User Login | The existing user can directly login to the  site by giving the Login credentials. |
| FR-3 | Admin Login | The Admin can login to the site where he/she can find the analysis to the predicted  data. |
| FR-4 | Upload Image | The user can upload the eye retina image in the dropdown box from various resources like (google drive, gallery etc.,) |
| FR-5 | Data collection | Collect the dataset related to the DR from source to Train the Model. |
| FR-6 | Creating Model | Create the model and Train the model from the dataset for prediction. |
| FR-7 | Test the Model | Test the model for prediction. |
| FR-8 | Diagnosis | Get diagnosis result on the application and follow up with treatments. |

**Non-functional Requirements:**

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

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| **NFR No.** | **NON-FUNCTIONAL REQUIRMENT** | **DESCRIPTION** |
| NFR-1 | **Usability** | The product must be easily usable by any type of users (literate and illiterate), the people how are old and affected by DR can also use this tool for Diagnosis. |
| NFR-2 | **Security** | Data security is important to store the customer data in the secured manner. The  information should not be leaked outside. |
| NFR-3 | **Reliability** | Should provide novel results for five different screening and clinical grading  systems for diabetic retinopathy including  state-of-the-art results for accurately classifying images according to clinical  five-grade diabetic retinopathy. |
| NFR-4 | **Performance** | The ability of Deep Learning is to perform  pattern recognition by creating complex relationships based on input data and then comparing it with performance standards is a big step also to diagnosis in short time. |
| NFR-5 | **Availability** | Healthcare affordability, quality, and accessibility is made easier using this  technology and the product must be available to all kinds of users. |
| NFR-6 | **Scalability** | The product must hold stable even when  multiple users are using it at the same times. |