**Project Design Phase-II**

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

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| Date | 17OCTOBER2022 |
| Team ID | PNT2022TMID09991 |
| Project Name | Project - 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 Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | **User Registration** | Registration through Form  Registration through Gmail  Registration through LinkedIN |
| FR-2 | **User Confirmation** | Confirmation via OTP  Confirmation via Mail |
| FR-3 | **Intput Specification** | Fundus image of retina of the patients |
| FR-4 | **Diagnosis of Diabetic Retinopathy** | The Diagnostic must be accurate and the training model must have an accuracy over 90%(greater than current manual method) |
| FR-5 | **Prediction process** | Classification of the input image using the trained deep learning model which is already connected with the web UI |
| FR-6 | **Output Specification** | Output with all clinical grades of the diabetic retinopathy from early-to-late stages |

**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** | Easy to use and easy to navigate web service. |
| 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** | There is a chance of hardware failure or false positives when the testing data is more of different than the training dataset. Permission granted only by the administrator of the system |
| NFR-4 | **Performance** | The output specifies the stage of disease and the model will provide specific output even for the early stage input image |
| NFR-5 | **Availability** | Healthcare affordability, standards, and accessibility is made much more easier using this platform and the application will 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. |