**Requirement Analysis**

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

|  |  |
| --- | --- |
| Date | 01 February 2025 |
| Team ID |  |
| Project Name | Eye Disease Detection Using Deep Learning |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

**Following are the functional requirements of the proposed solution:**

| **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 Email |
|  |  | Confirmation via OTP |
| FR-3 | Image Upload & Preprocessing | Users can upload retinal images |
|  |  | Image is pre-processed (resizing, normalization) before passing to the model |
| FR-4 | Disease Detection & Prediction | Image is analysed using VGG19-based model |
|  |  | The system predicts the disease category (Cataract, Glaucoma, etc.) |
| FR-5 | Report Generation & Download | A detailed report of the prediction is generated |
|  |  | Users can download or share the report |
| FR-6 | User Dashboard & History | Users can view their past predictions and reports |
|  |  | History is stored for future reference |
| FR-7 | Admin Panel | Admin can manage users and review reports |
|  |  | Admin can monitor model performance |

**Non-functional Requirements**

**Following are the non-functional requirements of the proposed solution:**

| **NFR No.** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-1 | Usability | The application should have a user-friendly UI, especially for doctors with minimal technical knowledge. |
| NFR-2 | Security | User data, including uploaded images and reports, must be encrypted and securely stored. |
| NFR-3 | Reliability | The system should provide accurate and consistent results without frequent crashes or downtime. |
| NFR-4 | Performance | Predictions should be generated within a few seconds to ensure a smooth user experience. |
| NFR-5 | Availability | The application should be available 24/7 with minimal downtime for maintenance. |
| NFR-6 | Scalability | The system should be capable of handling an increasing number of users and uploaded images efficiently. |