**Project Design Phase-II**
**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID34094 |
| 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.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---|---|---|
| FR-1 | Epidemiology of Diabetic Retinopathy (DR) | Diabetic retinopathy (DR) is a microvascular complication of diabetes and one of the common causes of visual impairment and loss of working days in middle-aged adults, while cataract and refractive errors are still the leading cause of blindness in children |
| FR-2 | Prevalence of DR in Young Adults | The Visconsin Epidemiologic Study of Diabetic Retinopathy showed a reduction in the incidence of DME in the last period of the 25-year observation of diabetic patients. A reason for the decline in the incidence of DME may reflect recent improvement in diabetes care and better glycemic control |
| FR-3 | Risk Factor for DR | Duration of Diabetes,Genetic Predispositions,Arterial Hypertension,Obesity in children and youth etc…. |
| FR-4 | Detection of DR | Retinal Photography ,Nonmydriatic Photography,Fluorescein Angiography ,OCT,RTA and HRT |
| FR-5 | Treatment of DR | Increased Metabolic Control,Laserotheraphy,Corticosteroids,Syrgery |
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**Non-functional Requirements:**

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

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | **Usability** | For diabetic retinopathy that is threatening or affecting your sight, the main treatments are: laser treatment – to treat the growth of new blood vessels at the back of the eye (retina) in cases of proliferative diabetic retinopathy, and to stabilise some cases of maculopathy. |
| NFR-2 | **Security** | The Process can be slow down and controlled. |
| NFR-3 | **Reliability** | You can reduce your risk of developing diabetic retinopathy, or help stop it getting worse, by keeping your |

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| | | blood sugar levels, blood pressure and cholesterol levels under control. This can often be done by making healthy lifestyle choices, although some people will also need to take medication. |
| NFR-4 | **Performance** | It cause damage to their eyes,including vision loss |
| NFR-5 | **Availability** | Medicines called anti-VEGF drugs can slow down or reverse diabetic retinopathy. Other medicines, called corticosteroids, can also help. |
| NFR-6 | **Scalability** | It s non-scalable, over time having too much sugar in your blood can damage your retina. |