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

Date	14 October 2022
Team ID	PNT2022TMID35900
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.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Identification of population eligible for screening	Determine the group to be screened based on best evidence and use registers to make sure people's details are collected and up to date
FR-2	Invitation and information	Invite the full cohort for screening, supplying information tailored appropriately for different groups to enable informed choice to participate
FR-3	Testing	Screening test(s) are conducted using agreed/ recommended methods
FR-4	Referral of screen positives and reporting of screen-negative results	Making sure screen negatives are reported to individuals and they stay in the screening program by referring to all screen-positive results to appropriate services
FR-5	Diagnosis	Differentiate true cases from false positive diagnoses.
FR-6	Intervention/treatment/follow up	In some conditions, surveillance or follow up will also be required to Intervene/treat cases appropriately
FR-7	Reporting of outcomes	To identify false negatives and improve effectiveness and cost-effectiveness of screening program report on outcomes is collected and analyzed

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	For accurately classifying images according to clinical five-grade diabetic retinopathy it provides novel results for five different screening and clinical grading systems for diabetic retinopathyincluding state-of-the-art results.
NFR-2	**Security**	Aroundsensitive organs and tissues deep Learning using AI can be more precise, reduce blood loss, risk of infection, and pain during detection/screening.
NFR-3	**Reliability**	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.
NFR-4	**Performance**	AI in simple words means to accomplish a task mainly by a computer or a robot, with minimal involvement of human beings. Standard templates for drawing findings of the retina may improve accuracy of recording of results.
NFR-5	**Availability**	Healthcare affordability, quality, and accessibility can be amplified using this technology.
NFR-6	**Scalability**	It is possible to build on existing systems and take a stepwise approach to improving the effectiveness of current approaches so that high-quality systematic diabetic retinopathy screening becomes a universal offer to all people with diabetes.