

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

Date	15 October 2022
Team ID	PNT2022TMID06905
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	User Registration	Registration through Form
FR-2	Identifying the population eligible for scanning	Determine the group to be screened based on best evidence and use registers to make sure people's details are collected and uptodate.
FR-3	Testing	Conduct screening using recommended methods
FR-4	Reporting of results	Reporting the results as they are in the screening program.
FR-5	Diagnosis	Diagnose true cases and identify false positives
Fr-6	Reporting of outcomes	Collect ,analyze and report on outcomes to identify false negatives and improve effectiveness and cost effectiveness of screening program.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Provides 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-2	Security	Deep Learning using AI can be more precise around sensitive organs and tissues, 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 is a big step.

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 o f recording of results.
NFR-5	Availability	Health care 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.