Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	03 November 2022
Team ID	PNT2022TMID19611
Project Title	Deep Learning Fundus Image Analysis For Early Detection Of Diabetic Retinopathy
Maximum Marks	4 Marks

Functional Requirements:

S No.	Functional Requirement	Sub Requirement (Sub-Task)
1	Identifying the population eligible for screening	Utilize registries to guarantee that individual information is gathered and up-to-date, and choose which group needs to be tested based on the strongest evidence at hand.
2	Invitation and information	Invite the full cohort to the screening and provide each group the information they need. To encourage informed involvement.
3	Testing	Conduct screening test(s) using agreed/recommended Methods
4	Referral of screen positives and reporting of screen-negative results	Send the appropriate services any positive findings from the screen. Make sure that people who continue to participate in the screening programme are informed about screen negatives as well.
5	Diagnosis	Diagnose true cases and identify false positives.
6	Treatment	Correctly address the situation and intervene; in some cases, surveillance or follow-up may also be required.
7	Outcomes	By acquiring, evaluating, and reporting data, you can spot false negatives and improve the performance and cost-effectiveness of the screening programme.

Non-functional Requirements:

S No.	Non-Functional Requirement	Description
1	Usability	Five different screening and clinical grading methods for diabetic retinopathy are presented with new findings. Utilising state-of-the-art results for accurately detecting images based on clinical five-grade diabetic retinopathy.
2	Security	AI-powered deep learning can increase precision around delicate organs and tissues, minimize blood loss, infection risk, and discomfort during detection and screening.

3	Reliability	The ability of deep learning to recognise patterns by creating intricate associations based on input data and comparing them to performance benchmarks represents a significant leap.
4	Performance	AI is the capacity to finish a task, to put it simply. Mostly carried out by a robot or computer, with assistance from humans. Frequent illustrations for retinal findings that could increase the accuracy of outcomes recorded.
5	Availability	Health care affordability, quality, and accessibility can be amplified using this technology.
6	Scalability	It is possible to build on existing systems and employ a progressive approach to improving the efficacy of current procedures in order to make high-quality systematic diabetic retinopathy screening a universal offer to all individuals with diabetes.