Project Design Phase-1

Proposed Solution Template

Date	03/11/2022
Team ID	PNT2022TMID19611
Project Title	Deep Learning Fundus Image Analysis For Early Detection Of Diabetic Retinopathy

Proposed Solution Template:

S.No	PARAMETER	DESCRIPTION
1.	Problem Statement (Problem to be solved)	Diabetes mellitus frequently results in diabetic retinopathy (DR), which results in lesions on the retina that impair vision. Blindness may result if it is not caught in time. Such an algorithm may facilitate early diagnosis, referral to a retina specialist for more regular monitoring, and possibly consideration of early action if it were to be developed on bigger and more diverse datasets. Additionally, it might enhance the enrollment of patients in therapeutic studies that target DR.
2.	Solution description	The scientific community has proposed numerous AI-based techniques for the identification and categorization of diabetic retinopathy on fundus retinal images.
3.	Novelty or Uniqueness	In this, a Convolutional Neural Network (CNN), which is used for the early diagnosis of diabetic retinopathy, is taken into consideration as a deep learning methodology.
4.	Social Impact / Customer Satisfaction	The best method for identifying and treating diabetic retinopathy, which poses a threat to eyesight, is routine dilated eye exams. They are affordable and can help avoid blindness. This programme satisfies

		their needs without costing them anything.
5.	Business Model	This can be used as a business strategy because it keeps the affected patient from going blind. The majority of regular people and hospitals will make use of this programme.
6.	Scalability of the Solution	This programme will be expandable. The appropriate diagnostic and health advice (integrated with their everyday lifestyle) will be shown once the image is categorised under the five categories of diabetic retinopathy.