Project Design Phase-I
Proposed Solution

Team ID	PNT2022TMID03824
Project Name	Project - – Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	2 Marks

Proposed Solution Template

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Diabetic Retinopathy (DR) is a common complication of diabetes mellitus, which causes lesions on the retina that affect vision. It can lead to blindness if it is not detected early. Unfortunately, DR is not a reversible process. DR early detection and treatment can significantly reduce the risk of vision loss.
2.	Idea / Solution description	Transfer learning has become one of the most common techniques that has achieved better performance in many areas, especially in medical image analysis and classification. We used Transfer Learning techniques like Inception V3,Resnet50,Xception V3 that are more widely used as a transfer learning method in medical image analysis and they are highly effective.
3.	Novelty / Uniqueness	This model gives the patient with the outcome whether they have serious condition or normal condition. The prediction comes with different stages of illness assist to diagnose perfectly.
4.	Social Impact / Customer Satisfaction	Diabetic retinopathy is irreversible, early detection helps more people from losing eyesight and other complex diseases. The manual screening costs more than this model hence it is more feasible for patients that they can take this screening without any difficulties.
5.	Business Model (Revenue Model)	The diagnostic capabilities of a hospital would increase rapidly. The app can be utilized completely by physicians for the scanning of diabetic as well as non-diabetic patients and when they appear for routine eye check-ups. This can be very well categorized under a B2C (Business to Consumer) model.

6.	Scalability of the Solution	Transfer learning model provide a better solution for diabetic retinopathy and can be discovered at an early stage. Implementation of many clinical examinations is done using deep learning technology. This system is flexible as it can learn from any datasets.