Project Design Phase-I
Proposed Solution Template

Date	24 September 2022
Team ID	PNT2022TMID35900
Project Name	Deep Learning fundus image analysis for early detection of diabetic retinopathy
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Diabetic Retinopathy is the retinal disorder of the human eye caused by the complications of diabetic. It causes gradual damage to the eye retina. At first it might cause no symptoms or mild vision problems. So early detection of diabetic retinopathy is necessary
2.	Idea / Solution description	We can develop deep learning model that can detect early stages of diabetic retinopathy using fundus images from patients with diabetes
3.	Novelty / Uniqueness	A lightweight CNN model with less layers (possibly VGG16/Resnet along with Inception modules) is developed to reduce the time taken and to extend the solution to future hardware implementations.
4.	Social Impact / Customer Satisfaction	Diabetic Retinopathy is the most common cause of blindness. So early detection and timely treatment are needed to prevent visual loss
5.	Business Model (Revenue Model)	Today 415 million people worldwide are living with diabetes. Diabetic Retinopathy is the complication of diabetes. People with high diabetes need to check for Diabetic retinopathy to prevent from visual loss. So, making the model which predict the diabetic retinopathy at the early stage will be a good business model
6.	Scalability of the Solution	This model can be implemented as an application so that people with high diabetic can check by themselves and consult the doctors immediately