

**Project Design Phase-I**  
**Proposed Solution**

Date	19 September 2022
Team ID	PNT2022TMID33027
Project Name	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	<p>In this project, we intend to build a Deep Learning Fundus Image Analysis For Early Detection Of Diabetic Retinopathy using a convolutional neural network (CNN).We plan on creating a web application where the user interacts with the UI (User Interface) to choose the image.</p> <p>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.</p>
3.	Novelty / Uniqueness	The manual diagnosis process by ophthalmologists is cost and time consuming.our model gives the patient with the outcome whether they have serious condition or normal condition. many models are already there.but we are mainly focusing on the higher accuracy which avoid false results.

4.	Social Impact / Customer Satisfaction	This model provides speed results with higher accuracy. It provides useful and precise information and guidance for diabetic retinopathy prediction, clinical diagnosis and medical services.
5.	Business Model (Revenue Model)	Mainly our intention is to make our project a non profitable one. However we can monetizing the website using google adsense to make money by showing advertisements.
6.	Scalability of the Solution	First we are going to test this model with certain amount of people. Then we can increase the number of users. And also we can further train our model using their inputs as well.