

Project Design Phase-I
Proposed Solution Template

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| Date | 29 September 2022 |
| Team ID | PNT2022TMID29261 |
| Project Name | Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy |
| Maximum Marks | 2 Marks |

Proposed Solution Template:

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | <p>Analysis of fundus image for early detection of Diabetic Retinopathy.</p> <ul style="list-style-type: none">Analyse the level of DRTo detect whether DR is present or not |
| 2. | Idea / Solution description | <p>➤ The idea or the solution is to detect the Diabetic Retinopathy from the fundus image dataset as early as possible so that peoples/patients can proceed to their required treatments and prevent vision impairment or permanent vision loss.</p> <p>➤ As there is no complete cure for this DR, we are going to develop a deep learning model (CNN) with good accuracy to detect DR and save peoples in risk of losing their vision.</p> |
| 3. | Novelty / Uniqueness | <p>A class-based classifier is to be given on basis of the level of DR done in analysis. We are also going to try transfer learning approach as a part of the work which can really be effective and achieve better performance.</p> |

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| 4. | Social Impact / Customer Satisfaction | This can really save the life of people by regaining their vision. Analysing and Detecting DR at the early stage can help to prevent the patient from losing their vision so it plays a crucial role in social impact. |
| 5. | Business Model (Revenue Model) | <ul style="list-style-type: none"> ▪ By using this model doctors can analyse and detect DR in which it acts as a business model for private hospitals and service model for government hospitals. ▪ Even it can serve as a business model by exporting it to other countries who are in need of this. |
| 6. | Scalability of the Solution | There are more and more ways for the scalability of the solution in which the model can be easily integrated & adapted with future technologies. |