

**Project Design Phase**  
**Problem – Solution Fit Template**

Date	15 February 2026
Team ID	LTVIP2026TMIDS82253
Project Name	<b>Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy</b>
Maximum Marks	2 Marks

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The Problem–Solution Fit in this context means that we have identified a critical challenge faced by patients, doctors, and healthcare providers — the difficulty of accurately and quickly diagnosing diseases from medical images, especially in resource-limited environments — and developed an AI-based medical image analysis solution using transfer learning (Xception model).

This solution automates disease detection, reduces diagnosis time, minimizes human error, and supports early and reliable medical decision-making.

**Purpose:**

- Help patients, doctors, and diagnostic centers address the critical problem of disease identification from medical images using an accurate, fast, and easy-to-use AI system that integrates smoothly into existing healthcare workflows.
- Accelerate adoption by leveraging familiar devices such as smartphones and computers and simple actions like uploading medical images, making the solution accessible even in rural clinics and low-resource healthcare settings.
- Strengthen trust and communication by providing clear, instant predictions that support medical professionals, reduce uncertainty, and improve confidence in diagnosis outcomes.
- Build stronger relationships with end-users by addressing real-world healthcare challenges such as delayed diagnosis, shortage of specialists, high consultation costs, and manual interpretation errors, while offering a reliable, AI-assisted alternative that improves efficiency and patient care.

## Template:



