

Project Design Phase

Problem – Solution Fit Template

Date	02 February 2026
Team ID	LTVIP2026TMIDS55747
Project Name	Hematovision: Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- ☐ Solve complex problems in a way that fits the state of your customers.
- ☐ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ☐ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ☐ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ☐ **Understand the existing situation in order to improve it for your target group.**

Section	Content for HematoVision
1. Customer Segment(s)	Pathologists, hematologists, and laboratory technicians in diagnostic centers.
2. Jobs-To-Be-Done	Accurately identifying and counting white blood cell subtypes (Eosinophils, Lymphocytes, Monocytes, Neutrophils).
3. Triggers	High volume of patient samples, tight diagnostic deadlines, or the need for a second opinion on a rare cell shape.
4. Emotions: Before/After	Before: Overwhelmed by manual microscopy; fear of diagnostic error. After: Confident, efficient, and supported by data-driven insights.
5. Available Solutions	Manual microscopy (slow/subjective) or high-end automated hematology analyzers (expensive/bulky).
6. Customer Constraints	Limited budget for high-end machinery, need for lightweight tools that run on standard PCs, and limited time for training.

7. Behaviour	Currently, staff spend hours peering through microscopes and manually recording tallies on paper or basic spreadsheets.
8. Channels of Behaviour	Online: Medical image databases. Offline: Clinical labs, hospital pathology departments, and diagnostic centers.
9. Problem Root Cause	Human visual fatigue leads to subjectivity and errors in classification; manual methods cannot scale with increasing patient numbers.
10. Your Solution	A lightweight Flask web app powered by a MobileNetV2 model that classifies blood cells in ~250ms with 94.8% accuracy.