Project Design Phase
Problem – Solution Fit Template

Date	26 June 2025
Team ID	LTVIP2025TMID45471
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.**

Template:

Problem-Solution fit canvas 2.0

1. CUSTOMER SEGMENT(S)

a).Diagnostic labs (urban & rural)

b).Hospitals and healthcare providers

c).Pathologists and lab technicians

d).Medical AI companies

6. CUSTOMER CONSTRAINTS

a).Limited computing resources

b).Lack of AI expertise in rural labs

c).Budget constraints for small clinics

d).No consistent internet in remote areas

5. AVAILABLE SOLUTIONS

Manual microscope-based diagnosis
➤ Pros: Low cost
➤ Cons: Time-consuming, needs expert knowledge

Rule-based image classifiers
➤ Pros: Fast
➤ Cons: Low accuracy

Some existing AI models
➤ Pros: Automated
➤ Cons: Not trained on relevant datasets, poor generalization

Explore AS,

2. JOBS-TO-BE-DONE / PROBLEMS

a).Need to classify blood cells accurately for diagnosing diseases

b).Reduce human error in manual classification

c).Speed up blood test result processing

d).Overcome shortage of trained professionals

9. PROBLEM ROOT CAUSE

a).Traditional blood cell classification is heavily dependent on human skill

b).There is no standard, fast, and reliable method available in all areas

c).Rising patient load makes manual classification infeasible

7. BEHAVIOUR

Direct: Use microscope, take cell count manually, consult pathologist

Indirect: Send samples to external labs, rely on delayed reports

Focus on J&P, tap into BE,

3. TRIGGERS **TR**

Increase in diagnostic errors in under-equipped labs
- Surge in demand for automated healthcare solutions
- Rise of AI adoption in medical fields
- Regulatory push for standardized diagnostics

10. YOUR SOLUTION **SL**

HematVision is a deep learning-powered system that uses **transfer learning** to classify blood cells accurately.
- Fast, automated image-based classification
- Uses pre-trained CNNs fine-tuned on medical data
- Works offline or on lightweight systems
- Minimizes diagnostic errors and supports pathologists

8.CHANNELS of BEHAVIOUR **CH**

8.1 ONLINE
Viewing tutorials on microscope usage
- Accessing cloud diagnostic platforms (if available)
- Watching YouTube videos on blood cell classification

8.2 OFFLINE
Manual microscopy and record keeping
- Printed blood smear atlases
- Training workshops for lab technicians

4. EMOTIONS: BEFORE / AFTER **EM**

Before: Confusion, delay, stress, helplessness (especially in rural labs)
After: Confidence, clarity, control, accuracy, reliability