S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Clinical labs, especially in rural and underequipped areas, often face challenges in manually identifying blood cells accurately. This leads to delays, misdiagnosis, and increased workload for skilled pathologists. The lack of automation in blood smear analysis affects patient care. A reliable, automated solution is necessary to assist technicians and improve diagnostic efficiency.
2.	Idea / Solution description	We propose **HematVision**, an AI-powered blood cell classification system using transfer learning. By training on microscopic blood smear images, the model can classify RBCs, WBCs, and platelets accurately. Users can upload images through an interface (e.g., web or mobile), and the system predicts the cell types with high accuracy. This assists pathologists and reduces human error in diagnosis.

3.	Novelty / Uniqueness	Uses transfer learning with pre-trained CNNs fine-tuned on blood smear datasets • Works offline, useful for remote labs with no internet access • Fast classification with high accuracy, even with minimal labeled data • User-friendly GUI for lab technicians with no coding background • Reduces dependency on skilled manual

Project Design Phase
Proposed Solution Template

Date	26 June 2025
Team ID	LTVIP2025TMID39901
Project Name	Hematovision – Advanced Blood Cell Classification using Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

		microscopy
4.	Social Impact / Customer Satisfaction	Reduces misdiagnosis and diagnostic delays • Improves healthcare outcomes through timely blood analysis • Helps rural and resource-limited labs deliver better services • Empowers healthcare workers with AI assistance • Increases trust and confidence among patients and doctors
5.	Business Model (Revenue Model)	Freemium model: free version for educational use, paid version for clinical setups • Subscription-based plans for diagnostic centers and hospitals • Licensing to pathology labs and healthcare institutions • API integration with hospital lab systems and digital health platforms • Potential partnership with medical device and diagnostic software vendors
6.	Scalability of the Solution	Easily deployable on laptops, mobile devices, or integrated into lab software • Can be extended to detect specific diseases like leukemia, malaria, etc. • Scalable to other diagnostic image classification tasks (urine microscopy, histopathology) • Adaptable for multilingual and regional usage in healthcare setups across India and globally