Project Design Phase
Proposed Solution Template

Date	24 June 2025
Team ID	LTVIP2025TMID35409
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.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Manual blood cell classification is time-consuming, error-prone, and requires skilled pathologists, which limits early diagnosis and affects treatment, especially in low-resource clinical settings.
2.	Idea / Solution description	HematoVision uses deep learning and transfer learning (MobileNetV2) to build an AI-powered blood cell classifier deployed through a web interface, enabling fast, accurate, and automated blood cell identification.
3.	Novelty / Uniqueness	The project leverages transfer learning to reduce training time and improve accuracy, while also offering a lightweight, web-deployable model suitable for clinics with limited computational resources.
4.	Social Impact / Customer Satisfaction	HematoVision improves diagnostic speed and accuracy, supports overburdened healthcare staff, reduces dependency on human expertise, and makes modern diagnostic tools accessible even in remote or underserved regions.
5.	Business Model (Revenue Model)	The solution can be monetized through B2B licensing to hospitals and diagnostic labs, subscription-based SaaS for healthcare networks, or integration into existing lab management systems with a pay-per-use model.
6.	Scalability of the Solution	The system is scalable to include additional types of cells or diseases, deployable across multiple institutions via cloud or local servers, and customizable for different medical imaging datasets or formats.