# Project Design Phase

## Proposed Solution Template

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| Date | 15 February 2025 |
| Team ID | LTVIP2025TMID46030 |
| Project Name | HEMATOVISION: Advanced Blood Cell Classification Using Transfer Learning |
| Maximum Marks | 2 Marks |

Proposed Solution Template

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| S.No. | Parameter | Description |
| 1. | Problem Statement (Problem to be solved) | Accurate and timely classification of blood cells is crucial for diagnosing diseases like leukemia, anemia, and infections. Manual microscopy is time-consuming, error-prone, and depends heavily on expertise. |
| 2. | Idea / Solution description | HEMATOVISION uses transfer learning (with pre-trained CNN models like ResNet50) to automate blood cell classification from microscopic images. The system improves diagnostic efficiency and accuracy. |
| 3. | Novelty / Uniqueness | Unlike traditional models, HEMATOVISION leverages transfer learning to minimize training time while maintaining high precision. It is tailored for real-time clinical deployment and mobile integration. |
| 4. | Social Impact / Customer Satisfaction | Enables faster and more reliable diagnostics, especially in remote or resource-limited areas. It supports early disease detection, reducing healthcare burdens and improving patient outcomes. |
| 5. | Business Model (Revenue Model) | Freemium model: basic features free for small labs; premium subscription for advanced analytics, API access, and hospital integration. Revenue through licensing and B2B collaborations. |
| 6. | Scalability of the Solution | The solution can scale across hospitals, clinics, and pathology labs globally. It can be extended to classify other types of cells and integrated into telemedicine platforms. |