**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 26/06/2025 |
| Team ID | LTVIP2025TMID33042 |
| Project Name | HematoVision-Blood Cell Classifier |
| Maximum Marks | 4 Marks |

**Section Overview** This section captures exactly what HematoVision must do (functional) and how well it must perform (non-functional) to meet our users’ needs.

**Functional Requirements**

| **ID** | **Requirement** |
| --- | --- |
| **FR-1** | The app shall load and preprocess a blood smear image entirely offline. |
| **FR-2** | The app shall display the top-3 predicted cell classes along with confidence scores. |
| **FR-3** | The app shall generate and export a medical-style PDF report in a single click. |
| **FR-4** | The app shall provide an on-screen explanation for each prediction (e.g., heatmap or text rationale). |

**Non-Functional Requirements**

| **ID** | **Requirement** |
| --- | --- |
| **NFR-1** | The app must return classification results within 5 seconds for a 512×512 image. |
| **NFR-2** | The user interface shall be responsive and correctly render on desktop resolutions ≥ 1366×768. |
| **NFR-3** | All processing—including model inference—shall run entirely offline without any external calls. |
| **NFR-4** | The exported PDF must conform to A4 portrait layout standards (margins, fonts, branding). |
| **NFR-5** | The system shall handle at least 100 image classifications per session without restart or degradation. |
| **NFR-6** | Updates to the model or preprocessing pipeline shall be deliverable via an offline package upgrade. |