Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	28 June 2025
Team ID	LTVIP2025TMID60119
Project Name	Hematovision
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Interface (UI)	Allows users to upload blood smear images (JPG/PNG). Displays predicted blood cell type and confidence level.
FR-4	Image Preprocessing Module	Automatically resizes and normalizes input images. Converts images to suitable input format for the model
FR-5	Prediction Output Module	Displays prediction results with confidence score. Optionally shows visual markers/highlights on cell image (futur
FR-6	Data Validation	Ensures only valid image files are uploaded. Handles error messages for unsupported formats or failed uploads.
FR-7	Model Management	Supports updating or replacing the deep learning model file without changing the core code
FR-8	Security & Privacy	Ensures uploaded images are not stored permanently unless explicitly allowed. Follows basic privacy compliance for patient data (if used in real-time clinical settings).

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Interface should be simple and intuitive for non-technical users such as lab technicians. Minimal training should be needed to operate the system.
NFR-2	**Security**	Image uploads should be processed securely and deleted after prediction unless storage is

		required.No personally identifiable information (PII) should be stored without consent.
NFR-3	**Reliability**	The system should ensure high uptime when deployed on cloud platforms. Predictions should remain consistent across repeated evaluations of the same image
NFR-4	**Performance**	The system should deliver blood cell classification results within 5 seconds for each image upload. The model should maintain at least 90% accuracy on test data.
NFR-5	**Portability**	The solution should run on **multiple platforms**—locally (Windows/Linux) and online (via web deployment). Future deployment on **mobile devices** via TensorFlow Lite should be supported.
NFR-6	**Scalability**	The application should support scaling to handle multiple users simultaneously (when deployed online).Future upgrades should allow classification of additional cell types or diseases.