Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date: 31 January 2025
Team ID:LTVIP2026TMIDS91486
Project Name: HematoVision – Advanced Blood Cell Classification System
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	Image Upload	• Upload blood cell image • Validate image format • Display uploaded image preview
FR-4	Classification Process	• Preprocess uploaded image • Extract features using trained model • Predict blood cell type
FR-5	Results Display	• Show predicted cell label • Display confidence score • Provide clear visual output
FR-6	Model Management	• Load trained model • Update / Replace model • Save learned weights
FR-7	Error Handling	• Detect invalid inputs • Display meaningful error messages • Prevent system failure
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)

Non-functional Requirements

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

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	System should provide an intuitive and easy-to-use interface with minimal learning effort.
NFR-2	Performance	Predictions should be generated within acceptable response time.
NFR-3	Reliability	System should produce consistent and stable classification outputs.
NFR-4	Accuracy	Model should achieve high classification accuracy on unseen data.
NFR-5	Scalability	System should support larger datasets and future model upgrades.
NFR-6	Maintainability	System should allow easy updates to models and preprocessing logic.
NFR-7	Portability	Application should run across different environments with minimal modification.
NFR-8	Security	Uploaded images and model data should be handled securely.
NFR-9	Availability	System should remain accessible during intended usage periods.
NFR No.	Non-Functional Requirement	Description