Non-functional Requirements List (Iteration 1)

**Performance:**

Even under peak traffic conditions, the system should deliver responsive user interfaces and maintain acceptable response times.

To maintain a good user experience, data retrieval and update activities must be efficient.

During typical operations, the system should support a set number of concurrent users, such as 100.

**Scalability:**

The system should be scalable in order to accept increasing data volumes and users over time.

It should be capable of horizontal and vertical scaling as needed.

**Security:**

All user data, particularly critical patient information, must be encrypted during storage and transfer.

Access to the system should be controlled based on user roles, with strong authentication and permission processes.

Security audits and penetration testing should be performed on a regular basis to detect and remedy vulnerabilities.

**Reliability and availability:**

The system should strive for high availability by avoiding downtime due to maintenance or unforeseen faults.

A disaster recovery plan should be in place to ensure data integrity and system continuity.

Real-time monitoring and notifications should be in place to handle possible concerns ahead of time.

**Compliance and Data Integrity:**

The system should ensure that the saved data is accurate and complete.

Depending on the jurisdiction, it should comply with relevant healthcare and data protection requirements such as HIPAA or GDPR.

**User Interaction:**

The system's user interface should be simple to use and give a favorable user experience.

Individuals with impairments should be able to use it in accordance with accessibility standards such as WCAG.

**Interoperability:**

The system should be able to exchange data and integrate with other healthcare systems and databases.

Interoperability should be achieved through the use of industry-standard formats and protocols.

**Usability:**

The system should be user-friendly and provide clear and simple instructions to enable users navigate the system successfully.

**Maintainability:**

The system should be structured for easy maintenance and changes, with clear documentation for administrators and developers.

**Performance evaluation and reporting:**

The system should have performance monitoring capabilities to measure resource utilization and detect bottlenecks.

It should generate periodical reports on system performance and usage information.

**Backup and recovery:**

The system should backup data on a regular basis and provide a well-defined mechanism for data recovery in the event of data loss.

**Network and infrastructure:**

The system should be able to execute satisfactorily in a variety of network situations, such as slow connections or congestion.

**Regulatory and Compliance Reporting:**

The system should enable the generation of reports required for compliance with blood bank regulations and standards.

**Load testing:**

Load testing should be performed on the system to verify its ability to manage concurrent user activities and peak demands.

**Audit Trail:**

To ensure accountability and security, the system should keep an audit trail of all user actions.