# Software Requirements Specification (SRS) for Blood Donation Website

## 1. Purpose

The purpose of this Software Requirements Specification (SRS) document is to define the functional and non-functional requirements for the Blood Donation Website. This system is designed to streamline the process of blood donation, requesting, and management through an online platform. It aims to connect blood donors, recipients, and administrators efficiently to ensure that blood availability can be tracked and managed in real time. The system reduces manual work and enhances transparency, accessibility, and reliability in blood donation activities.

## 2. Scope

The Blood Donation Website is a web-based platform that allows donors, receivers, and administrators to interact in a centralized environment. The system enables donors to register, view donation camps, and donate blood. Receivers can search and request for specific blood groups, while the admin monitors donor and receiver data, manages blood stock, and organizes blood donation camps.

Key functionalities include:

* • Donor registration and blood donation management.
* • Receiver registration and blood request submission.
* • Real-time monitoring of blood stock availability.
* • Report generation and database management by admin.

## 3. Benefits

* • Simplifies the process of finding and donating blood.
* • Reduces manual paperwork and improves data accuracy.
* • Provides real-time information on blood stock levels.
* • Enhances coordination among hospitals, donors, and receivers.
* • Allows faster response during emergencies.

## 4. User Classes and Characteristics

* • Donor: Individuals who voluntarily register to donate blood through the system.
* • Receiver: Individuals or hospital representatives who request blood units.
* • Admin: Authorized personnel responsible for managing the database, users, and blood inventory.

## 5. Specific Requirements

### 5.1 Functional Requirements

* • Registration Module: Users can create an account by providing personal and contact details.
* • Login Module: Secure authentication for Donor, Receiver, and Admin.
* • Donor Module: Donors can update profiles, schedule donations, and view donation history.
* • Receiver Module: Receivers can search blood availability and place requests.
* • Admin Module: Admin can manage users, update blood inventory, and organize donation camps.
* • Report Generation: Generate statistical and analytical reports for better management.

### 5.2 Non-Functional Requirements

* • Performance: System must process transactions efficiently with minimal delay.
* • Security: Personal and medical data must be encrypted to prevent unauthorized access.
* • Usability: Interface must be user-friendly and intuitive for all types of users.
* • Availability: The website should remain operational 24/7.
* • Scalability: Should support growing user base and additional features.

### 5.3 External Interface Requirements

* • User Interface: Interactive web interface accessible through browsers.
* • Hardware Interface: Compatible with desktop, laptop, and mobile devices.
* • Software Interface: Uses MySQL database with secure backend connectivity.

## 6. System Models

### 6.1 Use Case Diagram

Actors: Donor, Receiver, and Admin. The diagram represents how each actor interacts with the system. Donor can register, donate, and view schedules. Receiver can request and check blood availability. Admin manages users, inventory, and reports.

### 6.2 Data Flow Diagram (DFD)

Level 0: Shows the overall system interaction between Donor, Receiver, Admin, and the central database.  
Level 1: Divides the main process into modules such as Registration, Blood Request, Donation Management, and Report Generation.

### 6.3 Entity–Relationship (ER) Diagram

The ER Diagram defines entities such as Donor, Receiver, Blood Inventory, Donation Camp, and Request. Relationships: Donor donates blood, Receiver requests blood, and Admin manages both donors and inventory.

## 7. Appendix

* • Future Scope: Integration with mobile applications, AI-based donor matching, and cloud hosting.
* • Limitations: Requires active internet connection; dependent on data accuracy.
* • Glossary:
* - Donor: A person who voluntarily gives blood.
* - Receiver: A person or hospital requesting blood.
* - Inventory: Collection of stored blood units.
* - Admin: Authorized person maintaining the system.