Software Requirements Specification

for

Blood Bank Management System

Version 1.0.0 approved

Prepared by Nikhil Popli (18CS10037) - poplinikhilpopli@gmail.com

IIT Kharagpur

29 January 2020

Copyright © 2020 by Nikhil Popli. Permission is granted to use, modify, and distribute this document.

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
Initial Version	29/01/2020	Initial Version	1.0.0

1.Introduction

1.1.Purpose

A Blood Bank Management Software is a platform to connect potential blood donors to the hospital authorities who manage the blood bank. It will provide the admins to login and view all the details of the current stock of different blood groups. Auto-notification system if blood bank is short of a particular blood group. A login portal for donors which contains history of donations and automatic email after every 3 months. It will notify users in case of emergency or whenever a blood donation camp is being organised. It will have an option to “Blood Requirement” for people who need blood in case of emergency.

1.2.Document Conventions

There are no document conventions used as such. Any concerned person using this document should be able to understand it with ease.

1.3.Intended Audience and Reading Suggestions

Any hospital owner or an independent blood bank manager can use it to ease the management process and efficiently avoid and manage emergency situations.

1.4.Product Scope

The software takes basic personal data like contact information and medical history of users and maintains proper history of blood donations. This provides admins to get current availability of each blood group and helps them contact people if a certain blood group is needed. This will also send users certificates for blood donation automatically thus simplifying the process.

1.5.References

SRS IEEE TEMPLATE is used to construct this Document.

2.Overall Description

2.1.Product Perspective

This product provides a user friendly environment to the blood bank owners to manage the resources and the donors to with them through this platform. Also it enables the people who need blood to connect with the blood bank managers.

2.2.Product Functions

- **Maintaining Database**
  - To view the availability of blood of different blood group.
  - Add Blood to our stock of blood group.
  - Remove units of Blood from the stock in case it is used.
- **Admins End**
  - Change and view the database.
  - Automatic notification if there is a shortage of blood of certain blood group.
  - Option to generate an event of blood donation camp and notify users who are eligible to donate(after at least 3 months)
  - Send certificates of blood donation to the users.
  - To view the blood donors from database of some blood group in case of emergency.
- **Users End**
  - Register as a blood donor.
  - Provide details like Name, Phn No, Address, Email,DOB,gender, Previous Medical History, Last Donation Date etc.
  - Login and view history of donations and find certificate there itself.
  - View upcoming blood donation camps.
- **Common Interface / Website**
  - An interface where admin and users can go and login.
  - It will have options to -
    - Donate Blood
    - Register
    - Need Blood
    - Blood Donation Camps
    - Contact us
    - Send Us a message
    - Donate Money

2.3. User Classes and Characteristics

- Hospital/Blood Bank Manager
- Blood Donor
- Person requiring blood.

2.4.Operating Environment

This will be a web based system. It will have a server that will actually perform all the functions and will store the customizable details of the user. The user end will simply be a graphical interface.
Any windows platform would suffice. In addition if the website is hosted the only requirement becomes a web browser.

2.5.Design and Implementation Constraints

Currently auto email and sms system will not be implemented. Instead only a notification would be seen on login portal of user. It can be extended later.

2.6.User Documentation

A help section would be there to guide the admin or owner of blood bank management system. The site would sufficiently user friendly to enable donors to use.

2.7.Assumptions and Dependencies

It is assumed that the user will have the basic resources required for this software, this includes

- Active Internet Connection
- A browser to access internet
- A desktop system or a cell phone to work on
- Other than these, the software depends on a server where all the stuff needs to be stored.

3.External Interface Requirements

3.1.User Interfaces

Works on a simple web browser with all the necessary options are available for the user to choose.

3.2.Hardware Interfaces

The server will have decent CPU requirements (4/6 core with 2.2 Ghz avg clock speed) and a good internet connection. The user side need to be at all sophisticated. Any device with an internet connectivity and internet browser will be suitable for using the system.

3.3.Software Interfaces

The GUI will be made by HTML, Javascript. Java would be used for the processing on the server.

3.4.Communications Interfaces

The communication interfaces include e-mail and web browser. E-mail is required for carrying

out the necessary communications with the user and the web browser is required to send the notifications to the user.

4. System Features

4.1. Sign up and Login

4.1.1 Description and Priority

The user needs to create and account, login id and password where he/she can see previous history and download certificates.

4.1.2 Stimulus/Response Sequences

The user needs to enter his details like name, contact info, gender and previous medical history. Based on that information space will be allocated and account will be generated.

4.1.3 Functional Requirements

REQ-1: Option to sign-up and fill in the details.
REQ-2: Allocation of username, password and allocating memory in server
REQ-3: Displaying previous information associated with the user on login.

4.2. Upload Certificates and Media

4.2.1 Description and Priority

The admin can upload certificates and media that will be accessible only to user desired.

4.2.2 Stimulus/Response Sequences

User can get access to certificates and relevant media upon login and admin can upload the media.

4.3.3 Functional Requirements

REQ-1: To store the media and giving a unique name.
REQ-2: The media needs to be available only desired users according to the name.

4.3. Blood Reserve Visualisation

4.2.1 Description and Priority

The admin can see the current availability of blood of different blood groups in a pie chart formation.

4.2.2 Stimulus/Response Sequences

Admin can login and view the exact amount of blood available for each blood group.

4.3.3 Functional Requirements

REQ-1: To maintain the database of blood.
REQ-2: Display results in a graphical format.
REQ-3: To dynamically add or remove blood from database and update.

4.4. Automatic Notifications and alerts

4.2.1 Description and Priority

The admin gets a notification whenever there is a shortage of a particular type of blood.

4.2.2 Stimulus/Response Sequences

The software automatically reads the database and gives a notification/pop-up to the admins end.

4.3.3 Functional Requirements

REQ-1: Enquire the availability of blood from database from time to time.
REQ-2: Display early notifications to avoid emergency situation.
REQ-3: To display the list of blood donor of desired blood group from the database in case of shortage.

4.5. Create an event

4.2.1 Description and Priority

Admin can create a blood donation drive and notification to be sent to the donors.

4.2.2 Stimulus/Response Sequences

Take the input of date time and venue and deliver this information to donors who are applicable.

4.3.3 Functional Requirements

REQ-1: Admin enters date, time and details of blood donation drive.
REQ-2: The donor database is traversed, and the donors who haven't donated blood since last three months can be contacted.
REQ-3: Notifications to be sent to donors and automatic reminders for the same.
REQ-4: User can mark going/not going to the event.

4.6. Feedback Portal and Updates

4.2.1 Description and Priority

Feedback/Suggestion Portal On Website

4.2.2 Stimulus/Response Sequences

Input the query from user along with personal information (optional).

4.3.3 Functional Requirements

REQ-1: Users need to have a platform to enter the details.
REQ-2: Admin can view the feedback mark it resolved.

5.Other Nonfunctional Requirements

5.1.Performance Requirements

The response time should not be more than 1.5 seconds from the server end. Also media download of a user should not be more than 700kb each.

5.2.Safety and Security Requirements

- The system is safe as only admin has access to all of the data.
- Parts of data can be accessed by user after verifying credentials of user.
- An antivirus is to be used to avoid any malicious media file.

5.3.Software Quality Attributes

The software should run smoothly on popular browsers like chrome.

5.4.Business Rules

The software can be used by any organisation like hospital or blood bank authorities only after proper agreement. The software cannot be outsourced without the permission of project manager. A special provision to provide free of cost services to NGOs who own/run blood banks and hospitals will be provided after proper verification.

6.Other Requirements

- Licencing and copyright is required.
- Product standard to be checked and verified for actual use today’s blood banks.