**SRS DOCUMENT**

*BLOOD BANK MANAGEMENT SYSTEM*

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**PROBLEM STATEMENT**

The Blood Bank website is a new, self-contained product which will especially enable the people who have less awareness about the availability of their blood groups. This project will provide facts, updates and general information on the organization of blood camps, donation centers and will provide the required data by integrating databases of various blood banks. The project will encourage and spread awareness among the users on the benefits of donating blood to the community and the welfare of those who are in need. The application will provide its registered users in maintaining a proper diet and balancing their lifestyle to lead a healthy life.

**BACKGROUND INFORMATION**

The Blood Bank website that is to be developed will act as an interface between the donor, recipient and the blood camp. The Blood Bank website will only pertain to the functionality needed for maintaining a blood bank and having transparent record of the availability of various blood groups. Most of the other similar websites do not give the feature to provide facts, updates and general information on the organization of blood camps, donation centers which our website will do. This project will also include features like

checking the periodicity of the donors and monitoring their blood quality,

maintain record of inspection of the medical equipment. The website will provide the

administrator with the rights to maintain the monetary accounts of the blood bank and will provide periodical statistical reports about the blood bank.

**STAKEHOLDERS**

The following table identifies and describes the different users of the Blood Bank website. The information gathered about the different users of the system helped define what the software needs to do.

|  |  |
| --- | --- |
| **User** | **Description** |
| Donor | The donor is anyone who is willing to donate blood. This is a very large group of donors from all different backgrounds. Donor should have cleared the necessary tests in order to donate blood. |
| Recipient | Like the Donor, the Recipient is anyone receiving blood. Again, this is a very large group of patients from all different backgrounds. Along with having a commonly understood interface the system should be able to be used on a wide range of popular system platforms to be able to meet the wide range of potential recipients. |
| Authorized personnel | An authorized personnel is most likely a nurse that will have temporary access to the system. These users will have to have knowledge in operating the credentials offered by the website. A more sophisticated interface, user or otherwise, can be built to accommodate the more advance needs of the blood bank system. |
| Administrator | The Administrator user will be computer literate and technically competent in performing administration on computer systems. He will manage the various functionalities required by the blood bank. |

**REQUIREMENTS**

* **Functional requirements**

## Search

The search process will enable every user to search for the topics he wants. The user may search for blood camps or donors etc. as per requirement. The keywords are taken as input and are matched with the database. Wherever a match is found, the result is returned to the user.

***Purpose*:** To provide search facility which will make it easier for users to navigate in the website and reduce the search space of the users.

***Input:*** User enters the keyword to be searched for. That is taken as input.

***Processing:*** On receiving the input it will try to match the keyword with available topics. Then the results are collected and stored to be returned.

***Output:*** The user finally sees a list of search results as per the keyword entered by him/her earlier.

## 2. Login

In order to access the restricted services provided by the website, user has to access his/her account by providing email and password which was entered during account creation. By using account based services, system will uniquely identify each and every user.

***Purpose*:** To provide security to restricted content by authenticating it at the time of accessing the account.

***Input:*** the user enters email and password as the input.

***Processing:*** On receiving the input it will try to match the email and password with the existing user accounts.

***Output:*** If stored user id and password matches then only user is allowed to access the account otherwise user is denied. If user forgets the password, then he can use the forget password option to recover the password.

## Administrative access

For the website to run properly it must be supervised by someone. The administrator has total or administrative access over the website. This includes rights to create, delete, modify and maintain all the contents of the website.

***Purpose*:** To ensure that in no way there can be unauthorized access to any of the parts of the website and the database.

***Input:*** The user access requests are the inputs.

***Processing:*** On receiving the input the administrator analyses the type of request and grants access if it is feasible.

***Output:*** If the request is a feasible request, the access is granted else permission is denied.

## 

## Registration

First of all users must create their own account by filling all the details along with their email id for uniqueness. This is to maintain an account for each and every user, and to identify them. User’s details will be stored in database and user can update it.

***Purpose*:** To provide details for creating an account which will help in identifying each user uniquely for providing service.

***Input:*** User’s name, address (permanent and temporary), phone number, email ID and password.

***Processing:*** On receiving the input it will verify corresponding details (i.e. whether email ID is valid or not, Name is a valid name). If any of the necessary field is invalid system will show the corresponding error message.

***Output:*** On finding all the details are right, the account is created and a message is shown as “account creation successfully”.

## Check Blood Availability

The user (recipient) can search for the availability of the blood by entering the blood group he requires and the amount required. The website will the search for the availability of the blood and give the results to the user. As per the returned results, the user can the visit the blood bank for getting the blood as per requirement from the authorized personnel.

***Purpose*:** To provide details about availability of blood to people anytime and anywhere as per requirement. This in turn make it easier for the user to find blood required without having to run all around the town.

***Input:*** User has to enter the information in the various fields as asked by the website. These will include the details like quantity, type, etc.

***Processing:*** On receiving the required inputs, the system verifies the various details and return the result (basically a yes or no).

**Output:** Based on the result the user can communicate with the blood bank and get his required amount of blood. Then, he/she can visit the blood bank and as the authorized personnel for the blood required.

## Check for camps

The recipients and donors can check for the camps being organized based on the area of preference. They can then approach the blood camp for getting or donating blood.

***Purpose*:** To provide details about the blood camps being organized by the blood banks.

***Input:*** User’s name, preferred area and feasible date.

***Processing:*** On receiving the input it the system will check for available blood camps in the area specified.

***Output:*** The user can visit the blood camp he/she wants to basing on the feasible date.

## Donate Blood

One of the most important of all the jobs of the site, storing the blood from the donor and then modifying the database as per the amount of blood received by the donor .

***Purpose*:** To donate blood by the donor and make necessary changes in the database.

***Input:*** The authorized personnel has to give the necessary inputs about the blood group being received and the various blood cells count from the donor.

***Processing:*** On receiving the input the system will verify whether the donor’s blood is healthy enough to be stored and donated. Upon receiving confirmation, the donor is allowed.

***Output:*** The donor is allowed to donate blood to the blood bank.

## Receive Blood

Probably the most important of all the other jobs of the site, providing blood to the recipient and then modifying the database as per the number of blood given to the recipient.

***Purpose*:** To provide blood to the recipient and make necessary changes in the database.

***Input:*** The authorized personnel has to give the necessary inputs about the number of blood packets and the blood group required.

***Processing:*** On receiving the input the system will verify whether the required amount is available and if yes, grants it. Upon receiving confirmation, the database is changed.

***Output:*** The recipient receives the required amount of blood from the blood bank.

**USE CASE DIAGRAM**

## 

* **Non –functional requirements**

## Reliability

Reliability in the Blood Bank management system will be ensured by thorough unit, milestone, and release testing.

The system will also consist of a webpage where users will be able to post their errors and these will be instantly solved by the engineers.

Comprehensive test scenarios and acceptance criteria will be established to reflect the necessary level of reliability required by the management system.

## Usability

The system shall allow the users to access the system from the Internet. The system uses a web browser as an interface.

The end users will be able to adapt to the system very easily.

A contact support center will be established online which will be available 24x7.

The following website would be accessible from any devices having an internet connection without any need.

## Security Requirements



### Login requirements

New users will have to enter their username, password and all other details for signing up. New users will have to verify their email ID for successful registration.

Returning users can sign in with the registered username and password.

On login they will be allowed to view their authorized services.

The users will have to solve CAPTCHA code to prove they are human and not a bot.

**Password requirements**

Passwords must have a minimum length of 6 characters

Passwords must meet the following standards:

* + at least 1 lower case letter
  + at least 1 upper case letter
  + at least 1 number.

Password should not contain the user’s first name, middle name, last name, or username.

Passwords for authorized personnel at hospitals and blood camp will be generated daily.

**Inactivity timeouts**

System should timeout when there is no activity for five minutes.

## Recovery

### Recovery Time Scales

The system will recover within an hour from downtime.

### Backup Frequencies

The backup of the entire blood bank data will be done at 12 am.

A full backup of the data will be done on the tapes and stored securely in a fire-proof safe.

## Privacy

Users will not be able to access or update other users’ information at any cost.

All the details will be kept highly confidential and would not be revealed to the public under any circumstances.

The username and password would not be saved on any desktop for future access. This will prevent other users in using someone else’s sensitive data.

## Maintainability

Good design practices will be promoted.

Practice development conventions will be enforced for the Blood Bank Management System.

Adequate commenting within the source code will be followed to explain each and every aspect of programming.

Variable names will be assigned with meaningful conventions.

The database will maintained under a unified schema for easier retrieval of data.

## Portability

The system will run on any operating system (Windows, Mac, and Linux) that will support the use of internet browsers.

The system will also run on mobile operating systems with a dedicated website specially designed for mobiles.