System Requirements Statement (SRS) –

e-Blood Bank

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1. Introduction 3

2. Functional Requirements 4

2.1 ADMIN MODULE 5

2.2 DONOR MODULE 8

2.3 PATIENT MODULE 14

2.4 STAFF MODULE 18

2.5 USE CASE DIAGRAM…...................................................................................................................22

THIS DOCUMENT CONTAINS 26 NUMBERED PAGES

# Introduction

This document explains the system requirements and scope for developing e-Blood Bank System.

e-Blood System can be divided into the four main parts, Admin part, Donor part, Patient part and the Staff part.

This document describes the system requirement of the Blood Bank Portal.

# Functional Requirements

The Account part of e-Blood Bank System has three modules which are divided 13 processes described as below.

|  |  |  |
| --- | --- | --- |
| **No** | **BRS requirement ID** | **Description** |
| **2.1** | **Admin Module** | |
| **2.1.1** | **F1** | **Login Process** |
| **2.1.2** | **F2** | **Forgot Password Process** |
| **2.1.3** | **F3** | **Change Password Process** |
| **2.1.4** | **F4** | **Update Account Process** |
| **2.1.5** | **F5** | **Record Generation** |
| **2.1.6** | **F6** | **Account Management** |
| **2.2** | **Donor Module** | |
| **2.2.1** | **F7** | **Account Creation Process** |
| **2.2.2** | **F8** | **Login Process** |
| **2.2.3** | **F9** | **Forgot Password Process** |
| **2.2.4** | **F10** | **Change Password Process** |
| **2.2.5** | **F11** | **Update Account Details** |
| **2.2.6** | **F12** | **Search For Camps And Hospitals** |
| **2.2.7** | **F13** | **Check His/her Blood Report** |
| **2.3 Patient Module** | | |
| **2.3.1** | **F14** | **Search Availability of Blood** |
| **2.3.2** | **F15** | **Login Process** |
| **2.3.3** | **F16** | **Forgot Password Process** |
| **2.3.4** | **F17** | **Change Password Process** |
| **2.3.5** | **F18** | **Update Account Process** |
| **2.3.6** | **F19** | **Buy Blood Bag** |
| **2.3.7** | **F20** | **Cancel Order** |
| **2.4 Staff Module** | | |
| **2.4.1** | **F21** | **Account Creation Process** |
| **2.4.2** | **F22** | **Login Process** |
| **2.4.3** | **F23** | **Forgot Password Process** |
| **2.4.4** | **F24** | **Change Password Process** |
| **2.4.5** | **F26** | **Update Blood Bank** |
| **2.4.6** | **F27** | **Manage Camps** |
| **2.4.7** | **F28** | **Send Notification** |

#### 2.1 Admin Module

**•** Administratorshould be responsible for following activities**,**

### 2.1.1 Login Process

* E-Blood Bank System always compels user authentication before using itself except when a new account is successfully created.
* The user authentication demands UserID and Password. The UserID and the Password should be checked in three ways.
  + First, The UserID and the Password should be existed and correct.
* If The UserID and the Password are not equal to what the admin has registered, the Admin authentication cannot be provided.
  + Second, the User Type linked to the UserID should be "Admin".
* When the User Type is "Admin", user can be placed on “Admin Home”.
  + Finally, UserID should be available.
* The Administrator can decide whether the UserID is available or suspended.
* Refer to the SRS of the Admin part.
* If user is rejected, user authentication is not provided for system user.
* The Admin account should alive for so long as the duration decided by Admin.
* Only when the three checks are successfully completed, Admin can be placed on respected page.
* The “Admin Home” provides the some items described as below.

1. A trigger to logout
2. A trigger to Update Account
3. A trigger to Change Password
4. A trigger to Search Blood Bag
5. A trigger to Motivate for Blood Donation
6. A trigger to Report generation
7. A trigger to Account Management

### 2.1.2 Forgot Password Process

* When Admin lost their Password, the recovery method should be provided by e-Blood Bank system.

The recovery method is described as below.

* + First, Admin enters their UserID for e-Blood System.
  + He will enter the E-mail id since when the Account was created.
  + Only when the E-mail Id is correct, Admin get the new password by E-mail which also has been registered since when the Account was created.
  + The new password is automatically generated by e-Blood Bank System.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
* As a consequence, The Admin could get the Admin authentication using the new password.
  + Then, the Admin had better change the new password manually.

### 2.1.3 Change Password Process

* When Admin wants to change his Password, the measure should be provided by e-Blood Bank System.
* Therefore, E-Blood System should provide the function which is available after getting the Admin authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, Admin could change his Password.
* When the current password is changed into new password, E-Farming System compels user authentication again.

### 2.1.4 Update Account Process

* E-Blood Bank System should provide the function which makes the account updated for Admin.
* The information Admin could update is described below.

1. Login information
2. User information
3. Security Question Information

* The Login information

The updatable items as described below.

1. First Name
2. Last Name
3. E-mail address
   * All items are compulsory demanded, but updating is optional.

* The User information

The updatable items as described below.

1. User Name
2. User Phone No
3. E-mail address
4. Permanent address
   * All items are compulsory demanded, but updating is optional.

* The Security Question information

The updatable items as described below.

1. Selected Question
2. Answer
   * All items are compulsory demanded, but updating is optional.

#### 2.1.5 Record Generation

• Admin will update the generated Blood Records of Donor.

• Daily report of enrolment to admin.

• Monthly report of enrolment as per the states to admin.

#### 2.1.6 Accounts Management

• Admin should able to manage all the accounts with following activities,

1. Enable accounts

2. Disable accounts

#### 2.2 Donor Module

* Donor is the user of system who wants to donate the blood.

* He is also able to view his own Blood reports.

### 2.2.1 Account Creation Process

* E-blood bank System compels to create the account before using it. So, E-blood bank System should provide the function which makes donor creates new account.
* When donor creates new account, the function demands four information described as below.

1. Login information
2. Contact Details

* The Login information

The Login information consists of some items described as below.

1. UserID
2. Password
3. First Name
4. Last Name
5. Blood group
6. E-mail address
7. User Type
   * All items are compulsory demanded.
   * UserID

* The UserID should be unique. If the UserID correspond with not case-sensitive to other which is previously registered, the UserID should not be registered as an account.
  + Password
* The Password has constrained which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

1. Numeric figure (at least one)
2. Capital alphabet (A-Z)(at least one)
3. Small alphabet (a-z)(at least one)
4. Special character (#, $, %, &, etc.) (at least one)

* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in blood bank System.
  + User Type

The User Type falls into three categories described as below.

1. Donor
2. Patient
3. Administrator
4. The User Type defines also three types of user; " Donor user", "patient user", and "Administrator user”.

* No one could select The Administrator, because Administrator is implemented to E-blood bank System in advance.
* Contact Details
* The Contact Detail consists of some items described as below.

1. Permanent Address
2. Contact Phone No
   * All items are compulsory demanded.
   * Permanent Address

* Permanent Address should be filled.
* But only the state should be selected from options.
* The Security Question information

The Security Question information is needed when Donor lost their Password. This information consists of two items described as below.

1. Selected Question
2. Answer
   * All items are compulsory demanded.
   * Some questions which are difficult to answer for anyone else are prepared in advance.

E.g. which color do you like most?

* + A question should be selected from options by the farmer, and the Answer is registered by the farmer.
* Login information should be entered on one screen, and then farmer information and Security Question information should be entered on another screen.

### 2.2.2 Login Process

* E-blood bank System always compels user authentication before using itself except when a new account is successfully created.
* The user authentication demands UserID and Password. The UserID and the Password should be checked in one ways.
  + First, The UserID and the Password should be existed and correct.
* If The UserID and the Password are not equal to what the user has registered, the user authentication cannot be provided.
* The donor account should alive for so long as the duration decided by Admin.
* Only when the checks are successfully completed, donor can be placed on respected page and check his/her own blood reports.
* The “Donor Home” provides the some items described as below.

1. A trigger to logout
2. A trigger to update Account
3. A trigger to Change Password
4. A trigger to Search Camps
5. A trigger to Book appointment to donate a blood
6. A trigger to check blood report
7. A trigger to request for free blood bag (with in two year)

### 2.2.3 Forgot Password Process

* When system user lost their Password, the recovery method should be provided by blood bank system.

The recovery method is described as below.

* + First, system user enters their UserID for e- blood bank System.
  + Next, E- blood bank System demands the Answer which has been registered since when the Account was created.
  + Only when the Answer is correct, donor get the new password by E-mail which also has been registered since when the Account was created.
  + The new password is automatically generated by e- blood bank System.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
* As a consequence, The Donor could get the donor authentication using the new password.
  + Then, the donor had better change the new password manually.
* If the Answer is not correct, otherwise, the correct Answer is demanded for user again.
  + In that case, Of course, donor couldn’t get the new password.

### 2.2.4 Change Password Process

* When donor wants to change their Password, the measure should be provided by e- Blood bank System.
* Therefore, E- Blood bank System should provide the function which is available after getting the donor authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, donor could change their Password.
* When the current password is changed into new password, E- blood bank System compels user authentication again.

### 2.2.5 Update Account Process

* E- Blood bank System should provide the function which makes the account updated for donor.
* The information donor could update is described below.

1. Login information
2. Security Question Information

* The Login information

The updatable items as described below.

1. First Name
2. Last Name
3. E-mail address
4. Mobile number
5. Address
   * All items are compulsory demanded, but updating is optional.

* The User information

The updatable items as described below.

1. User Name
2. User Phone No
3. E-mail address
4. Permanent address
   * All items are compulsory demanded, but updating is optional.

* The Security Question information

The updatable items as described below.

1. Selected Question
2. Answer
   * All items are compulsory demanded, but updating is optional.

#### 2.2.6 Search Camps

• Search conditions are described as below.

1. Search by Date Time and area

• As the result of searching, Donor should be full fill following conditions

1. age must above 18

2. six months completed form last blood donation

3. should have Aadhar-card number for validation

4. have mobile number to check blood reports and future references

#### 2.2.7 Checking blood reports

* After successfully login donor can check his/her blood reports.
* If needed donor can take the help staff
* Necessary messages and information also provided in the form links and diet planed

#### 2.3 Patient Module

* Patient is the user of system who can access the information about the blood bank.

### 2.3.1 Searching Availability of Blood

* Patient can view availability of blood groups and blood group details.

1. Patient can find their required blood group
2. They also can see all the donors and the required blood group in the stock blood list
3. Patient can put their information in the registration field
4. Patient also can check the out-stock blood list for checking if their required blood group is in stock or not

### 2.3.2 Login Process

* E-Blood Bank System always compels user authentication before using itself except when a new account is successfully created.
* The user authentication demands User ID and Password. The User ID and the Password should be checked in three ways.
  + First, The User ID and the Password should be existed and correct.
* If The User ID and the Password are not equal to what the user has registered, the user authentication cannot be provided.
  + Second, the User Type linked to the User ID should be "user".
* When the User Type is " user ", user can be placed on “User Home”.
  + Finally, User ID should be available.
* The Administrator can decide whether the User ID is available or suspended – Refer to the SRS of the Admin part.
* If user is rejected, user authentication is not provided for Patient.

### 2.3.3 Forgot Password Process

* When Patient lost their Password, the recovery method should be provided by e-Blood system.

The recovery method is described as below.

* + First, User enters their User ID for e-Blood System.
  + Next, E-Blood System demands the Answer which has been registered since when the Account was created.
  + Only when the Answer is correct, Patient gets the new password by E-mail which also has been registered since when the Account was created.
  + The new password is automatically generated by e-Blood System.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
* As a consequence, The User could get the user authentication using the new password.
  + Then, the User had better change the new password manually.

### 2.3.4 Change Password Process

* When User wants to change their Password, the measure should be provided by e-Blood System.
* Therefore, E-Blood System should provide the function which is available after getting the User authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, User could change their Password.
* When the current password is changed into new password, E-Blood System compels User authentication again.

### 2.3.5 Update Account Process

* E-Blood System should provide the function which makes the account updated for Patient.
* The information User could update is described below.

1. Login information

2. User information

3. Security Question Information

* The Login information

The updatable items as described below.

1. First Name
2. Last Name
3. E-mail address
   * All items are compulsory demanded, but updating is optional.

* The User information

The updatable items as described below.

1. User Name
2. User Phone No
3. E-mail address
4. Permanent address
   * All items are compulsory demanded, but updating is optional.

* The Security Question information

The updatable items as described below.

1. Selected Question
2. Answer
   * All items are compulsory demanded, but updating is optional.

### 2.3.6 Buy Blood Bag

1. Patient can select required blood group (if available).
2. Patient needs to fill the required details about shipment.
3. Patients can make requests for fast shipping in emergency cases.
4. Patient can check his/her billing details by using login details
5. Patient can request for free blood bag if he/she donated blood in last 2 year

### 2.3.7 Cancel Order

* Patient can cancel the order of Blood Bag any time, if the order is not accepted.
* Patient needs to mention the reason of cancelling the order.
* If the order is accepted and patient wish to cancel the order ,then:-

1. Patient will be refunded his amount which he has paid for the order.
2. Patient will not be charged for any fine.

#### 2.4 Staff Module

* staff is the user of system who can access the information about the blood bank.

### 2.4.1 Account Creation Process

* E-blood bank System compels to create the account before using it. So, E-blood bank System should provide the function which makes staff creates new account.
* When staff creates new account, the function demands four information described as below.

1. Login information
2. Contact Details

* The Login information

The Login information consists of some items described as below.

1. UserID
2. Password
3. First Name
4. Last Name
5. E-mail address
6. User Type
   * All items are compulsory demanded.
   * UserID

* The UserID should be unique. If the UserID correspond with not case-sensitive to other which is previously registered, the UserID should not be registered as an account.
  + Password
* The Password has constrained which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

1. Numeric figure (at least one)
2. Capital alphabet (A-Z)(at least one)
3. Small alphabet (a-z)(at least one)
4. Special character (#, $, %, &, etc.) (at least one)

* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in blood bank System.
* No one could select The Administrator, because Administrator is implemented to E-blood bank System in advance.
* Contact Details
* The Contact Detail consists of some items described as below.

1. Permanent Address
2. Contact Phone No
   * All items are compulsory demanded.
   * Permanent Address

* Permanent Address should be filled.
* But only the state should be selected from options.
* The Security Question information

The Security Question information is needed when Donor lost their Password. This information consists of two items described as below.

1. Selected Question
2. Answer
   * All items are compulsory demanded.
   * Some questions which are difficult to answer for anyone else are prepared in advance.

E.g. which color do you like most?

* + A question should be selected from options by the user, and the Answer is registered by the user.
* Login information should be entered on one screen, and then user information and Security Question information should be entered on another screen.

### 

### 2.4.2 Login Process

* E-blood bank System always compels staff authentication before using itself except when a new account is successfully created.
* The user authentication demands UserID and Password. The UserID and the Password should be checked in one ways.
  + First, The UserID and the Password should be existed and correct.
* If The UserID and the Password are not equal to what the user has registered, the user authentication cannot be provided.
* The donor account should alive for so long as the duration decided by Admin.
* Only when the checks are successfully completed, donor can be placed on respected page and check his/her own blood reports.
* The “Donor Home” provides the some items described as below.

1. A trigger to logout
2. A trigger to update Account
3. A trigger to Change Password
4. A trigger to arrange camps
5. A trigger to notify donor as well as patient
6. A trigger to update blood bank
7. A trigger to provide support in emergency case

### Forgot Password Process

* When system user lost their Password, the recovery method should be provided by blood bank system.

The recovery method is described as below.

* + First, system user enters their UserID for e- blood bank System.
  + Next, E- blood bank System demands the Answer which has been registered since when the Account was created.
  + Only when the Answer is correct, donor get the new password by E-mail which also has been registered since when the Account was created.
  + The new password is automatically generated by e- blood bank System.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
* As a consequence, The Donor could get the donor authentication using the new password.
  + Then, the donor had better change the new password manually.
* If the Answer is not correct, otherwise, the correct Answer is demanded for user again.
  + In that case, Of course, donor couldn’t get the new password.

### Change Password Process

* When donor wants to change their Password, the measure should be provided by e- Blood bank System.
* Therefore, E- Blood bank System should provide the function which is available after getting the donor authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, donor could change their Password.
* When the current password is changed into new password, E- blood bank System compels user authentication again.

**2.4.5 Update Blood Bank**

1. Keeping the record of blood availability.
2. Adding and deleting records of donor as well as patient and blood bags.

**2.4.6 Manage Camps**

1. On the basis of this records planning camps and arrange camps.
2. Will update details of camp (location, date, time etc.)
3. Staff need to keep records of upcoming Events/Festivals for arranging camps.

#### 2.4.7 Send Notification

1. Notifying donor about camps near by their residential area on regular interval.
2. Uploading and checking blood report of donor and if required helping them.
3. Requesting donors in case of emergency cases for blood donation.

#### 2.5 Use Case Diagram

**Admin:**

In Admin use case diagram Admin is the Actor.

1. Admin can handle following use cases:
2. Login
3. Report Generation
4. Controls account
5. Camp management

**Fig. Use case diagram of admin**

**Donor:**

1. In Donor use case diagram Donor is the Actor.
2. Donor can handle following use cases:
3. Register
4. Login
5. Search for Camps
6. Check Blood Report
7. Update Details

*Fig. Use case diagram for Donor*

**Patient:**

1. In Wholesaler use case diagram Wholesaler is the Actor**.**
2. Wholesaler can handle following use cases:
3. Search Blood Bag
4. Register
5. Login
6. Buy Blood Bag
7. Payback
8. Cancel Order

*Fig. Use case diagram for Patient*

**Staff:**

1. In Staff use case diagram Staff is the Actor**.**
2. Staff can handle following use cases:
3. Register
4. Login
5. Manage And Update Blood Bank
6. Manage Camps
7. Notify Donors

*Fig. Use case diagram for staff*