**BLOOD-D**

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**SOFTWARE REQUIREMENT SPECIFICATION(SRS)**

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**1.INTRODUCTION**

Blood donation is required during an organ transplant, accidents, cancer treatment, etc. For blood donation, one needs to check for a donation camp or need to visit a blood bank. The Manual Blood donation system has many disadvantages which include, it is too time-consuming, often leads to error-prone results, consumes a lot of manpower, lacks donor information, retrieval of data takes a lot of time, percentage of accuracy is less. In the time of emergency, it becomes difficult to approach the right donor. Rare blood groups are not available all the time at all blood banks and recipients find difficulties to track the right blood donor. a system that not only maintains the information of blood banks but also maintains information about blood camps which makes the blood transfusion process easier. This online blood donation management system maintains the list of blood donors and also helps the recipients to track and search the right donor easily. It has two modules namely Admin and User. Admins can add hospitals having blood banks and can also add various blood donation camps. He/she can also view the list of donors of a particular area with a proper Blood cross match. He/she can also check for blood requests and in case of emergency, he/she can send notifications to blood donors as per the requirements. Users can register and make a request. Users can also register as a donor. Donors can check for Blood camps and hospitals for blood donation and will be getting notifications in case of emergency. They can either accept or ignore it. This project aims at maintaining all information regarding blood donors, different blood groups available in blood banks as wells as blood camps and help them manage in a better way.

**1.1 PURPOSE**

It reduces the time of searching donor for the patient. The hostpital can directly contact the donor which reduces the time for searching a bood donor duing an emergency case.

**1.2 SCOPE**

In a very short span it gives details about the blood type, nearby blood bank a blood donor information online.

**1.3 DEFINITION, ACRONYMS, AND ABBREVIATIONS**

**Definitions**

|  |  |
| --- | --- |
| **TERMS** | **DEFINITION** |
| login | The process is related to the login process |
| Windows os | A computer os by Microsoft that gives GUI and virtual memory |
| password | A set of combination of words to login and to secure an account |
| python | It is a programming language to give to write the program and |
| Django framework | It is the high-level python framework for web development |
| Mysql database | It is an open-source relational database management system |

**Acronyms and abbreviation**

|  |  |
| --- | --- |
| **ACRONYM** | **MEANING** |
| HTML | Hypertext markup language |
| CSS | Cascading style sheet |
| Os | Operating system |
| sql | Sequential query language |
| HC | Health condition |
| WBBDS | Web-based blood donation system |

**2.GENERAL CHARACTERISTIC**

**2.1 PRODUCT PERSPECTIVE**

WBBDS is mainly towards persons who are willing to donate blood to the patients. Through this system, it will be easier to find a donor for exact blood type and easy to build the connection between donor & the blood bank authorities. The main intent of building this software is to formal the procedure of blood donation & motivate donors in order to donate blood. The system also consists of some local system hardware devices as well. A printer & SMS indicator are the main devices among the other devices. The entire software product includes all relevant features to create a better connection between the blood donor & blood bank authorities.

**2.2 PRODUCT FUNCTION**

|  |  |  |
| --- | --- | --- |
| **Class of use case** | **Use case** | **Description** |
| Use cases related to system authorization of system administrator | Login of admin  Change password of the admin | Log admin into the system  Change login password of the admin of the system |
| Use cases related to registration of a donor | Register the donor by himself  Register the donor by system admin | Store personal, contact, medical details of donors  Store personal, contact, medical details of donors |
| Use cases related to system authorization of the donor | Login of donor  Change password of the donor | Log the donor into the system  Change login password of the donor of the system |
| Use cases related to change the registration details of donors | change personal, contact details by the donor himself  change personal, contact details by system admin | Change personal & contact details of donors  Change personal & contact details of donors |
| Use cases related to withdrawing names from the donor list | Withdraw reg. details by the donor    Withdraw reg. details by the admin | Delete all details of exact donors by themselves  Delete all details of exact donors by the system admin |
| Use cases related to informing blood donation details | Send blood donation details to the relevant donors | Inform the requirement of the blood group to donors who have the same blood group |
| Use cases related to informing blood testing to the donor | Send blood testing details | Inform disease details to relevant donors Inform donor details who have diseases, to relevant doctors |
| Use case related to access the database | Search relevant details from the database | Search & display relevant details from the database |
| Use cases related to print statements | Print the list of newly registered donors, donation details & list of removed names as statements | Print the list of newly registered donors, donation details, list of removed names of |

**2.3 USER CHARACTERSTICS**

In here the system admin & the donor are the system users. According to my assumptions, the donor who will register to the system from the website can understand easy questions which are in English language & he/she has the ability to realize small instructions & fill the application without any errors & a small knowledge of computers to upload the health condition certificate to the system. The user is very generous to attend to the donation with such a small announcement. (e-mails & SMS messages)

**2.4 GENERAL CONSTRAINTS**

The program will be written in PHP language. Both kind of donors who has the internet connection & who hasn’t the internet connection can contribute to the donation through the WBBD system. The donor who uses internet connection will be guided through small & clear descriptions. Every donor may get a user name & a password in order to log into the system. After the registration of a donor, the program will authenticate the accuracy of the donor’s mobile number through counting the number of characters in the entered mobile number System uses the donor registration number & the identity card number to identify each donor separately. Inside the system, the administrator has more advanced functions than the donor. The hospital doctor is not a user of the system. But the doctor connects to the system in a different manner. The doctor mainly has a connection with the system admin. In donor registration, submission of HC certificates & providing donation details to the system the doctor will connect directly with the system administrator.

**3. Specific requirements**

**3.1 FUNCTIONAL REQUIREMENTS**

Use case diagrams are used to describe functional requirements of the system. The diagrams are drawn below.

If there is a network failure while a user is working in the system, all login details regarding on user name & password of the user will be removed from the system.

**Use case 1: Login of admin**.

1. Log into the official blood bank website.

2. Admin initiates the command to starts the application “Upakara - WBBDS”

3. System is shown the all features of the system.

4. Click the “Login of administrator” command button.

5. The system asking for the user name & the password.

6. Admin provides the username & the password.

7. System does authentication.

8. Main application relevant to admin is displayed.

**Use case 2: Change the login password of admin.**

1. Admin selects the command to change the password.

2. The system is asked to type the current password, new password & again the new password to confirm it.

3. Admin provides the current password, new password & confirm new password.

4. System does authentication.

5. New password is stored in the system

**Use case 3: Register the donor by himself.**

1. Log into the official blood bank website.

2. Admin initiates the command to starts the application “Upakara - WBBDS”

3. System is shown the all features of the system.

4. Donor initiates the register of a donor command.

5. A small questionnaire is given to the donor, which is related to personal & contact details.

6. The donor answers the questionnaire & goes to the next page.

7. The system does authentication.

8. The system asks the donor to submit the health condition report & the evidence report of blood group.

9. The donor submits those reports to the system & finishes the registration.

10. The system does authentication.

11. The registration details are sending to blood bank authorities through an e-mail.

12. Authorities approve details & reports. Send the approval to the system admin.

13. Store registration details in the system database. Alert the donor by sending e-mails & SMS messages to the donor about the registration. Send the user name & the password to the donor in order to log into the system.

**Use case 4: Register the donor by system admin.**

1. Admin select the donor registration command.

2. A small questionnaire is given to the admin which is related to personal & contact details of the donor.

3. Type all details of a donor which is approved by the hospital authorities & goes to next page.

4. System does authentication.

5. The system asks the admin to submit the health condition report & the evidence report of blood group.

6. Admin submits the relevant reports which are approved by the hospital authorities & finishes the registration.

7. System does authentication.

8. Store registration details in the system database. Alert the donor by sending e-mails & SMS messages to the donor about the registration. Send the user name & the password to the donor in order to log into the system.

**Use case 5: Login of the donor**

1. Log into the official blood bank website.

2. Admin initiates the command to starts the application “Upakara - WBBDS”

3. System is shown the all features of the system.

4. Selects the “Login of a donor” command.

5. The system asking for the user name & the password.

6. Donor provides the username & the password.

7. System does authentication.

8. Relevant application relevant to a donor is displayed.

**Use case 6: Change the login password of the donor.**

1. Donor selects the command to change the password.

2. The system is asked to type the current password, new password & again the new password to confirm it.

3. Donor provides the current password, new password & confirm new password.

4. System does authentication.

5. New password is stored in the system.

**Use case 7: Change personal, contact details by the donor himself.**

1. Donor initiates the command to edit profile details.

2. The system provides the filled application of the exact donor.

3. Donor changes personal & contact details & finishes.

4. System does authentication.

5. New details will replace the past details & store in the system.

**Use case 8: Change personal, contact details by system admin.**

1. System administrator initiates the command to edit profile details of donors.

2. System asks admin to enter the donor’s registration number & the identity card number.

3. Admin provides the registration number & the identity card number of the donor.

4. System does authentication.

5. The system provides the filled application of the exact donor.

6. Admin changes personal & contact details & finishes.

7. System does authentication.

8. New details will replace the past details & store in the system.

**Use case 9: Withdraw reg. details by the donor.**

1. Donor selects the command to withdraw details from the system.

2. System is shown a message to the donor in order to confirm the decision.

3. Donor confirms the decision.

4. Donor will logged out from the system.

5. Donor will get a thank you note from the system to their mobile phones.

**Use case 10: Withdraw reg. details by the admin.**

1. Admin initiates the command to edit donor details.

2. System is shown the sub commands of the edit donor list command. 3. Admin selects the command to remove donor from the system.

4. System asks the registration number & the identity card number of the donor.

5. Admin submits the registration number & the identity card number of the donor.

6. System does authentication.

7. System is shown all details of the donor & system asks to confirm the decision.

8. Admin confirms the decision.

9. All details of that donor are removed from the database.

10. Donor will get a thank you note from the system to their mobile phones.

**3.2 EXTERNAL INTERFACE REQUIREMENTS**

The system is basically running on the official website of the govt. blood bank. Mainly there are 2 actors in the system. The system provides some advance features to the system admin than the donor. If the system admin logs in, the system interface provides some main command buttons to the admin.

* Change login password.
* Edit donor profile details.
* Search Donors for a exact blood group & send messages
* Print statements.
* Update the database
* Send blood testing Details.
* Search details from the database.

If the donor logs in, the system will provide another different interface with different commands.

* Change login password
* Edit personal, contact details.
* Details related to contributions to donation.
* Future blood donation details.
* Withdraw name from the system.

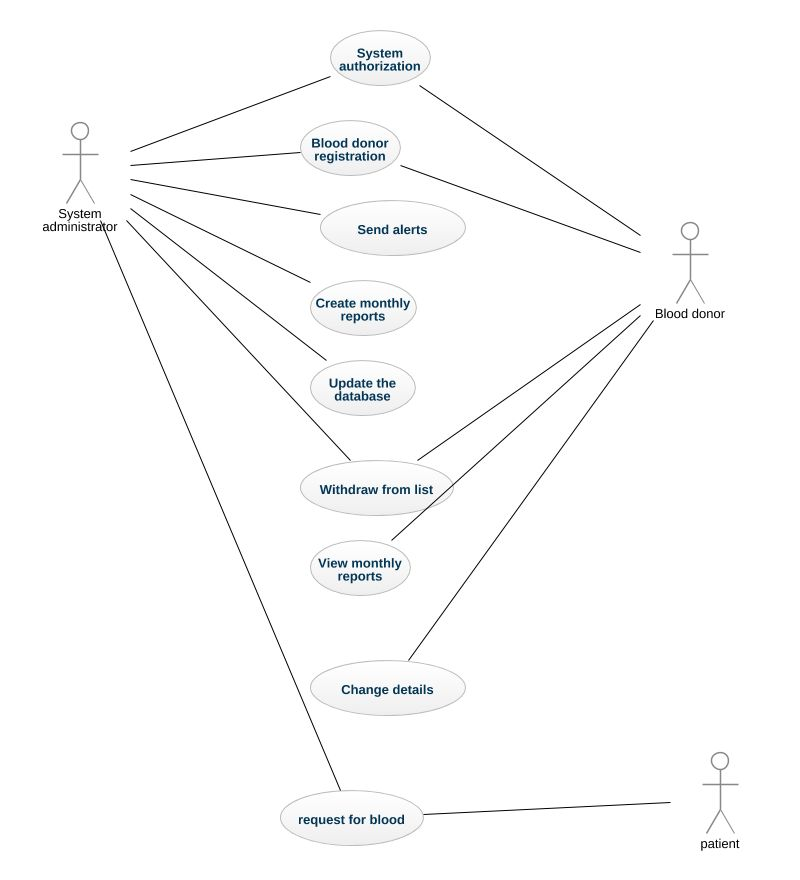
**3.3 PREFORMANCE REQUIREMENT**

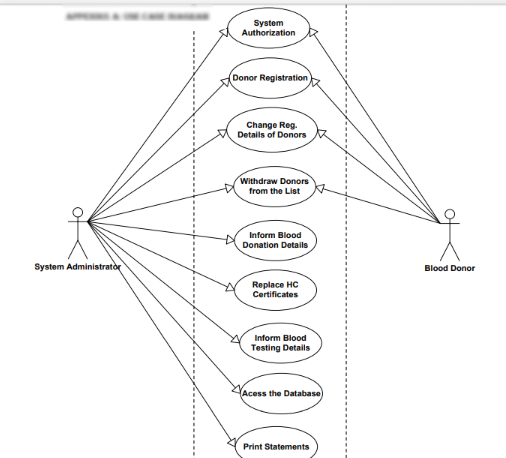
* Should run on 500 GHz, 64MB machine.
* Should have a proper internet connection.
* The response time for occurs a change will be no more than 4 seconds.
* The response time for access the database will be no more than 5 seconds.

**3.4 DESIGN CONSTRAINTS**

* Data should not become corrupted in case of network failure, system crash or power failure.
* Security – The system is consisting of the features to keep the privacy of every donor. Any donor cannot see any detail of any other donor.

**APPENDIX a: USE CASE DIAGRAM**

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