

Software Requirements Specification for Online Blood and Organ Bank

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Software Engineering
CSE327
Fall-2020

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20. November 2020

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Revision History

Revision	Date	Author(s)	Description
1.0	25.09.2016	Md.Tahrim Faroque Tushar	
2.0	10.12.2015	Azmain Iktidar	
3.0	05.01.2016	Fatima Tuz Zohura	
4.0	10.01.2016	Abdur Rab Dhruba	

Chapter 1

Introduction

A blood and organ bank which is completely an online web based service that can help people in emergency situation by providing their needed blood and organs. This bank is combined by many health related services other than blood and organ service. It also can provides basic health related problems to patients. Any patients can get suggestion from doctor's and doctor's also can give advice to patients by using this blood and organ bank.

1.1 Purpose

Purpose of this project is to reduce the lacking of blood and organs in the emergency period. Many people have the courage to donate their organs after their death . That project will give them and their family a platform to do that good thing which is still a taboo in our country .In many countries people are participating this organ donating which is still a taboo in this region of the world .That project can break the taboo and many life can be saved. As well as people and doctors can see the blood donating information. So that, the patient can get the blood in emergency time. People can take health related suggestions and advise from doctor's by using this.

1.2 Intended Audience

- Developers
- Project Testers
- Marketing Department
- Government Agency
- Hospitals

1.3 Intended Use

Developers:

This SRS can help Software developers to easily understand what's the project about. They can know about the part they should focus more, the parts need to be improved and also can find if there is any possibility to add new features or function for any upgrade and improvement.

Project Testers:

This SRS can help Testers to test the software as per requirements. This will make the testing more organized. From this SRS testers can easily get the idea where to look and what error or bug they should be looking for. Also by using the Risk Definition part of the SRS the testers specifically find out the possible lacking of the project.

Marketing Department:

As the Idea of Organ donating is not familiar to the mass peoples the marketing department can use this SRS to get an idea about what they are going to promote and need to be promote and what are the features of this project and how this features will help the clients or users and also can make public awareness by using this SRS.

Hospitals:

The Hospitals can use this SRS to spread the idea of this donating process and can create an own bank in their hospital under this platform and also can promote the idea among the patients in the Hospital and give hope to the family of the patients.

Government Agency:

As this SRS is about a help related project government agency specially any agency under Health Administration can use this SRS to break the taboo of organ donating and that will increase the public awareness about this.

1.4 Product Scope

This web based application is for almost everyone but mainly for those kind of people or patients who needs blood or organs. This is totally a new application that will built from very basic level containing few features to reduce the scarcity of bloods and organs in emergency time and provide medical services to every people.

Benefits of this web application :

- Anyone can donate blood in specific hospital.
- Can keep the blood donation record.
- Can get blood in emergency period.
- Can see the blood availability.
- User can register as a organ donor.
- User can get their desired organs.
- User can get medical services.
- Any doctor can register and give medical services.

Objectives:

- Provide blood donating information to donor.
- Provide blood getting information to patient.
- Provide organ donating service to donor.
- Provide organ getting service to patient.
- Provide medical services.

Goals:

- Our goal is to reduce the scarcity of blood and reduce the death rate caused by blood scarcity.
- Promoting the importance of organ donation and providing the platform of organ donation. So that, patient can get their desired organs.
- Provide medical health services to people.

1.5 Risk Definition

As like other application our application might have some risk factor. As the idea of organ donation is still a taboo in our country ,that might lead the peoples to an misunderstanding problem . Other than that few other risk factor of our project can be :

1. May cause mis-communication between donor and getter in both blood and organ donating process.
2. Conversation can be disrupted between doctors and patients because of network poor or unstable network connection .
3. Too many user at a time in the web app may cause traffic for the server.
4. Too much server request may not be controllable for the server.

Chapter 2

Overall Description

Our application will provide a means for the blood and donor bank to publicize and advertise blood and organ donation programs. It will provide efficient donor and blood and stock management functions to the blood and organ bank by recording the donor and blood details. It is an updated features app because of adding organ donation information also. It will provide the donor's particulars about who will accept it; one will know its clearance. The receiver can contact directly with the donor for further details.

2.1 User Classes and Characteristics

This application helps the patients or who needs the blood and organ. When someone needs blood immediately and can't find it through their relative, they can search in this application or use it for their emergency.

- Users can be any Blood Bank.
- User can be any Organ Bank.
- User can be a doctor.
- Users can be blood and organ receiver.
- Users can be blood and organ donor.
- Users can be emergency help service providers such as hospitals,
- Ambulance and Oxygen provider.

2.2 User Needs

The patients will be using this application for their emergency. Users will know the donor and receiver's location; they will see the nearest blood bank's preliminary information from the hospital. Users can see the list of the organ donor and what organ they are sacrificing. If they need online emergency oxygen service, emergency ambulance service, emergency plasma service, they will find these services by using this software.

2.3 Operating Environment

The operating environment for Blood and Organ Bank are listed below.

- Operating system: Windows, Mac OS, Linux
- Database: SQ-Lite.
- Front-end: Bootstrap.
- Back-end: Django Framework.

2.4 Constraints

- We have to develop the application in Python language.
- The developed system must work in the client's operating environment like Windows, Mac OS, and, Linux.
- We need to fulfill the requirements to complete the project..

2.5 Assumptions

- Users have to read and write English.
- Users have to have devices that support internet service.
- Users need an internet connection to open the application

Chapter 3

Requirements

3.1 Functional Requirements

1. As an user

I need to order an online blood group test
so that, I can look for my needed blood or, any organ.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) After placing an order, system will verify user's authenticity using given NID No. and information.
- c) User have to place a fixed date and time for blood collecting through the system.
- d) User have to pay some amount of money before the testing after the confirmation and after the test user have to clear his/her due payment.
- e) If the user want to cancel, he/she have to do it before confirmation.
- f) User will get the result via email and text.

2. As an user

I want to donate blood in the Blood and Organ Bank
so that, people can get the blood in emergency.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) If blood is given by the user before, he/she has to confirm it was minimum 56 days ago during registering for blood donation.
- c) After confirmation the system will advise user through email or, text to get plenty of sleep the night before the donation and eat healthy foods and drink water and other fluids.
- d) User has to fix the date and time before coming to the blood bank through the system.
- e) If the user is a platelet donor, system will advise not to take aspirin for two days prior to donating.
- f) After the donation, system will suggest the user to have healthy foods and liquids through email or, text.

3. As an user

I need to get blood from the Blood and Organ Bank
so that, I can use it for my medical needs.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) User has to provide authentic prescription/papers for getting the blood.
- c) User has to put an request for required blood group through the system with his/her documents.
- d) After confirmation of the request, system will notify the user via email or, text.
- e) System will notify the user when and from where he/she can collect the required blood through email or, text.

4. As an user

I want to donate organ to the Blood and Organ Bank
so that, people can get the organ in need.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) User has to answer some preliminary question based on his/her health.
- c) After testing those answer, system will notify the user with an appointment date for the physical testing through an email or, text.
- d) After the physical test, user will be notified for the donating process by the system.

5. As an user

I need to get organ from the Blood and Organ Bank
so that, I can use it for saving lives.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) User has to provide authentic prescription/papers for getting the organ.
- c) User has to put an request for required organ through the system with his/her or, patient's documents.
- d) User have to mention his/her or the patient's blood group for the organ.
- e) Then system will authenticate this request by contacting mentioned hospital and doctor.
- f) After verification has been completed, system will finalize the request.

6. As an user

I want to discuss health problem with a doctor.
so that, I can get help in time from home.

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.

- b) User has to describe his/her health problem precisely.
- c) System will notify the available doctor.
- d) Medication or necessary steps will be sent by the system through email or, text.

7. As a doctor

I want to check my appointments and client's problems
so that, I can help them in time.

Confirmation

- a) Doctor will be automatically registered when they join the blood and organ bank.
- b) Doctor's can view all the appointments he/she had made but first he/she need to put the appointment details in the site.
- c) Doctor's can view client's problem if there's any.
- d) System will send a notification about appointment and client's problem.
- e) Doctor's can check the availability of blood and organ.

8. As an user

I want to make an online payment
so that, I do not have to pay in person

Confirmation

- a) User has to register to the website giving necessary information, if he/she has not done it before.
- b) User has to confirm the amount of blood/organ he/she will buy.
- c) User to set how he/she want pay. For example: Card, bKash etc.
- d) User has to complete the whole order process with valid information. For example: Mobile no, city name , address, mail etc
- e) System will notify user by sending a confirmation mail or message if the order is confirmed.

3.2 Non Functional Requirements

1. Performance Requirements:

- Page load time must not be more then 2/3 seconds.
- System must be interactive and user-friendly.
- If there's any delay or error, system should be able send error messages.

2. Security Requirements:

- System must have a well build architectural requirements
- System must ensure that the site is protected from unauthorized access to the system and its stored data

3. Maintainability:

- System must be able to make changes quickly and cost effectively.

4. Availability:

- If there's an error in the server the system must be able to send the error message instantly.

5. Reliability:

- There should be less amount of bugs in the code, hardware failures, or problems with other system components.

6. Safety Requirements:

- Information should be securely transmitted to server without any changes in information.

Appendices

Appendix A

Glossary

SRS: A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs. A software requirements specification is the basis for your entire project. It lays the framework that every team involved in development will follow. It's used to provide critical information to multiple teams — development, quality assurance, operations, and maintenance. This keeps everyone on the same page.

NID: The National Identity Card or NID card is a compulsory identity document issued to every citizen upon turning 18 years of age. The NID is required by Bangladeshi citizens for multiple essential public services, such as obtaining utility connections, as well as private services, such as opening bank accounts, in Bangladesh. Initially paper based laminated NID cards were issued since 2006. Then the paper based laminated NID cards were replaced by biometric and microchip embedded Smart NID cards for all adult citizens in Bangladesh from 2016 onwards. This was done to ensure security for the card holder as well as prevent counterfeiting and fraudulence. The government provides the Smart NID card free of charge to all adult citizens of Bangladesh.