

Software Requirements Specification

For

Blood Hero

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Chapter 1

Introduction

Blood donations are used for patients in need of surgery, cancer treatment and transfusions for blood loss from traumatic injuries. It is considered as the gift of life as there is no substitute present for human blood. Blood brings oxygen and nutrients to all the parts of the body so they can keep working. The average adult weighing 150 to 180 pounds should have about 1.2 to 1.5 gallons of blood in their body. Bangladesh has received only 31 percent of its blood from voluntary donors every year and this number is very low compared to other countries. “Safe blood saves lives” with this slogan we are moving forward to introduce a platform where blood donors and receivers can come together under the same roof.

1 . 1 Purpose

Searching for blood can become quite an inconvenience for a lot of people. This is where our “Blood Hero” mobile application becomes very handy.

- Growth of blood donation in our country.
- Donors and receivers can connect easily.
- Blood receiving becomes easier.
- Reducing the struggle of blood donation.

1 . 2 Intended Audience

- Developers
- Project Managers
- Project Testers
- Marketing Department
- Health Departments

1 . 3 Intended Use

- Developers :
Developers can use this SRS report for acknowledging the project and further improvement.
- Project Managers :
Project managers can use this document for project scope, managing the project team, as well as the resources assigned to the project.
- Project Testers :
To test the project effectiveness and precision, project testers can use this SRS.
- Marketing Department : The marketing department can use this SRS to promote their business and make it favorable for their customers or clients.
- Health Departments : This SRS can be used to improve medical facility functionalities by health departments.

1 . 4 Product Scope

Blood Hero is an android mobile application for blood donation. The application will have several features that will help the people to decrease the difficulties of the demand for blood when it is needed the most.

Benefits :

- I. Users can sign-up as a donor or receiver.
- II. Users can find blood donors comfortably from anywhere.
- III. Users can search for donors by their blood group compatibility.
- IV. Blood receivers can connect with the donors through their contact information.
- V. Users can choose a specified hospital or blood donation center for receiving or donating.
- VI. Donors can choose recipients to donate.
- VII. Emergency donors will always be available.

Objectives :

- I. Provide the information about the requested blood and number of available donors around those localities.
- II. Encourage voluntary blood donation and educate the community on the beneficial aspects of blood donation.

Goals :

- I. To develop a system that provides functions to support donors to view and manage their information conveniently.
- II. To deliver safe and quality blood and blood components.

1 . 5 Risk Definition

- I. For an unstable internet connection, users can face difficulties finding the contact information of their specific donors.
- II. For unstable server connection, users can struggle with retrieving the data.

Chapter 2

Overall Description

This android based application helps users in need of emergency blood and those interested in blood donation as it is one of the most significant contributions that a person can make towards society. This app would be more beneficial for those suffering from cancer, chronic illnesses, traumatic injuries, or sudden serious accident and loss of blood or for emergency patients in the OT. Donating blood is safe and easy, and takes less than an hour, so others would be interested too in using this app too for donating blood.

2 . 1 User Classes and Characteristics

This android based application “Blood Hero” helps patients who are suffering from chronic illnesses, and traumatic injuries and require emergency blood. The user will get healthy blood by using this application. This application is user-friendly, so anyone can use this application for an emergency if they need blood or want to donate blood.

- The user can be a person seeking emergency blood.
- The user can be a person who has chronic illnesses.
- A user can be a person who has traumatic injuries.
- Users wanting to donate blood.

2 . 2 User Needs

The users will be using this application for donating and receiving blood. Blood Donation is all about giving life to other people. It is a good practice of donating healthy blood to people in need. Users can feel self satisfaction by donating blood using the app. Also donating blood doesn't just benefit recipients. There are health benefits for donors, too. By using the "Blood Hero" application people will tend to look for blood in the app's blood donors list. Due to excessive loss of blood, a person may die, so with the help of this app people can save lives by finding the donors for the users required blood group in quick time.

2 . 3 Operating Environment

The operating environment for the app "Blood Hero" is given below.

- Operating system : Any Android OS which supports android apps can run this application
- Database : Firebase
- Platform : Android Studio and Firebase
- Language : JAVA

2 . 4 Constraints

- We have to develop the application in JAVA language with the help of Android studio.
- The developed system must work in the Android studio.
- We have to finish the project within 1 or 2 months.

2 . 5 Assumptions

- Users can read and write in English.
- Users have devices that support Android Applications.
- Users have an internet connection.
- Users are familiar with operating and installing android apps.
- Users have minimum Android version 4.0 or up.

Chapter 3

Requirements

3 . 1 Functional Requirement

1. As a user,

I want to get connected to emergency blood donors
so that I can save my or other's life.

- Users can find their required blood with categorized groups (ex. A+, B+, O-, AB+ etc.).
- Users can find their compatible only blood group's donor.
- Users can find their required Blood donor with names, info and contact details.
- If the user clicks on the email, the system will open the email section to send an email to that specific donor.
- Users can easily check for the donors they have mailed so far.

2. As a user,

I want to easily see which people have asked me for blood donation.

- Users can find the people's name who have asked them for blood donation along with their contact details and their queried blood group.
- Users can also get notifications reminding them of the people who have asked for help for Blood donation.

3. As a user,

I want to easily get access to my account.

- Users can easily find the login option on "Home page".
- Users can simplify his/her account by username and password.
- Users can find her/his saved Blood group.
- Users can find his or her saved contact details.

4. As a user,

I want to easily register to the app instantly according to my need.

- Users can easily register options on opening the app, and register as either a donor or as a blood recipient.
- Users can easily input the necessary information required to register as a blood recipient after clicking on the register.
- Users can easily put up a username and password while registering for future login.
- Users can freely rely on having his/her privacy protected.

3 . 2 Non Functional Requirements

Performance Requirements :

- This App requires an android device.
- The Android version must be Android 4.0 or Up.
- Minimum 1GB of ram required for this application.
- Response to any kind of interaction must take no longer than 5 seconds to appear on the screen.

Security Requirements :

- System will use a secure database system.
- Normal users have access only to just read or write information but they cannot edit or modify existing information without admin's permission.

Safety Requirements :

- System usage should not cause any harm to humans
- System will not steal or share any private data

Error Handling :

- This App can handle errors which will throw some exceptions without any loss to our data.