

**Project and Professionalism**

**(6CS007)**

**FYP Report**

**Online Blood Bank and Donor Management System**

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# Introduction

## Project briefing

As blood being the vital component for every human being to survive and not getting recommended blood as well as donors on time can be a catastrophe to someone’s life so, the main purpose for making this website is to record the data regards both donors and acceptors and provide handful of options for them to save a person life. Since donating blood is a good approach to transfer healthy blood to someone in need. Blood is a "gift of life" from a healthy person to other people who are sick and really need blood. Blood donation is an important medical service and blood is a unique and valuable asset because it can be obtained only from blood donors. The whole idea of ​​this study is to create a Web-based Blood Bank that will deal with donor records and people in need of blood and manage and donate to the system. (Aljojo, 2014) This system gives a basic and faster association among different blood groups person are connected or familiar with the system. The main goal behind developing this web-based system is to manage the donor information, records the acceptors who are in need of blood, easy to add new donors, and donate the blood to respective acceptors and provide a user friendly and interactive means of communication between the receivers and donor via contact service. (Dept. of CSE, 2020)

### Problem

Some of the existing system are manual Blood donation system and which has numerous disadvantages and it is too tedious, often leads to fallible results, a lot of consumers, lack of donor data, updating information takes a lot of time, level of exactness is down and less secure the data. (K M Akkas Ali, 2015) In the emergency time, it gets hard to approach the correct donor. Uncommon blood groups like "o-" are not accessible all the time at all blood donation centers and beneficiaries discover challenges to follow the correct blood donor. (Nevonprojects, 2019) Manually is troublesome in the current existing system and following the information base for a specific blood group is complex. The point of serving a systematic nature of blood to the patient. (P. Priya, 2014)

### Solution

This web-based application "Online Blood bank and donor management system” will properly manage the records of blood donors and help the individuals who needs blood and also find the proper blood donor as quickly as a time. (Aljojo, 2014) It assists to maintain the donor information and quality of blood base on medical report. This expands dependability, adaptation to internal failure, and accessibility. The online blood donation system is providing a notification and significant that when the many acceptor or donor are using the web application searching for close by blood donors is done where it depends on area of acceptor. Further, these information are available by anybody acceptor and donor. (P. Priya, 2014)

## Aims

The list of the aim are below:-

* To develop the web application.
* To provide blood donation service the acceptors.
* For building up the web application is to instruct the community on the advantages of blood donation.
* To build up an application system to limit the manual work for the Blood Bank System, Donor and Blood Group the executives.
* This System provide the blood in different emergency Acceptors, based on acceptors needs.
* It screens the entirety of the Blood Group data, Blood flexibly, and Donor list. (Mamun, 2020)

## Objectives

The list of the objective are bellow:-

* This system to deal with the records of donor and acceptor.
* Acceptor are search the donor by blood group and location.
* If any emergency case acceptor are send the notification via SMS or Gmail.
* To make and update a catalog of Donors so the necessary blood is accessible on demand. (embajadamundialdeactivistasporlapaz, 2020)

## Artefact

The main point of this project will thusly be to discover more effective methods of dealing with the information base of the blood donation systems and blood donors and build up a discussion for individuals associated with potential blood donors in the country. Numerous individuals are here to help, consistently prepared to give blood. Search for the acceptor blood group. Can uphold us by registering on this web application if are set up to give blood when required. As a joining individual from this system and as a mindful human. Givers can help an individual in need. (Mamun, 2020)

### Function Decomposition Diagram (FDD)

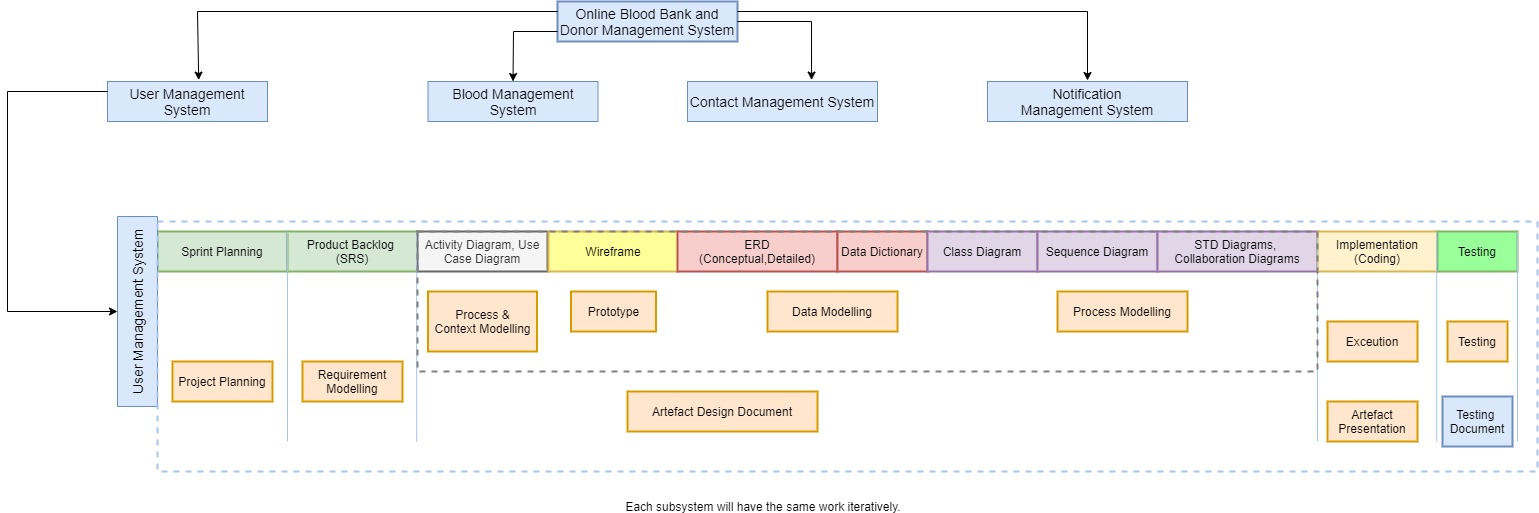


Figure :- Function Decomposition Diagram (pinterest, 2020)

### Explain the sub system

#### User Management

User management depicts the capacity for directors to oversee user admittance to the system and manages all information of donor and acceptor. This system manages and controls the user information and also creates, delete, edits, and more of the user database. (freepbx, 2017)

#### Blood Management

Blood management manages all blood groups in the system and searches for the availability of the correct group.

#### Contact Management

The contact management system can be utilized by this system that deals heavily with external or client communication because the admin is provided any acceptor needs emergency blood. (g2, 2020)

#### Notification Management

The system is collected donor information is store in the database and any acceptor is searched the blood group. A web application is utilized for sending a notification through SMS or Gmail and giving the communication between the donor and the acceptor. (Vijaya, 2018)

## Academic Questions

It is possible for an online blood donation system to save the life of a human. The development of this app reduces the time for patient parents who spend searching for the right donor and the availability of blood needed for this app, it should be possible to make that happen.

* How will the system solve the problem of blood donation?
* What are the distinct features of this web application?
* Which tool and techniques are used in building the system?
* Why python and Django are considered to build the entire project?
* Why agile scrum methodology is chosen in the project?
* How many subsystems will the artefact get divided?

## Scope and limitation

### Scope

The system is used for maintaining all the process and activities regards to online blood donation and donor management system. The system is used for maintaining records of donors with their respective blood group and location too. While developing the system, there shall be space for further modification. The whole system is focused to make easy for the acceptor to get required blood on any emergency cases in presence and absent of any blood bank and on additional modification it can be also be used as management systems of similar organizations.

### Limitation

* Donor can’t change or edit their detail by themselves, can only done by admin.
* Acceptors need to contact admin in search of donors.
* Until the acceptors are logged in into the system they can’t ask the donors for their blood.
* Information of the donors can only add, edit, and delete by the admin themself.
* Donor can’t login to dashboard, to get logged in into dashboard they need to get added by the super admin himself.

## Report Structure

Online blood donation and donor management system is divided into five parts. I.e. Introduction, literature review, project methodology, Artifact design, critical evaluation. Each part has been sub divided into different parts and elaborated.

1. Introduction- Described about the concept of project.
2. Literature review Compared and analyzed with similar system.
3. Project methodology : Described about the methodology and tools used to build this system
4. Artifact design- Created modelling diagram and tested on the basis of requirement of the sub-system.
5. Critical evaluation- Described about quality and progress to be made on future by this system.

# Literature Review

## 2.1 Similar apps or Research papers

### 2.1.1 Blood Donation App and Life Saver Connect

This application solve the issue of blood crises by interfacing blood donors directly with individuals in blood need. The main page will show the blood contributors the individuals who are keen on giving blood inside the range of ten thousand kilometers. The detail of the blood contributor will be store in the database. (Anish Hamlin M R, 2016) This application is used to search for blood donors in an emergency. Accepted donor followed by GIS. GIS is used in the mobile application where it is used to map the provider. The proposed program tells us about the functionality of the system where it starts by opening the app on a mobile device. Login or login is provided to the user. If the user is already registered admin provides the user details already stored in the database. If the user is not registered they will be asked to sign in to enter information about them. In the proposed framework there is a one-time secret key created during the recruitment process for donors. The system main functions or users are such as:-

* Blood distribution application renewal information about the blood contribution camp.
* The framework gives approved including so the private and secret information is just seen by the approved client.
* This framework will track each contributor, so as to monitor bloodstock.

The framework contains a smartphone with an android working framework. The serious framework is utilized to store data about the blood donor and patient. Blood contribution applications mostly contain administrator, donor, patient, information base, and application. (Brislin, et al., 2017)

#### 2.1.1.1 Screenshot for features

Donor or Acceptor login page

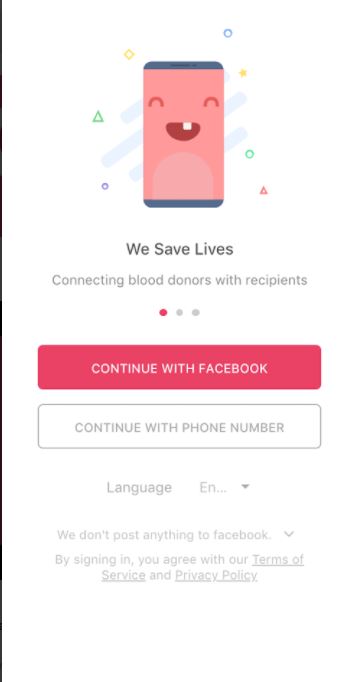


Figure :- Donor or acceptor login page for blood donation app and life saver connect application (blood donation app and life saver connect application, 2020)

Home page

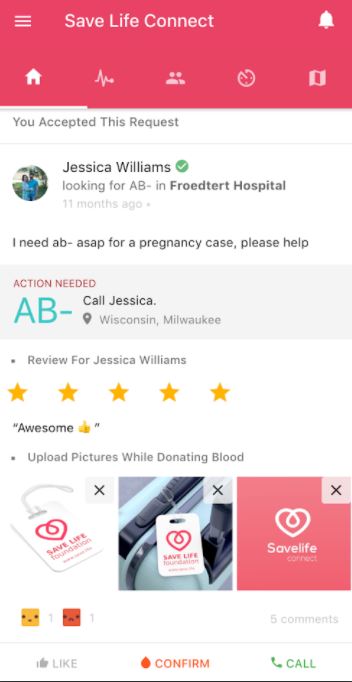


Figure :- Home page for blood donation app and life saver connect application (blood donation app and life saver connect application, 2020)

Blood request page

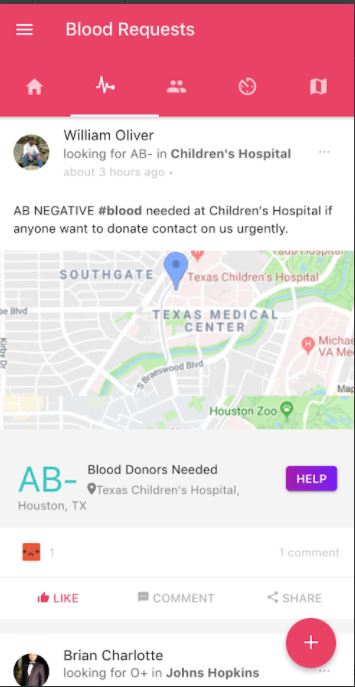


Figure :- Blood request page blood donation app and life saver connect (blood donation app and life saver connect application, 2020)

Donor History page

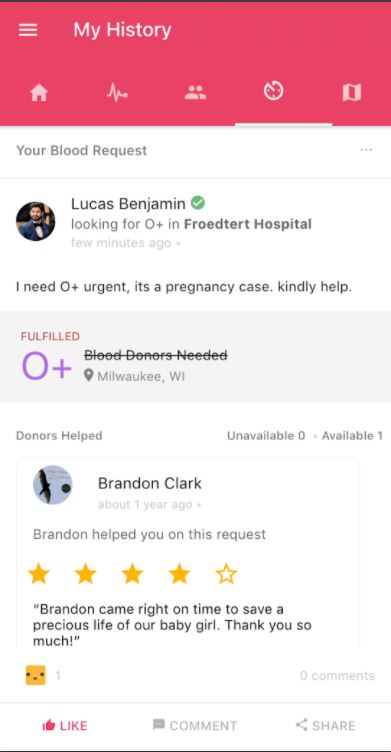


Figure :- Donor history page for blood donation app and life saver connect application (blood donation app and life saver connect application, 2020)

Acceptor request blood for friend or nearly location page

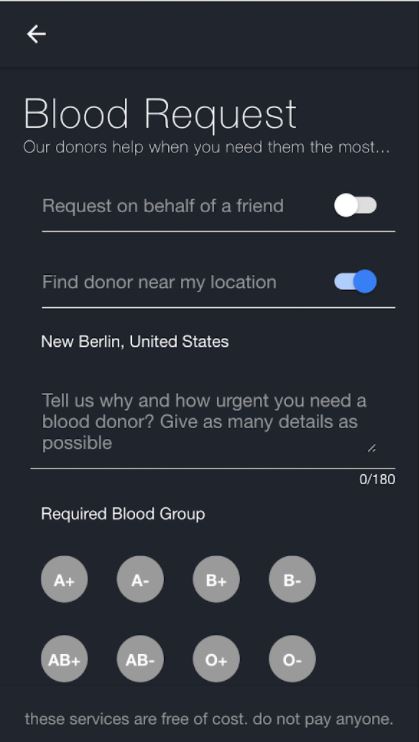


Figure :- Acceptor request blood for friend or nearly location page for blood donation app and life saver connect application (blood donation app and life saver connect application, 2020)

Donor team’s page

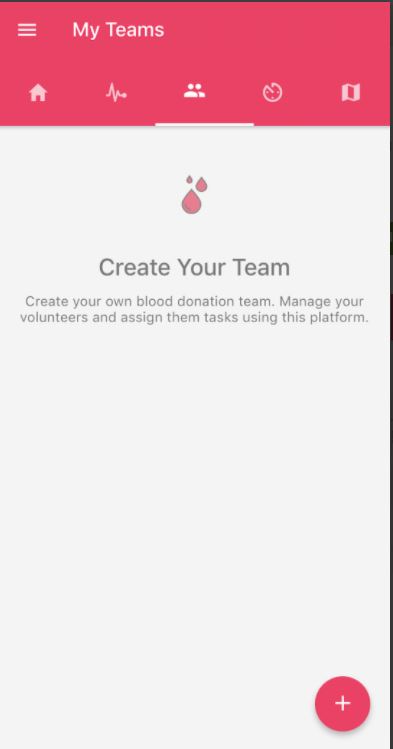


Figure :- Donor teams page for blood donation app and life saver connect application (blood donation app and life saver connect application, 2020)

#### 2.1.1.2 Comparison table for blood donation app and life saver connect

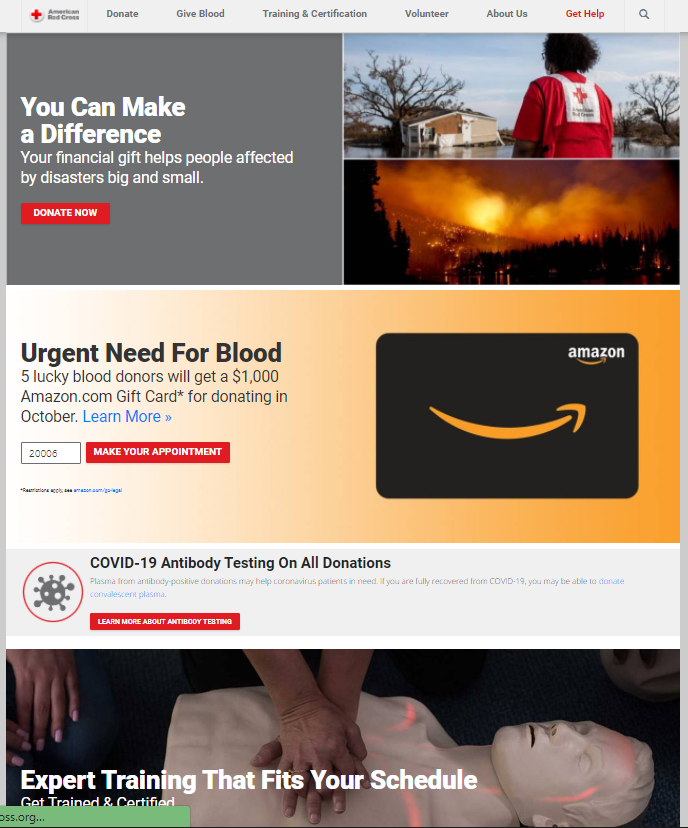
|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of features | Blood Donation App and Life Saver Connect | Online Blood Bank and Donor Management System  (Proposed System) |
| 1 | Donor or acceptor login page | Yes | No |
| 2 | Post a blood request | Yes | Yes |
| 3 | Get notification service | Yes | Yes |
| 4 | Request blood for friend or nearly location | Yes | Yes |
| 5 | Make same blood group teams | Yes | No |

### 2.1.2 Red Cross Blood Donor Web Application

The application makes it simple to make appointments, easy to go before appointments, and will send you notification or alert messages when you are qualified to blood donation. However, when register on to the application it won't just list the date when the donor are qualified. Donor missing some information donor are should be added. (redcrossblood, 2020) Red Cross Blood application for permission the donors to book appointments with blood banks and quickly and easily find local blood donation drives and blood donation centers. (Vamsi Krishna Tatikonda, 2017)

The Red Cross Blood Donor App has many features are explore the official web application such as:-

* Find nearby blood drives and contributor center rapidly and without any problem
* The convenient a simple arrangement booking and rescheduling
* Rapid Pass completion
* Access to COVID-19 antibody test results
* Get notified is delivered to when blood the patient
* View mini-physical results
* Get arrangement updates and special low blood warning messages
* Total blood donation tracking
* Receive special promotion update
* Gain identifications for special blood contribution achievements
* Join or create a lifesaving team, enroll other blood contributors, and check rankings on the donor team leader board. (redcrossblood, 2020)



#### 2.1.2.1 Screenshot for features

Home page

Figure :- Home page for Red Cross blood donor web application (redcrossblood, 2020)

Blood donation page

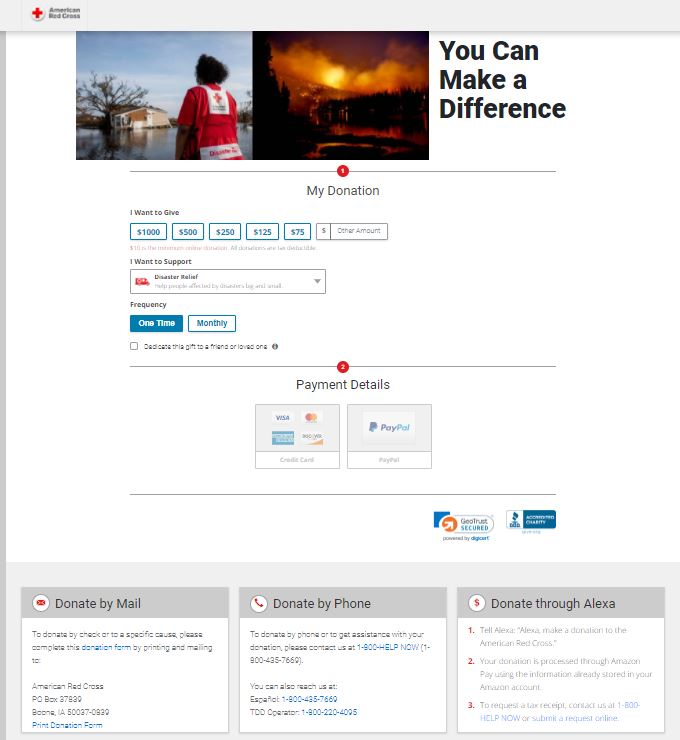


Figure :- Blood donation page for Red Cross blood donor web application (redcrossblood, 2020)

Blood donor login page

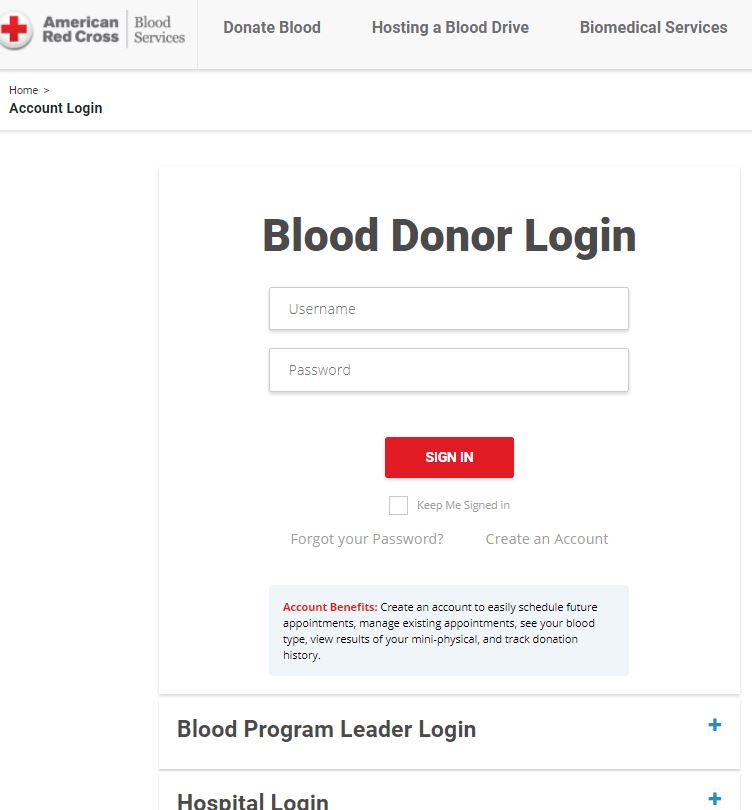


Figure :- Blood donor login page for Red Cross blood donor web application (redcrossblood, 2020)

Give Blood page

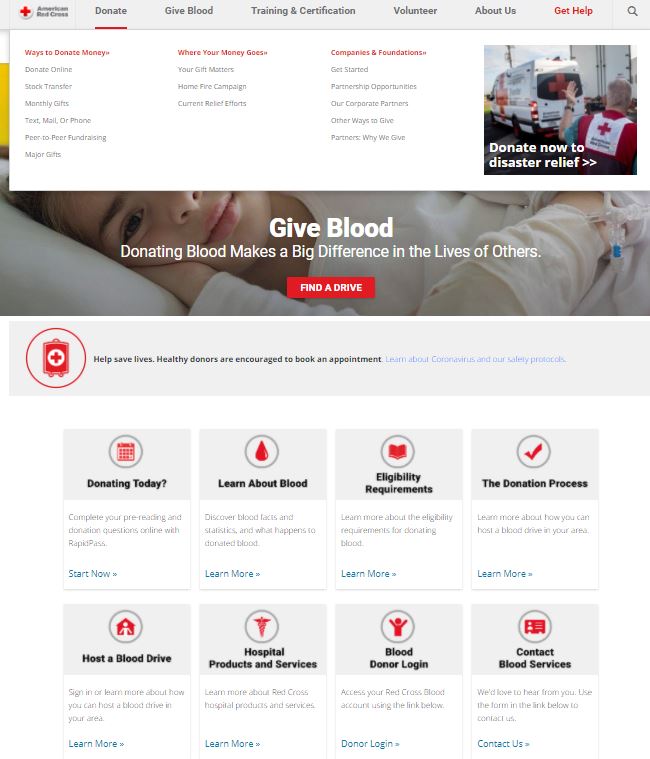


Figure :- Give blood page for Red Cross blood donor web application (redcrossblood, 2020)

Training and Certification page

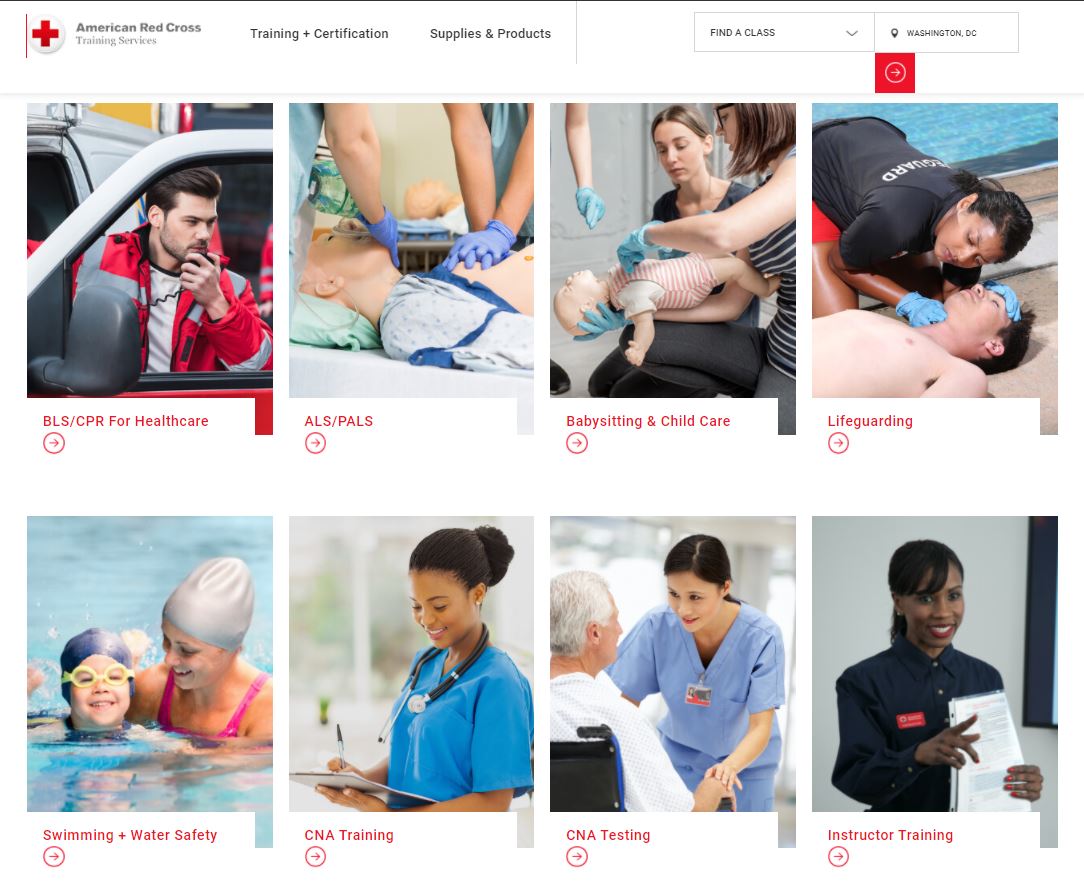


Figure :- Training and certification page for Red Cross blood donor web application (redcrossblood, 2020)

Become a volunteer page

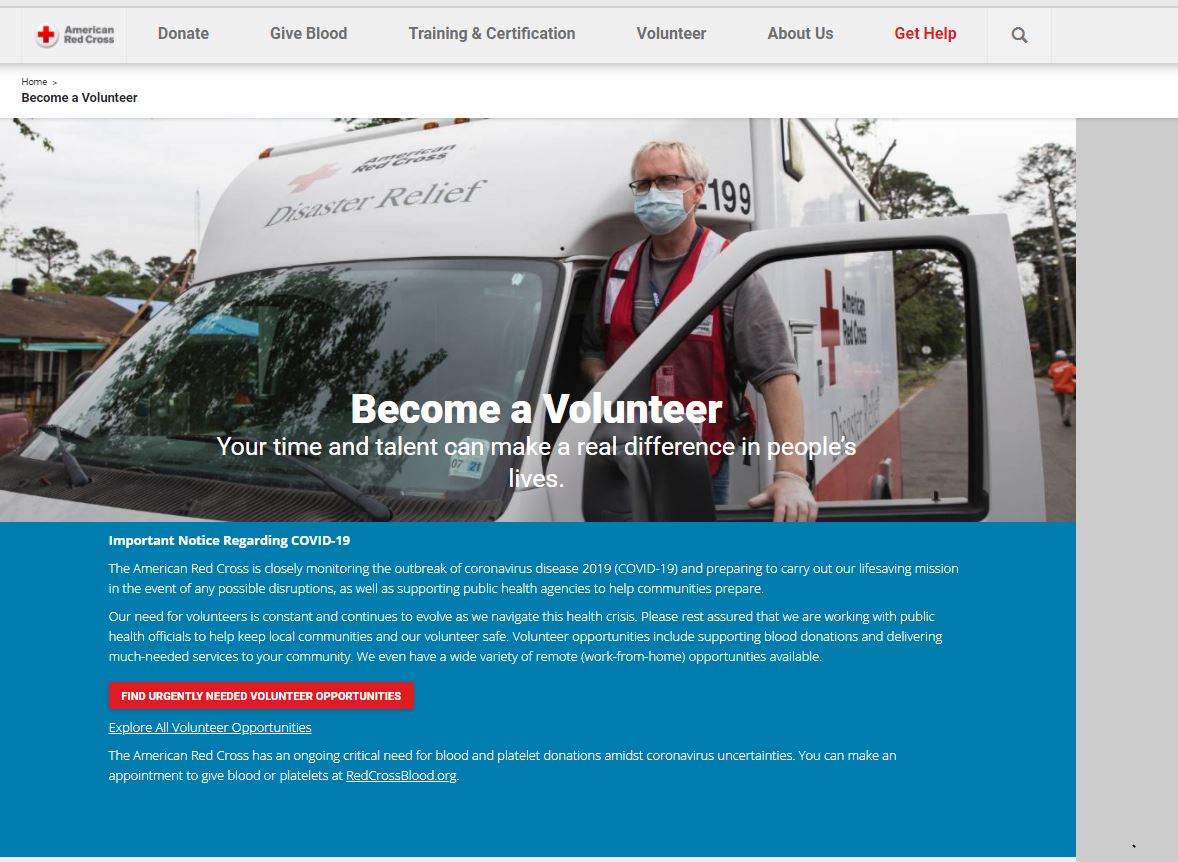


Figure :- Become a volunteer page for Red Cross blood donor web application (redcrossblood, 2020)

Get help page

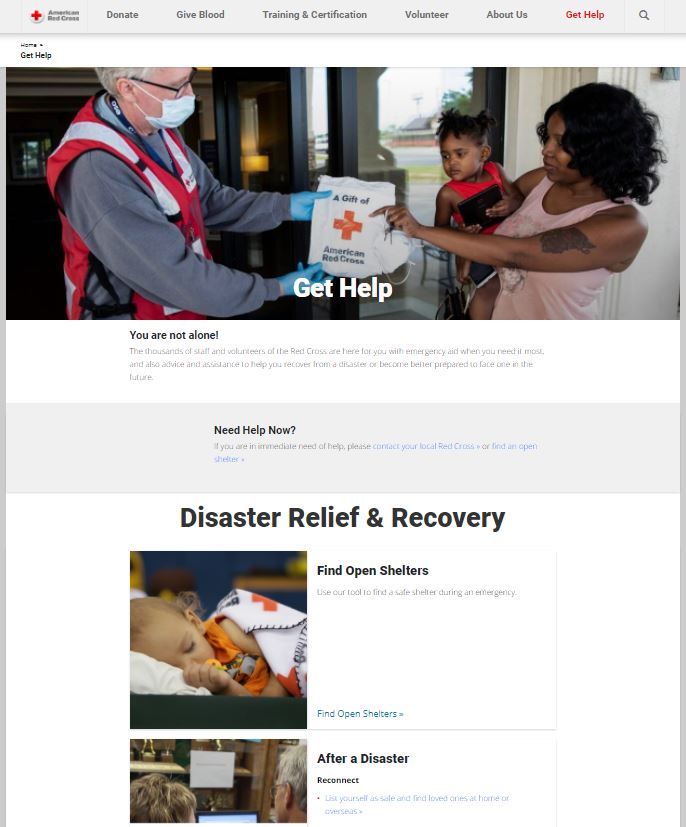


Figure :- Get help page for Red Cross blood donor web application (redcrossblood, 2020)

#### 2.1.2.2 Comparison table for Red Cross blood donor web application

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of features | Red Cross blood donor web application | Online Blood Bank and Donor Management System  (Proposed System) |
| 1 | Donor or acceptor login page | Yes | No |
| 2 | Post a blood request | Yes | Yes |
| 3 | Find a drive | Yes | No |
| 4 | Provide training and certification | Yes | No |
| 5 | Become a volunteer | Yes | No |

### 2.1.3 Friends2support Web application

According to Friends2support this system Begun in the year 2005, on 14 Nov, in a little live with only 100 deliberate donors however with the energy to serve their society. This web application is an association that brings blood givers and those needing blood on to a typical stage and look for donors who are eager to give blood, just as offer the most ideal help to those in emerge need of it. This application main function are "Map is connected to donor address" which helps in reaching nearby individuals right away. If this is not possible, then one more tab is necessary while registering new donor. So required individuals can approach close by an individual on need. (Anon., n.d.) The Friends2Support.org app is available in three repositories: Google Play, Apple Store and Windows Mobile App shop. (Sofia Ouhbi, 2015)

Currently Friends2Support.org, the world's largest blood contributor information base with free access, has added another part to its site, has added a new section called 'COVID-19 Plasma blood contributors’ on application. All the COVID-19 patients, who have recovered from a corona virus attack and are willing to help other COVID-19 patients in plasma therapy, volunteered themselves as plasma donors after a scheduled waiting period of four weeks from negative testing and there are currently half million normal blood donors from 6 countries voluntarily registered on this website. (PRADESH, 2020)

For this application, Friends2Support has process as they will have to register first and verify the personal information themselves. After the verification the information acceptor are search the donor or post the blood request in the system. Acceptors or Donor also used the feature find a service organization.

The Friend2support application main features are:-

* Plasma contributor enrollment and Discovery
* Discovery of location-based voluntary blood contributor.
* Blood contributor enrollment upon OTP confirmation.
* Login, edit profile, change the password and delete the profile of blood donor
* You can directly call the donor, Send SMS and Whatsapp contributor information.
* Report if there is a problem with benefactor information. (friends2support, 2020)

#### 2.1.3.1 Screenshot for features

Home page



Figure :- Home page for friends2support web application (friends2support, 2020)

Donor Registration Page

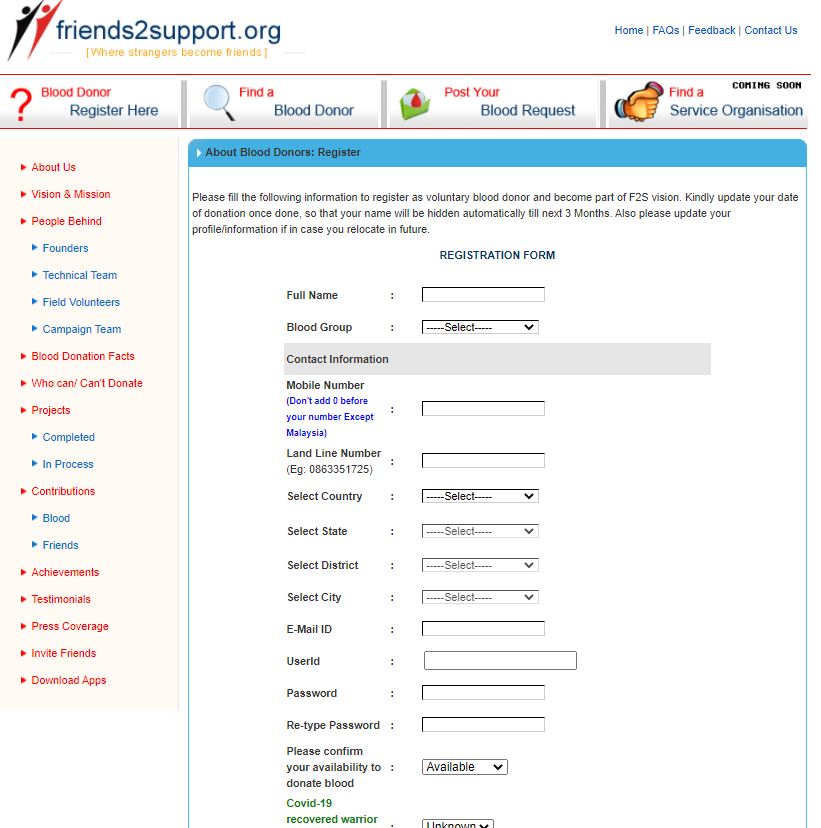


Figure :- Donor register page for friends2support for web application (friends2support, 2020)

Search Donor page

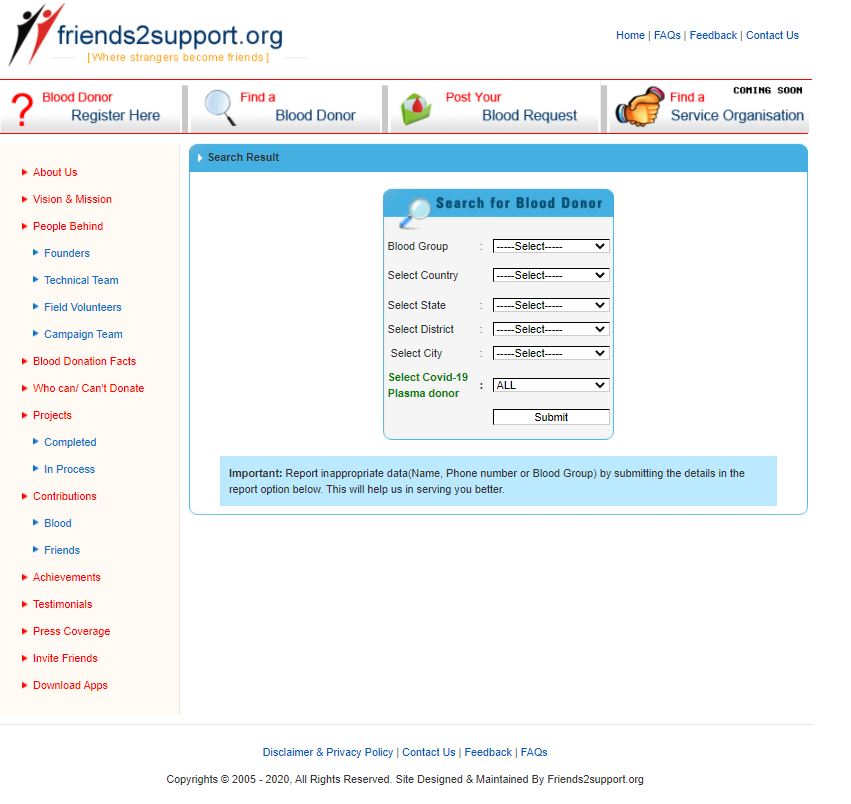


Figure :- Search donor page for friends2support web application (friends2support, 2020)

Post your blood request

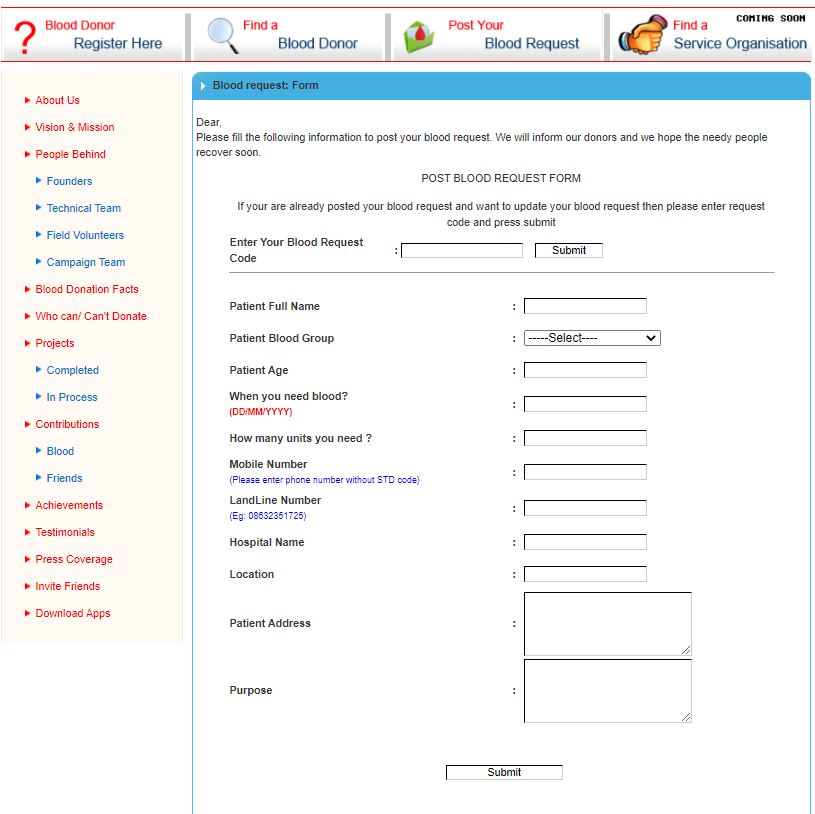


Figure :- Blood request page for friends2support web application (friends2support, 2020)

Find a service organization page

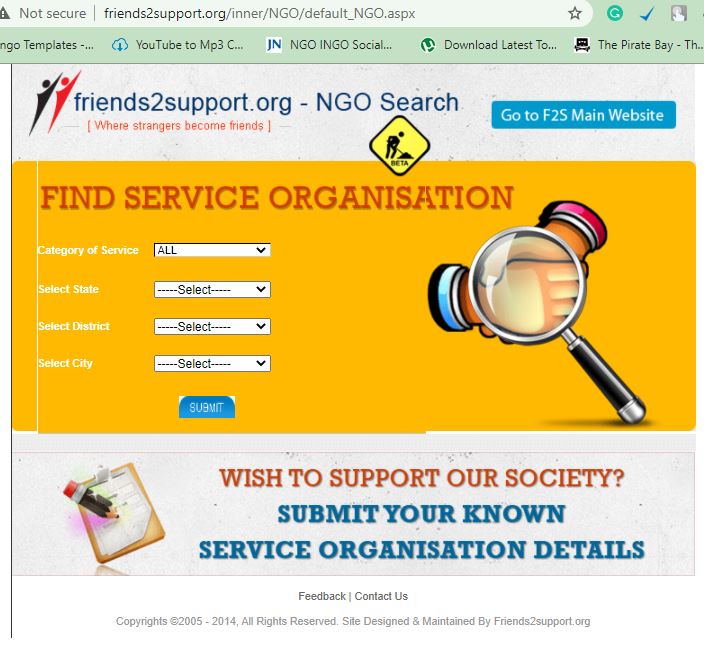


Figure :- Find a service organization for friends2support web application (friends2support, 2020)

This application's future scope is to maintain the basic user interface part because it more attractive for users, manages the strong relation between donors and acceptors, and also advertise the benefit of blood donation, or motivate the interested new donor.

#### 2.1.3.2 Comparison table for Friends2support Web application

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of features | Friends2support Web application | Online Blood Bank and Donor Management System  (Proposed System) |
| 1 | Donor register | Yes | Yes |
| 2 | Find a blood donor | Yes | Yes |
| 3 | Post blood request | Yes | Yes |
| 4 | Find service organization | Yes | No |

## 2.2 Comparison table of all similar System

|  |  |  |  |
| --- | --- | --- | --- |
| Application Name | Name of features application | Used in the System | Online Blood Bank and Donor Management System  (Proposed System) |
|  | Donor or acceptor login page |  | X |
| Blood Donation App and Life Saver Connect | Post a blood request |  |  |
|  | Get notification service |  |  |
|  | Request blood for friend or nearly location |  |  |
|  | Make same blood group teams |  | X |
|  | Donor or acceptor login page |  | X |
|  | Post a blood request |  |  |
|  | Find a drive |  | X |
| Red Cross blood donor web application | Provide training and certification |  | X |
|  | Become a volunteer |  | X |
|  | Donor or acceptor login page |  | X |
|  | Donor register |  |  |
| Friends2support Web application | Find a blood donor |  |  |
|  | Post blood request |  |  |
|  | Find service organization |  | X |

## 2.3 Analysis and Evaluation

This application will help control blood transfusion support and make an information base to hold details on stocks of blood in many locations as information on the donor in every area and every individual will have the option to see which patients need blood supplies by the web application. They will have the availability to register as blood contributors and get a notification in SMS or email from their nearby acceptor who needs blood to give blood in instances of need. This web application will help create the public mind easy to access thought online. As an analysis, we need to build better blood donation apps with more features for more blood donors. So, information about blood donation apps can be defined as a popular service in cities.

The online blood banking and donor management system are introduced here are focusing on human welfare. The whole framework was developed with distributed client-server computing technology in mind. This web application gives you full access to online blood banking and donor management software and is easily scalable and adaptable to meet the complex needs of blood, a major facilitator in the healthcare sector. The purpose is to give easy to understand interactive service through Gmail and SMS notifications. As soon as an update happens in the blood information, the change is applied to all interfaces referenced. As a result, the system provides simple and fast interaction between the various connected groups with an online blood bank.

### 2.3.1 The major finding of the similar system

In "Blood Donation App and Life Saver Connect" Anish Hamlin MR has proposed a blood donation campaign and donor blood donation program, the main purpose of this application is to follow the donor's regular trace to monitor bloodstock's smart information framework aimed at controlling blood donation and sale of blood.

In the "Red Cross Blood Donor Web Application" Vamsi Krishna Tatikonda suggested a volunteer blood donation, the main purpose of this emergency application is to inform the donor about the location and find out that the notice is delivered where the patient is sick and volunteer. And presented a training certificate. This system good for the covid-19 pandemic because it is access the antibody test.

In “Friends2support Web application” by Sofia Ouhbi, Pradesh and Andhra proposed an application main features are it is find the donor for plasma therapy, area based volunteer blood donor , main aim of this application is every new donor has provide the OTP for verification and also login the system and change password, edit, delete the profile of donor. This system helps the donor for all access the system and make friendly

## 2.4 Unique Selling Products

This web-based application "Online Blood bank and donor management system” will properly manage the records of blood donors and to help the individuals who need blood, find the proper blood donor as quickly as a time. (Aljojo, 2014) It assists to maintain the donor information and quality of blood base on medical report. This expands dependability, adaptation to internal failure, and accessibility. The online blood donation system is providing a notification and significant that when the many acceptor or donor are using the web application searching for close by blood donors is done where it depends on area of acceptor. Further, these information are available by anybody acceptor and donor. (P. Priya, 2014)

Finding the features for used in web application such as:-

* In this project mainly three modules: Admin, Donor and Acceptor.
* The admin only login the dashboard and can used CURD and other features like change password, read messages, make weekly/monthly report, view donor list and etc.
* In an emergency case, the acceptor are directly send a notification for donor or contract admin through contract us page.
* The Acceptor has availability to find donor and may also register to donor form if wished to donate blood.

## 2.5 Project Elaboration

### 2.5.1 Context DiagramD:\personal\New folder\Context diagram fyp (1).jpg

Figure :- Context diagram (modernanalyst, 2020)

### 2.5.2 Event List of context diagram

1. Admin can login in the system.

2. If correct admin id and password the system gets the successfully login notification.

3. Admin can add the donor.

4. If Complete the all section of add donor gets system message.

5. Admin can search the donor in the system

6. The System find the donor or search information gets system message.

7. Admin can delete or block the donor.

8. If admin delete or block donor in the system. System gets the successfully delete message.

9. Donor can register the System.

10. If correct all the donor information the system gets the successfully message.

11. Acceptor can search the donor.

12. The System find the donor or search information gets system message.

13. Acceptor can send notification for donor in emergency blood need.

14. The system gets message “successfully send the emergency notification for donor”

15. The system pass the acceptor send emergency notification message

1. Project Methodology

Generally the idea of my project is to connect blood donors and acceptors so that they can be help for each other. And for that, project completion on time is recommendable so choosing agile methodology over other can be beneficial to start this project as agile methodology depends on incremental development like every sprint’s is an important feature of the system. They build the whole system in one iteration from start to finish. Agile requires planning and goal setting. For the development agile methodology will be used as agile help in following ways:

* It focuses on working incrementally.
* It makes easy while working on subsystems.
* Using agile will help me to provide updated report of my project to my supervisor easily.
* The agile methodology focuses upon receiving frequent feedbacks from the users/clients, so that they can show their satisfaction regarding to the app.
* It help to manage the time required for each sprint effectively.
* With agile I can continuously bring changes and update my project.

Being a health website, it need to complete in time with proper usage of resources. Being a beginner sometime some of the feature may get left behind while doing the project. This methodology can help to tackle that problem as I can bring changes in the project as well as I can continue my work simultaneously.

## Consideration regarding the development tools

### 3.2.1 Integrated Development Environment (IDE)

Visual Studio is an Integrated Development Environment (IDE) created by Microsoft to improve Graphical User Interface, console, Web applications, mobile applications, cloud, and web services, and so on. With the assistance of this IDE and can make oversaw code as well as a traditional code. It utilizes various software development platforms such as Windows software, Microsoft Silverlight, and Windows API, etc. It offers help for thirty-six different programming languages. It is accessible for Windows just as for macOS.

There are 3 versions of Microsoft Visual Studio such as:-

1. **Community**
2. **Professional**
3. **Enterprise** (geeksforgeeks, 2020)



Figure :- Logo of visual studio (Protalinski, 2019)

### 3.2.2 Python Programming Language

Python is a translated, object-oriented, high-quality language with dynamic semantics. Its high-quality built-in data architecture, combined with powerful typing and dynamic binding, makes it extremely attractive for faster Application Development, as well as for use as a scripting or paste to connect existing objects together. It is simple, easy-to-read syntax emphasizes readability and thus reduces system maintenance costs. Python is often used as the language of software developer support, control and build, testing, and many other methods. Construction control SCons. (python, 2020)



Figure :- Logo of python programming language (pinterest, 2020)

This python programming language main reason are such as:-

* Code composed for Python programming improvement is anything but difficult to read and get a handle on a great deal not any more curly braces and code blocks.
* Its general library support enables you to perform many complex tasks with ease
* It supports many programs and stages.
* Operated by OOP, it provides excellent support for materials, modules, and other recycling methods.
* Python web development with the Django framework is very smooth.
* It allows you to make rapid progress with very little code.
* It is awesome and allows you to expand complex applications easily.
* Provides a built-in test framework to set error correction time and enables faster workflow
* The Python Library is one of the leading languages ​​in the system.
* It is open source, free of charge, and very stable. (Technologies, 2017)

### 3.2.3 Django framework

Django is a high-quality Python web framework that promotes rapid development and perfect, pragmatic design. Built by experienced engineers, it deals with the care of most of the hassle of Web development, focuses on writing your app without having to upgrade a tire. It is free and open-source. It has ridiculously fast, reassuringly secure, exceedingly scalable, secure, versatile, portable and etc. (djangoproject, 2020)



Figure :- Logo of Django framework (django, 2020)

The main reason used Django framework are such as:-

* **Simple to Use**
* **It's quick and basic**
* **Brilliant Documentation for certifiable application**
* **It's safe**
* **It suits any web application framework** (medium, 2020)

### 3.2.4 SQLite Database

SQLite is a product library that gives a relational data management system. Lite in SQLite implies lightweight in terms of the arrangement, database management, and required resources.

The main features are such as:-

* SQLite utilizes dynamic types of tables. It implies can save any value in any column, paying little mind to the information type.
* SQLite permits a single database association to access numerous data files at once.
* SQLite is able to generate database information that is very quick working with. (sqlitetutorial, 2020)



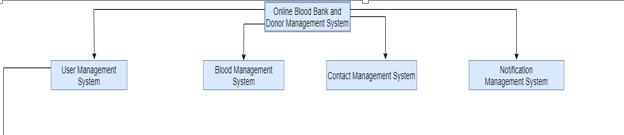
Figure :- Logo of SQLite database (sqliteviewer, 2015)

The SQLite database used main reason are such as:-

* SQLite doesn't need a different server process or framework to run other than the server.
* SQLite accompanies zero-configuration, which implies no setup or management required.
* The complete SQLite website is stored in a single cross-stage disk document.
* SQLite is very small and lightweight, with under 400KiB completely installed or less than 250KiB with optional output highlights.
* SQLite is independent, which implies no outside conditions.
* It available on windows, mac and Linux operation system. (tutorialspoint, 2020)

# Artefact Design and Test Plan

## SRS Table



Sub systems

UM – User Management System

BM – Blood Management System

CM – Contact Management System

NM – Notification Management System

Types of requirements

F – Functional Requirements

NF – Non-Functional Requirements

UR- Usability Requirements

## 3.1.1 SRS for User Management System (UM)

|  |  |  |
| --- | --- | --- |
| **Requirement ID** | **Requirement Specification** | **Moscow** |
| UM-F-1 | System should have three types of users like donor, acceptor and admin, only allow the admin to register in the system. | Must have |
| UM-NF-1.1 | Passwords should not be less than 8 characters. | Must have |
| UM-NF-1.2 | Password and confirm password field should be the same and does not match the system should be display message. | Should have |
| UM-UR-1.3 | The admin input wrong in register field, the system should be display error message. | Should have |
| UM-F-2 | System should allow the admin to login | Must have |
| UM-NF-2.1 | Email and Password fields should be filled with registered email addresses and passwords. | Must have |
| UM-F-3 | System should allow admin to change the password. | Should have |
| UM-UR-3.1 | In case of errors during the password changing process, the error message should be display. | Should have |
| UM-F-4 | Admin should be allowed to view their profile details. | Should have |
| UM-F-5 | System should allow admin to logout. | Must have |
| UM-F-6 | Super admin should be able register another admin. | Should have |
| UM-NF-6.1 | Passwords should not be less than 8 characters. | Must have |
| UM-UR-6.2 | Password and confirm password field should be the same and does not match the system should be display message | Should have |
| UM-UR-6.3 | The super admin input wrong in register field, the system should be display error message. | Should have |
| UM-F-7 | Admin must be access to add donor. | Should have |
| UM-NF-7.1 | All donor registration fields should be filled with registered email correctly. | Must have |
| UM-UR-7.2 | In case of field errors, the message should be display. | Could have |
| UM-F-8 | Admin must be able to search a donor according to blood group. | Should have |
| UM-NF-8.1 | Blood group name should be accurately provided. | Must have |
| UM-NF-8.2 | The searched blood group should be displayed. | Should have |
| UM-UR-8.3 | In case of system are not fine matching search result the system display the message. | Should have |
| UM-F-9 | Admin must be able to watch donor list according to date. | Should have |
| UM-NF-9.1 | Admin should be allow the watch list only before the current date. | Must have |
| UM-F-10 | Admin should be able to remove/block a useless donor. | Should have |
| UM-NF-10.1 | System should be display the donor delete message. | Must have |
| UM-F-11 | Admin should be able to update a donor details. | Should have |
| UM-NF-11.1 | The system should be display update message. | Should have |
| UM-F-12 | Admin should be able to send notification to donor at emergency case via SMS and email. | Should have |
| UM-F-13 | Donor must be able to register their details in donor list. | Should have |
| UM-NF-13.1 | All donor registration fields should be filled with registered email correctly. | Must have |
| UM-UR-13.2 | In case of field errors, the message should be display | Should have |
| UM-F-14 | Acceptor must be able search a donor according to blood group. | Should have |
| UM-NF-14.1 | Blood group name should be accurately provided. | Must have |
| UM-NF-14.2 | The searched blood group should be displayed. | Should have |
| UM-UR-14.3 | In case of system are not fine matching search result the system display the message. | Could have |
| UM-F-15 | Acceptor should be able to send notification via SMS or email to selected or matching donor. | Should have |
| UM-F-16 | Admin should be allowed to view their profile details. | Should have |

## 

## 3.1.2 SRS for Blood Management System (BM)

|  |  |  |
| --- | --- | --- |
| BM-NF-17 | System should able to store donor details with corresponding blood groups. | Must have |
| BM-NF-18 | System should store donor details based on their respective blood group. | Should have |
| BM-NF-19 | System should able to send notification their email of donor according to their blood group or location. | Should have |
| BM-NF-20 | System should able to search donor based on their blood group | Must have |

## 3.1.3 SRS for Contract Management System (CM)

|  |  |  |
| --- | --- | --- |
| CM-NF-21 | Acceptor should be able to contact system directly via contact us tab in emergency case. | Should have |
|  |  |  |

## 3.1.4 SRS for Notification Management System (NM)

|  |  |  |
| --- | --- | --- |
| NM-NF-22 | System should be able to send notification directly to donor in emergency case via email. | Should have |

## 3.1.1.1 Use case diagram for user management system

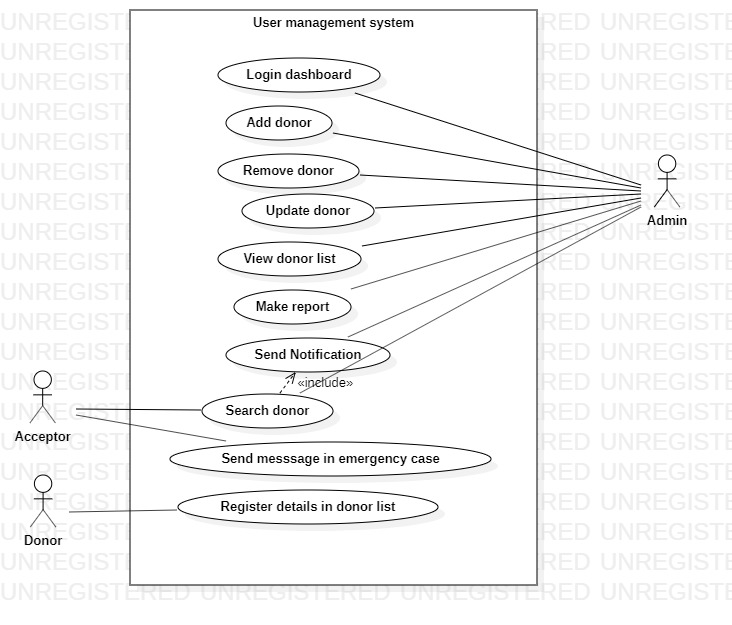


Figure : Use case diagram for user management system

## 3.1.1.2 ER-Diagram for user management system

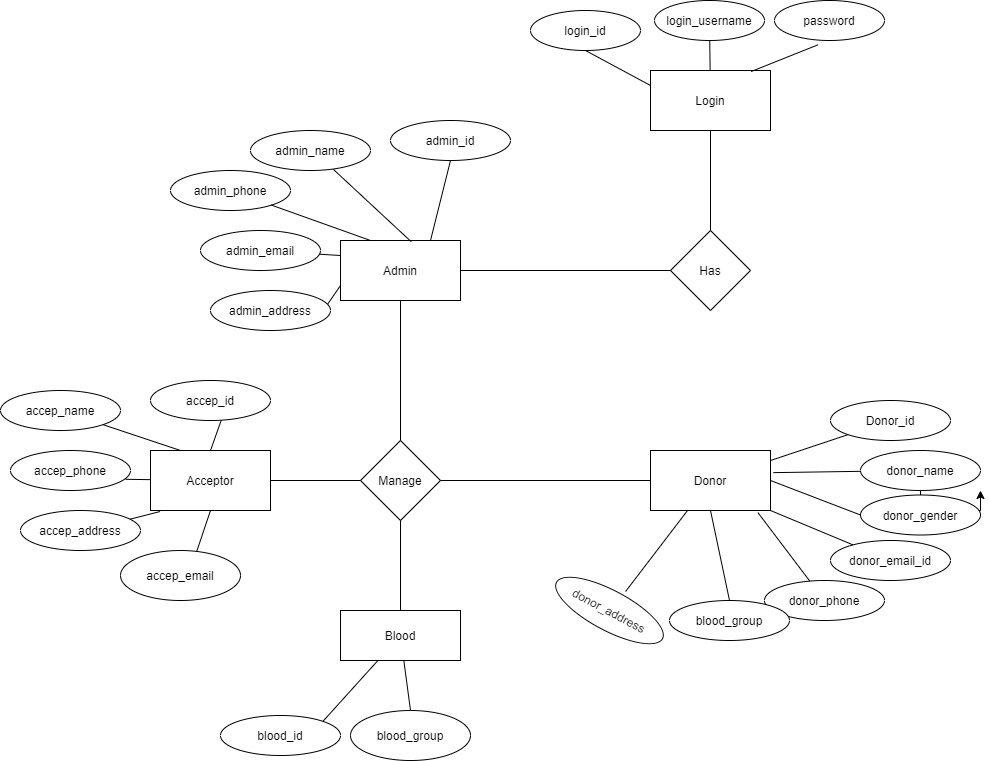


Figure : ER-Diagram for user management system

## 3.1.1.3 Activity diagram for User management system

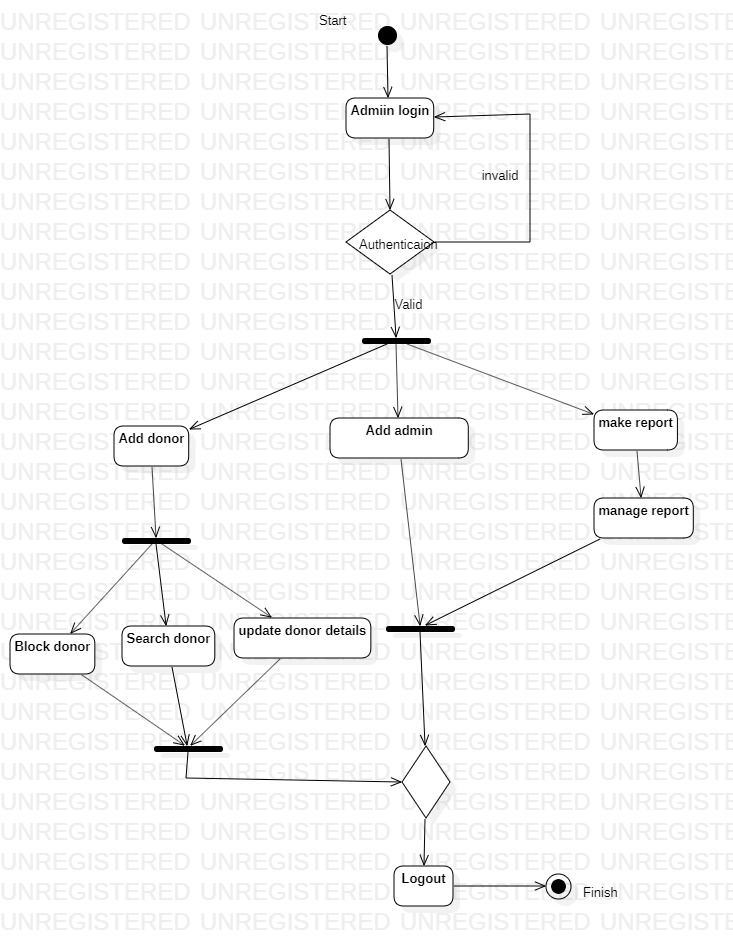


Figure : Activity diagram for User management system

## 3.1.1.4 Class diagram for user management system

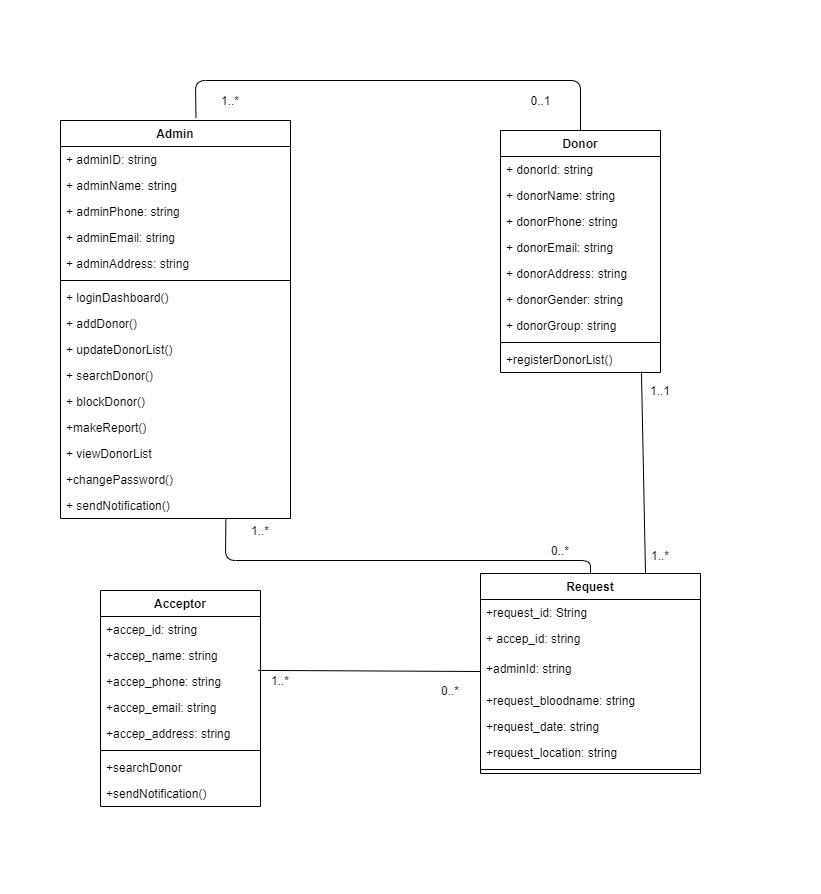


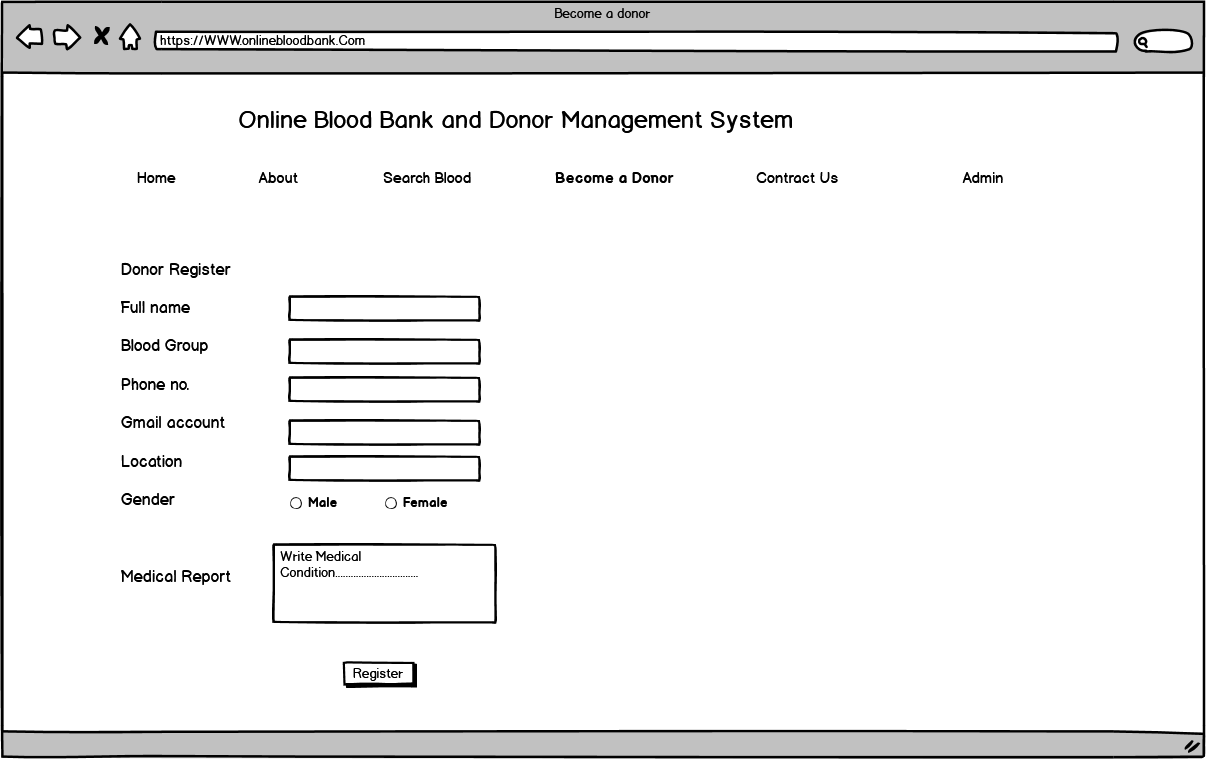
Figure : Class diagram for user management system

## 3.1.1.5 Test plan for user manage system

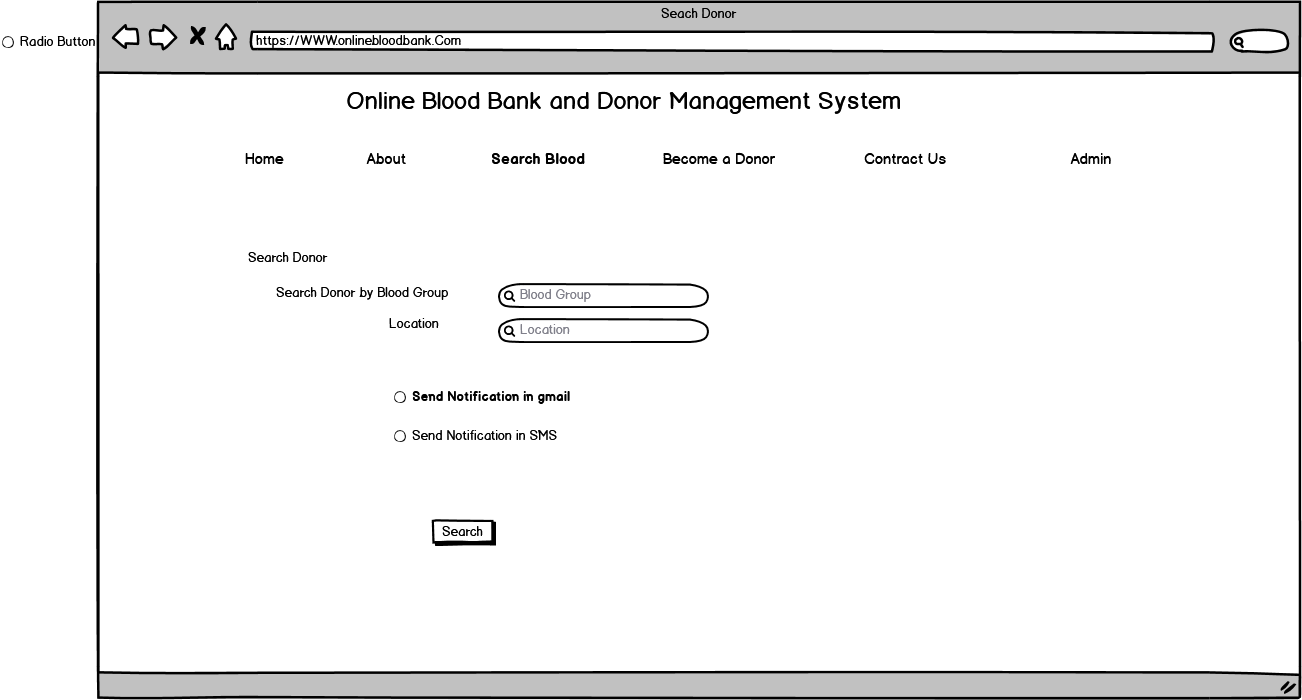
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | TC-ID | Name | SRS-ID | Prerequisite | Test Case Steps | Data set | Excepted | Actual | Result Pass/fail | | TC\_01 | Register | UM-F-1 | N/A | Go to registration portal and fill the registration details.  Click on Signup button. | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: sagar1234  Com\_password: sagar1234  Address: sankhuwa Sava | Display message” Registration Successful” |  |  | | Name: Sagar Shrestha  Phone: 9811336477  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: 12345678  Com\_password:12345678  Address: kapan | Display message” Registration successful!” |  |  | | TC\_02 | Password requirement | UM-NF-1.1 | N/A | Go to registration portal and fill the registration details.  Click on Signup button. | Name: Sagar Shrestha  Phone: 9811336477  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: 1234567  Com\_password:1234567  Address: kapan | Display message” Registration failed” |  |  | | Name: Sagar Shrestha  Phone: 9811336477  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: 12345678  Com\_password:12345678  Address: kapan | Display message” Registration successful!” |  |  | | TC\_03 | Password requirement | UM-NF-1.2 | N/A | Go to registration portal and fill the registration details.  Click on Signup button. | Name: Sagar Shrestha  Phone: 9811336477  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: 12345678  Com\_password:789456123  Address: kapan | Display message” Registration failed” |  |  | | Name: Sagar Shrestha  Phone: 9811336477  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: 12345678  Com\_password:12345678  Address: kapan | Display message” Registration successful” |  |  | | TC\_04 | Login | UM-F-2 | Registered | Go to login portal and fill the login details.  Click on Login button. | Email: sagar975@ gmail.com password: 12345678 | Display message” Login successful” |  |  | | Email: samir975@ gmail.com password: 12345678 | Display message” Login successful” |  |  | | TC\_05 | Login | UM-NF-2.1 | Registered | Go to login portal and fill the login details.  Click on Login button | Email: password: | Display message” Login failed |  |  | | Email: sagar975@ gmail.com password: 12345678 | Display message” Registration successful” |  |  | | TC\_06 | Change password | UM-F-3 | Login | Login to dashboard.  Click on change password button. | Old password: 12345678  New password:  87654321  Confirm password:  87654321 | Display message” change password successful” |  |  | | TC\_07 | Change password | UM-UR-3.1 | Login | Admin login to dashboard.  Click on change password button | Old password: 12345678  New password:  87654321  Confirm password:  12345678 | Display message” change password failed” |  |  | | Old password: 12345678  New password:  87654321  Confirm password:  87654321 | Display message” change password successful” |  |  | | TC\_08 | Add admin | UM-F-6 | Login dashboard | Admin login to dashboard.  Click on add admin button | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: sagar1234  Com\_password: sagar1234  Address: sankhuwa Sava | Display message” Add admin successful” |  |  | | TC\_09 | Add admin | UM-NF-6.1 | Login dashboard | Admin login to dashboard.  Click on add admin button | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: sagar  Com\_password: sagar  Address: sankhuwa Sava | Display message” Add admin failed” |  |  | | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Password: sagar1234  Com\_password: sagar1234  Address: sankhuwa Sava | Display message” Add admin successful” |  |  | | TC\_10 | Add donor | UM-F-7 | Login dashboard | Admin login to dashboard.  Click on add donor button | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Address: sankhuwa Sava  Gender: male  Blood group: A positive | Display message” Add donor successful” |  |  | | TC\_11 | Add donor | UM-NF-7.1 | Login dashboard | Admin login to dashboard.  Click on add donor button | Name: Sagar khadka  Phone: 9822336677  Email: [agar975@gmail.com](mailto:agar975@gmail.com)  Address: sankhuwa Sava  Gender: ………  Blood group: A positive | Display message” Add donor failed” |  |  | | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Address: sankhuwa Sava  Gender: male  Blood group: A positive | Display message” Add donor successful” |  |  | | TC\_12 | Search donor | UM-F-8 | Login dashboard | Admin login to dashboard.  Click on search donor button | Search donor: A positive  Location: kapan | Display message” show donor list” |  |  | | TC\_13 |  | UM-NF-8.1 | Login dashboard | Admin login to dashboard.  Click on search donor button | Search donor: A +  Location: Nepal | Display message” show not donor list” |  |  | | Search donor: A positive  Location: kapan | Display message” show donor list” |  |  | | TC\_14 | Donor registration | UM-F-13 | Go to web application | Donor click on Become donor button | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Address: sankhuwa Sava  Gender: male  Blood group: A positive | Admin login to dashboard.  Click on add donor button |  |  | | TC\_15 |  | UM-NF-13.1 | Go to web application | Donor click on Become donor button | Name: Sagar khadka  Phone: 9822336677  Email: [agar975@gmail.com](mailto:agar975@gmail.com)  Address: sankhuwa Sava  Gender: ………  Blood group: A positive | Admin login to dashboard.  Click on add donor button |  |  | | Name: Sagar khadka  Phone: 9822336677  Email: [sagar975@gmail.com](mailto:sagar975@gmail.com)  Address: sankhuwa Sava  Gender: male  Blood group: A positive |  |  |  | | TC\_16 | Search donor | UM-F-14 | Go to web application | Acceptor click on search donor button | Search donor: A positive  Location: kapan | Display message” show donor list” |  |  | | TC\_17 |  | UM-F-14.1 | Go to web application | Acceptor click on search donor button | Search donor: A +  Location: Nepal | Display message” show not donor list” |  |  | | Search donor: A positive  Location: kapan | Display message” show donor list” |  |  | |

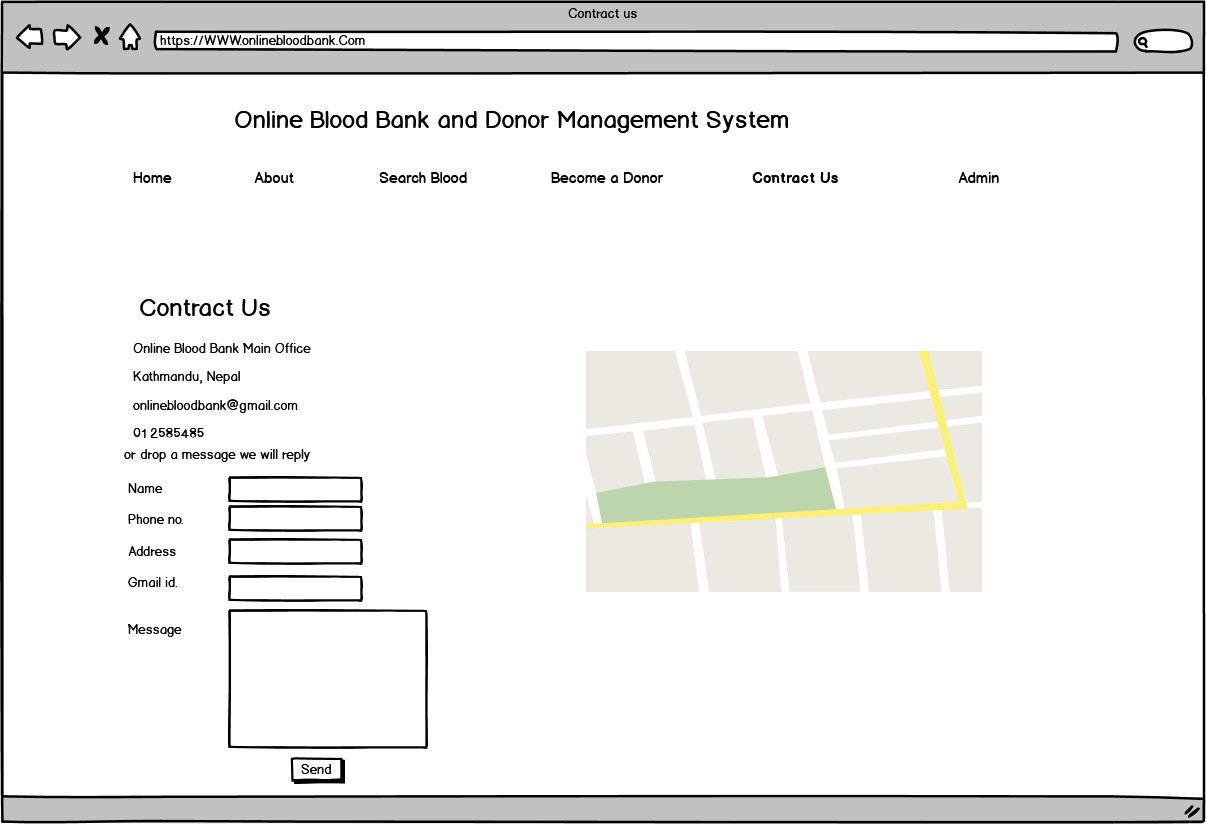
## Wireframe

Become a Donor page

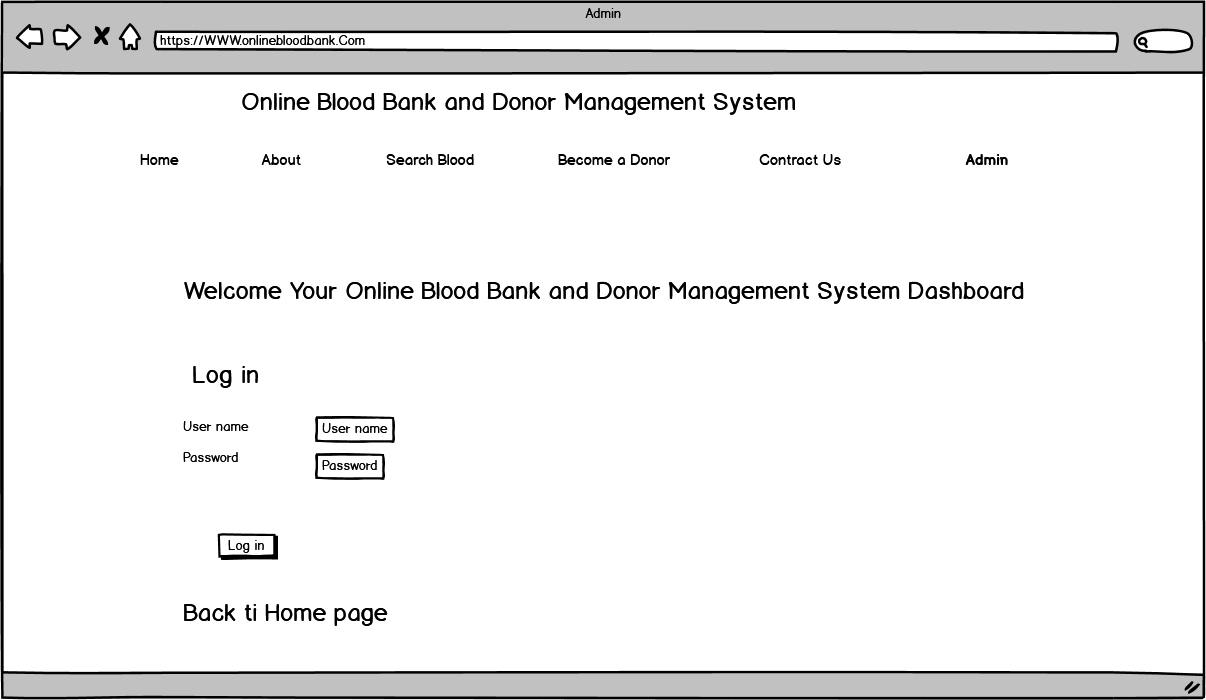


Search donor

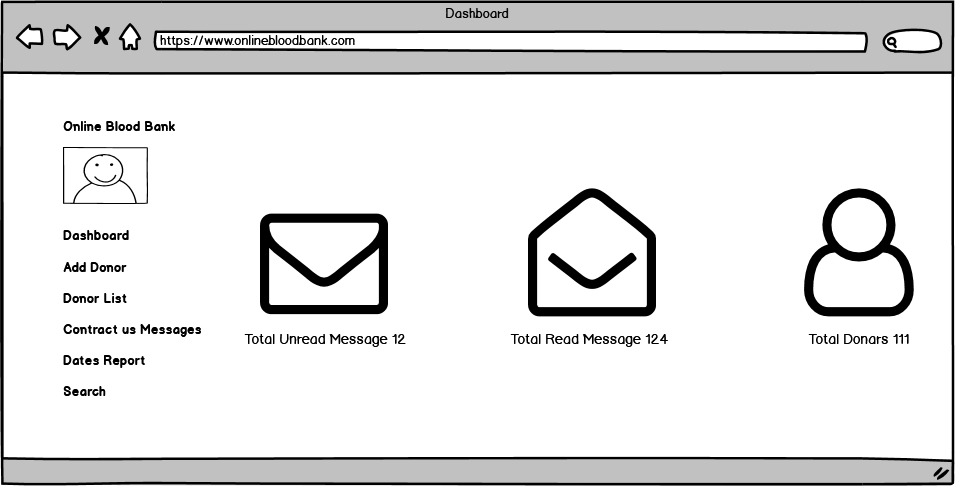


Contract us page

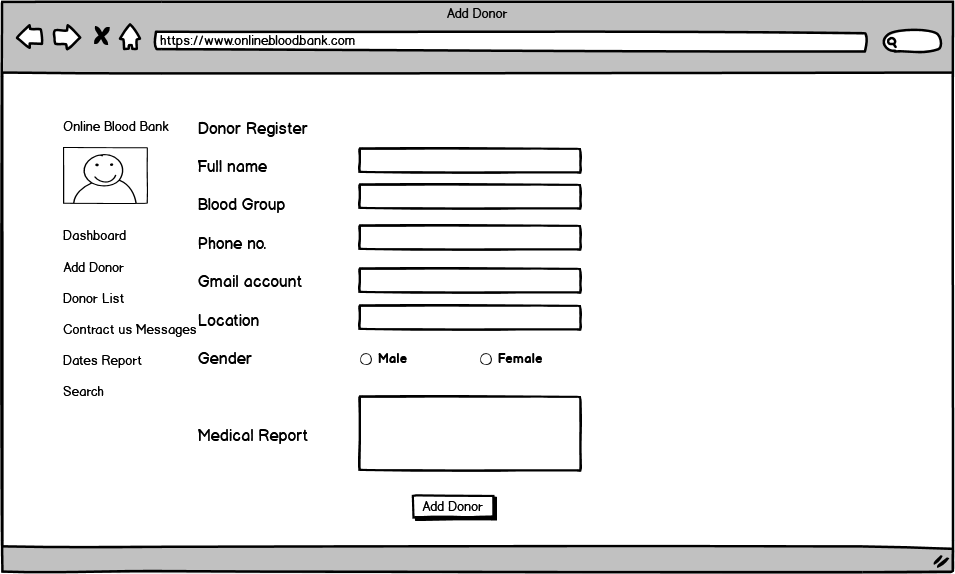
Admin Login



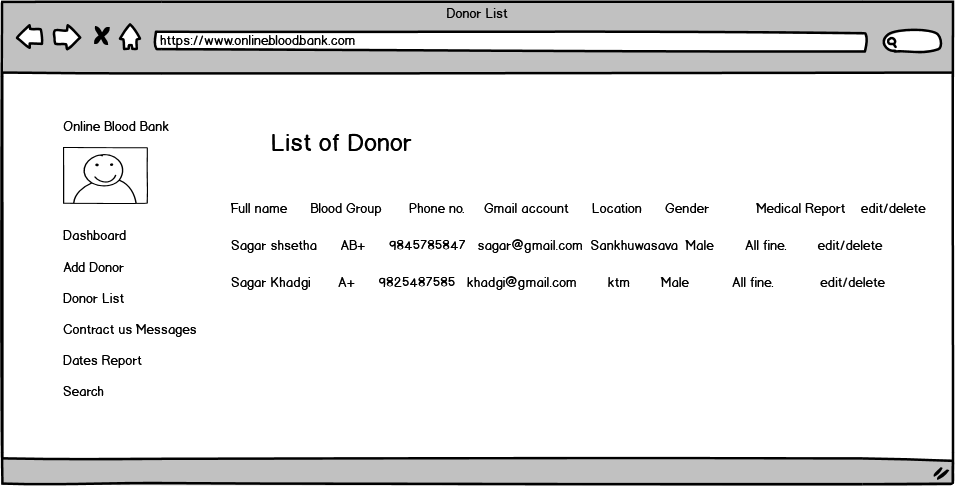
Dashboard page



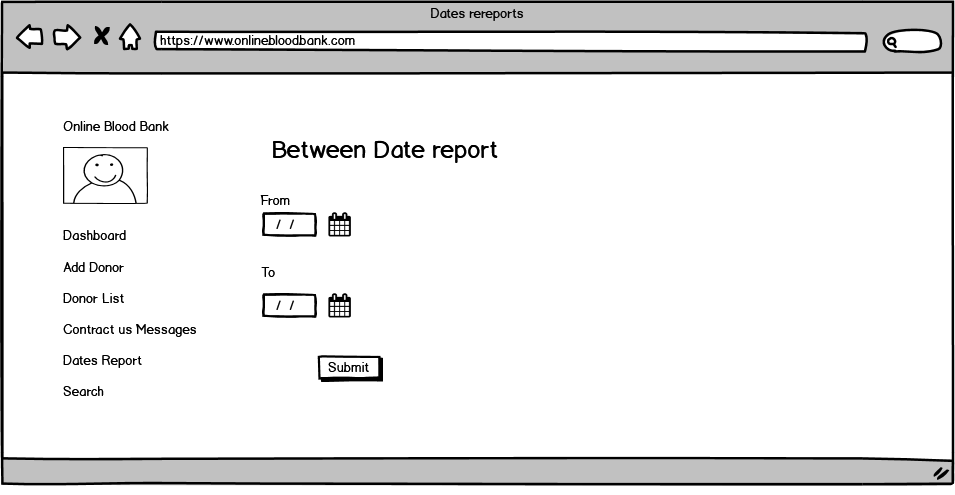
Add Donor page



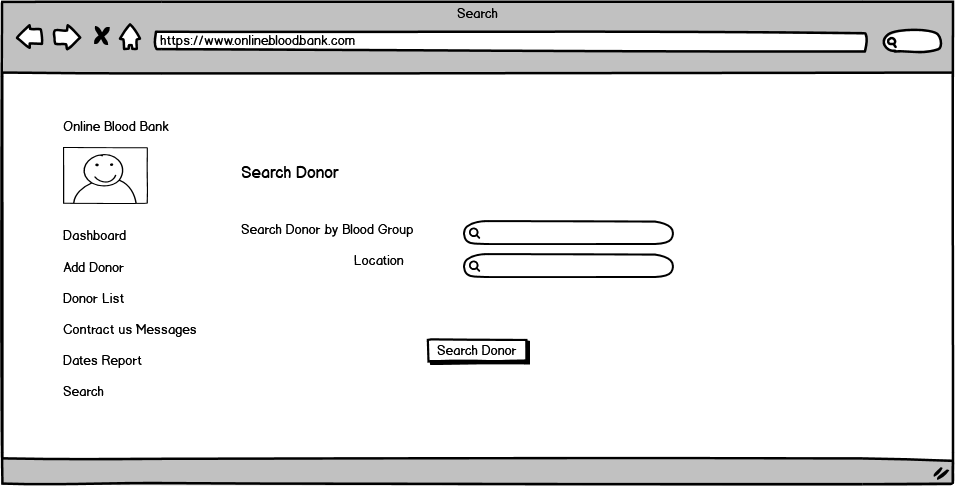
Donor List



Dates Report page



Search



# Conclusion

As of today technology had reach to its peak and had shown a positive impact in every field people are mesmerized using this means. As the data flow is more convenient and rapid through wireless technology many creators had launched blood bank management system for the welfare of people and people are showing theirs positive response too. This shows that this system have provide an optimistic impact on people mentality too.

This project have been designed as an efficient and reliable blood bank management system. This project of mine can provide satisfaction to the users as it is proposed to overcome the requirements of people regards to the blood bank. The proposed system is easy to understand as well as easy to use with proper blood donors and acceptors information’s. As in this system the user can get proper acknowledgement about the donors and their blood since we record the data of donors with respect to their medical report. Using this system can save time as people do not have to visit any blood bank and waste several time on searching for favorable donor. From this system they can directly contact the admin and discuss about the suitable donors/blood group that they need and also can get notified whenever a donors with required details is found.

In this system all the records and data of both donors and acceptors are managed by the admin. Both of the acceptors and donors contact to the admin via contact service either they want to donate the blood or accept a blood. In case of emergency the acceptors can contact the admin for a request. Till now this is all about the proposed system as mentioned and additional features can be provide in near future.

# Critical Evaluation of the Projects

In present context, finding suitable donors with acceptable blood group is a quiet difficult job to do. We can see many cases of people dying because of not getting suitable donor and blood group on time. This report is all about a project which deals about the problem mentioned above. In short the root idea of ​​this project report is to create a Web-based Blood Bank that will deal with donor records and help those needy people who are in search required blood group. This documentation provide detailed about the project and work carried out throughout the development phase. Thus this system help to provide required blood group to acceptors and make suitable use of blood that donor provides.

As per the research carried out we can see many blood bank system are available today to minimize such misfortune. Like those, this system is a web-based with reliable performance that is why anyone with a compatible device can get profited with its facility. While developing this project agile methodology was used as development method, python programming was used for coding and was created on visual code. The acceptors can request any blood group as the details of the donors are stored in the system so that both the acceptors and donors can be benefited from this system. Aside from this merit, the drawback of the system is that both the users had to get added by the admin into system, i.e. they cannot login and register on their own in the system until the admin does.

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