EAST WEST UNIVERSITY

Summer 2020

Project Report

Project Name: Blood Donation Management System
Course Code: CSE411
Course Title: Software Engineering & Information System Design
Section: 02

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Date of Submission: 21 September 2020

Introduction

This project is developed to manage blood donation. A blood donation occurs when a person voluntarily has blood drawn and used for transfusions or made into biopharmaceutical medications by a process called fractionation (separation of whole-blood components). Donation may be of whole blood, or of specific components directly. In this project, we are here to help those people who are in need of blood. In the user interface, new blood details can enter into the project to manage blood request. Then donor details can also be entered and maintained in the database. There is a registration page for becoming a donor, anyone can request from this project. So after all our project can be used to serve importantly and efficiently to all the people who are looking for blood.

Problem definition

Problem Definition of Existing system: Entering the details about the blood groups, members, addresses, id number, etc. can be a hassle to type in a hurry also tracking the database is complicated when the details are typed, calculated or maintained manually for each data. Also from the database manager end, it's a little problematic to maintain donor and users details. These makes the maintenance of the program inaccurate or faulty.

Motivation

Blood Donation System is designed & suitable for some blood banks either operating as individual organization or part of Hospital. It can cover all blood banking process from Donor recruitment, donor management, mobile sessions, component preparation, screening covering all tests, blood stock inventory maintenance, patient registration, cross matching, patient issues etc.

There are many benefits, given below:

1. Donation management
2. Blood component production
3. Blood component details, donor details store and distribution
4. Transfusion management
5. Emergency issue of blood
6. Managing unused blood units
7. Helpful both for donors and user(recipients) detection

Challenges

There is a lot of issues in this project to take care of. First of all we have to ensure to gather all the knowledge to start implementing of this project. Secondly as there will be fixed requirements, we have to work on the functionality perfectly otherwise many bugs can occur. We need to maintain those bugs regularly before deploying. A clear and understandable interface making and programming will be our big challenge in this project. In future, Many bugs will arise, maintaining and fixing them will be a challenge.

Requirement Engineering:

Functional requirements:

1. **Login panel**
   There will be a login panel for user/admin login
2. **Blood Request Panel**
   Any person can request for blood by entering from this panel
3. **Donor Registration Panel**
   Before requesting for blood user will always have to register through Registration panel. User will be asked to enter Username, First Name and Last Name, Email address, Password, Date of Birth, Phone number, Address, Blood Group, Gender, Picture etc.
4. **Change the login password panel**
   User can always change password from this panel.
5. **Change personal or contact details**
   User can always change personal details from their perspectives.
6. **User Report panel**
   A full report about a user will be shown here.
7. **Donor List**
   For searching donor there will be an option available which can be helpful for urgent finding.

Non Functional Requirements:

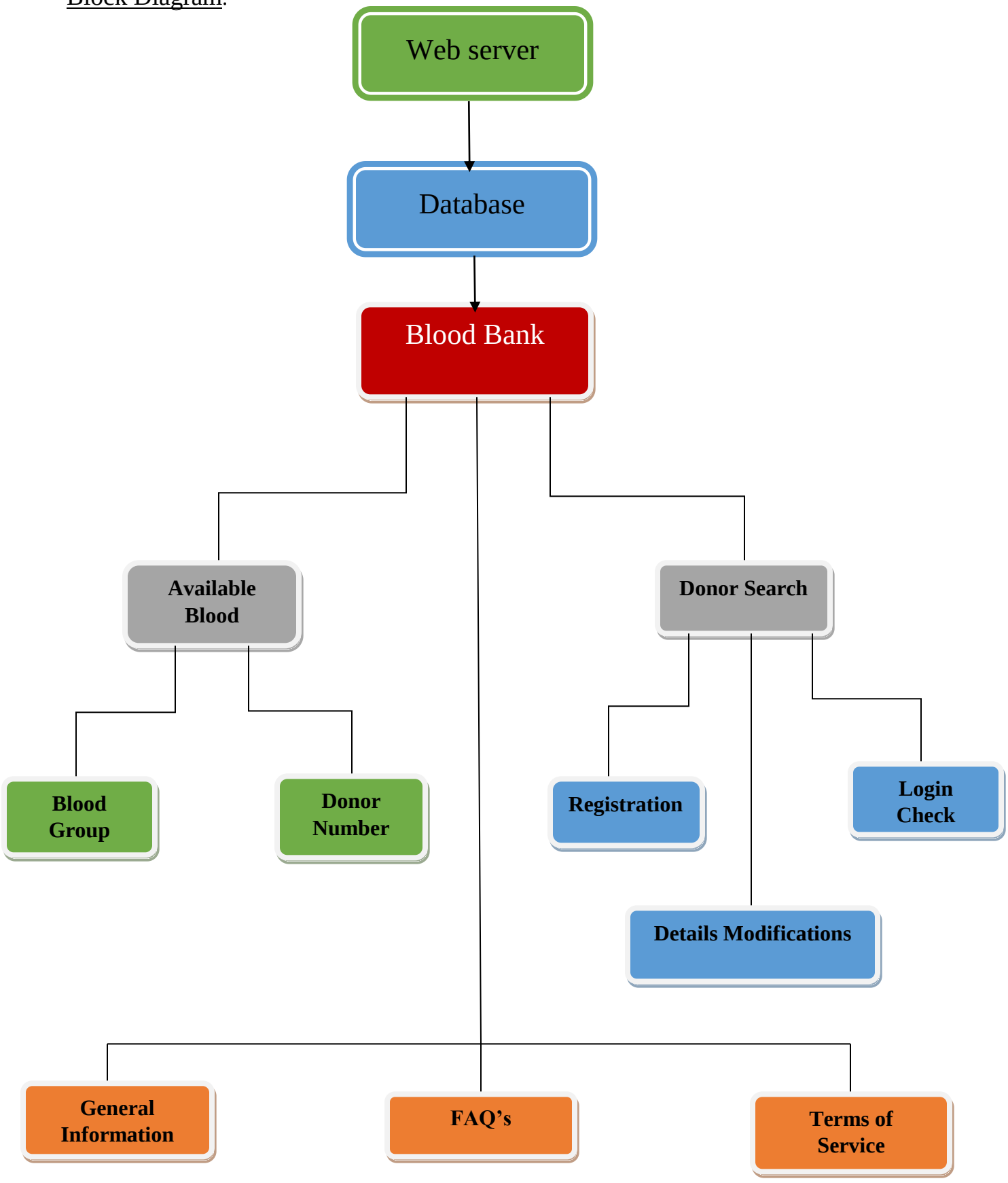
This project will entail detailed analysis of issues such as

1. **Availability:**
   The system should be available at all times, meaning the user can access it whenever they want. In case of a of a hardware failure or database corruption, the page should not be down. Also in case of a hardware failure, we have to ensure to get backups of the database from the application.
2. **Security:**
   While deploying, In spite of using HTTP we will use HTTPS to ensure that hackers cannot do any harm to our application. HTTPS actually ensures securities in this modern time where as an HTTP website is vulnerable to get hacked.
3. **Maintenance,**
   We should always try to do a backup and try checking manual works also otherwise a faulty bug may arise.
4. **Performance,**
   Our webpage cannot lag or stuck at loading page for so long. We have to use short scripts to make our site fresh and faster. Otherwise for big scripts the loading time may increase and can affect the performance of a website.
5. **Reliability.**
   Our project have to make in a way that can be used to make our website reliable to users. Also from users site we should take reliable data, otherwise without reliability the website will not perform as expecting.

Technologies:

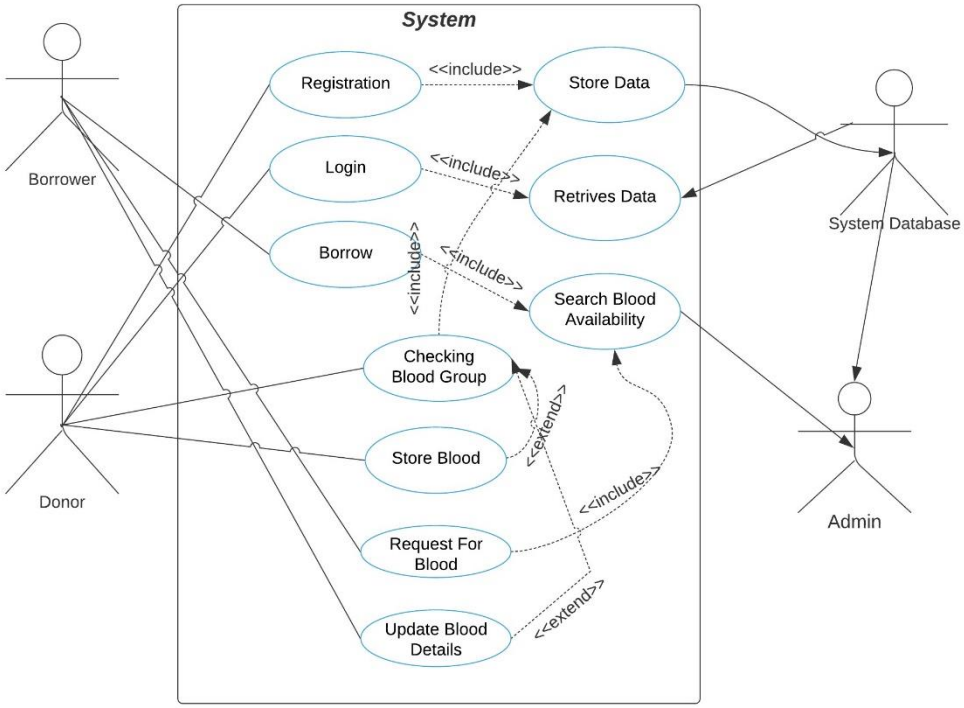
Front End: HTML, CSS, JavaScript, Bootstrap
Back-End: Python
Database: MySQL
Back-End Framework: Django

Block Diagram:

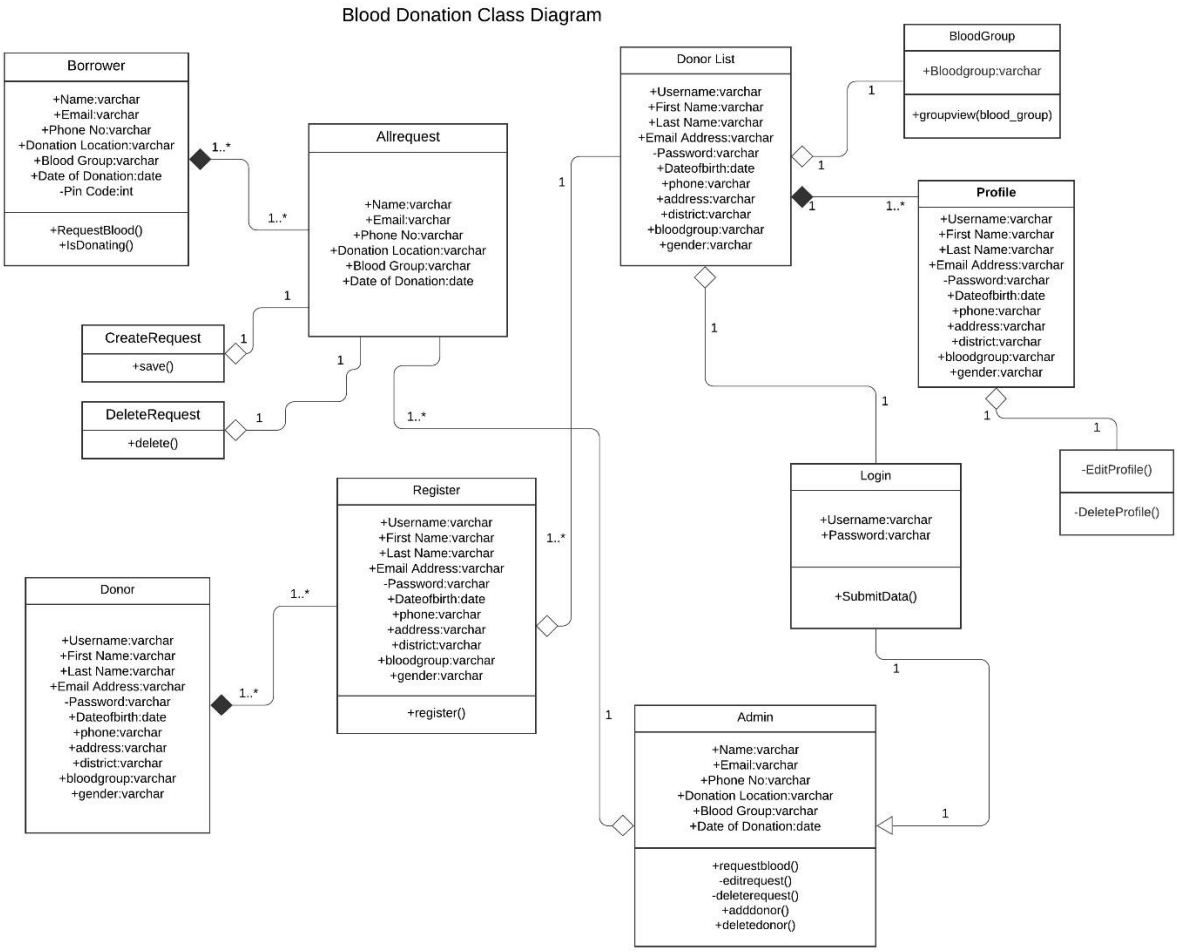


Usecase Diagram:

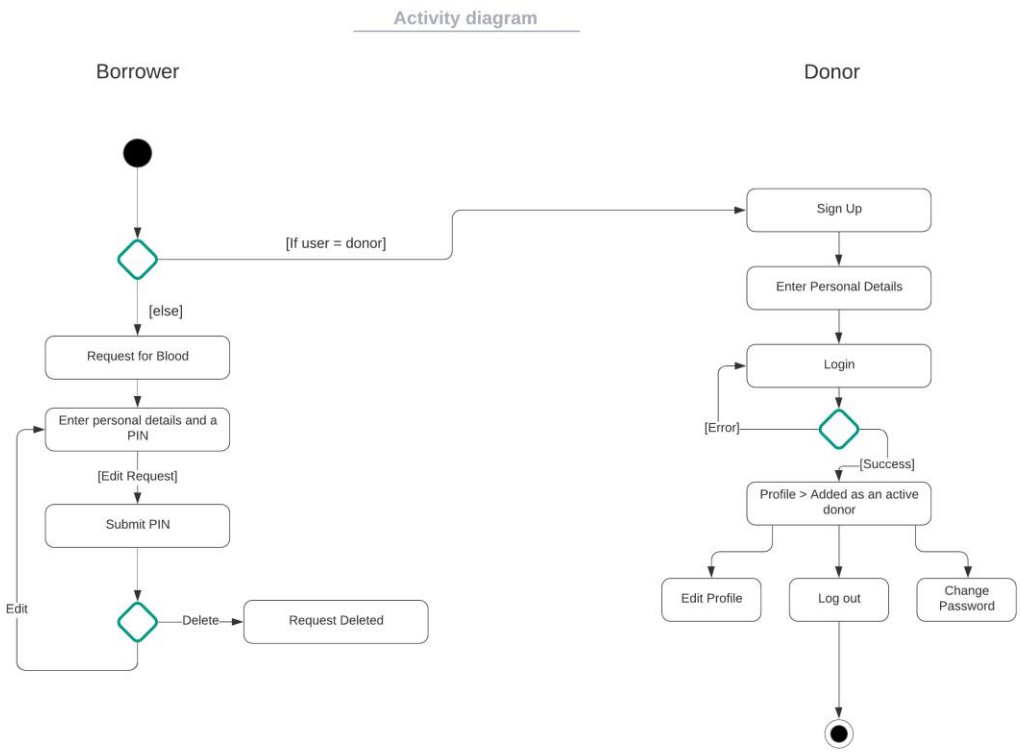
Blood Donation Usecase Diagram



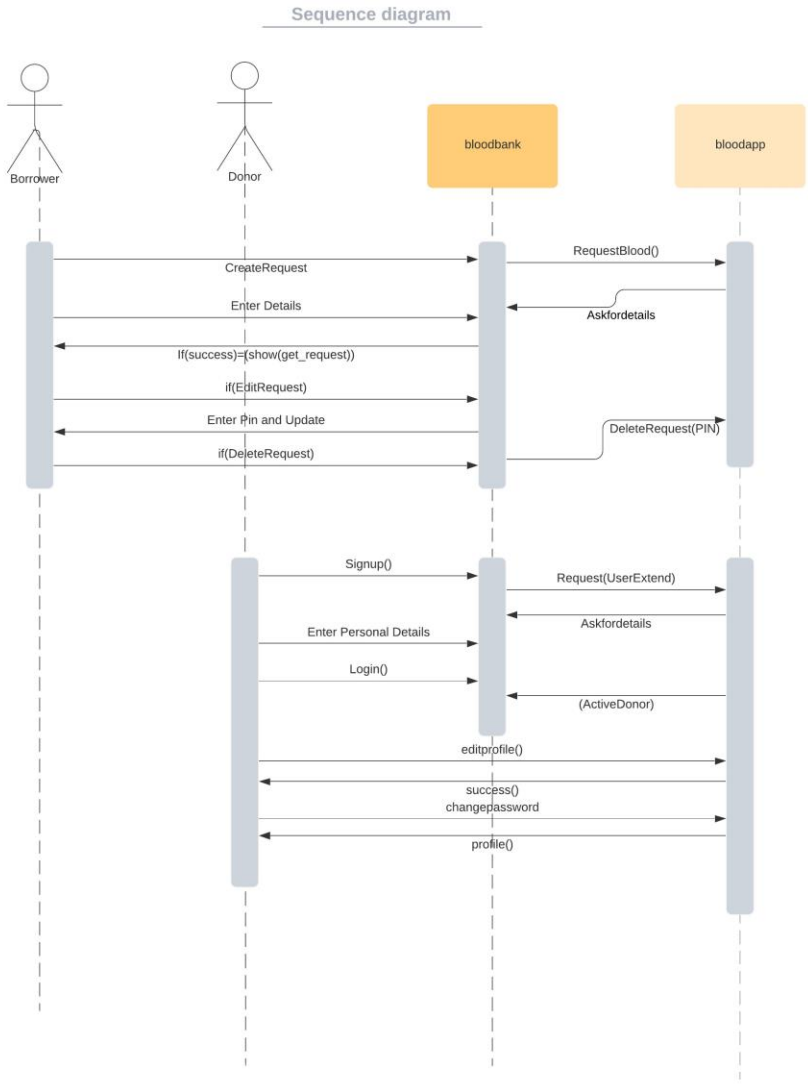
Class Diagram:



Activity Diagram:

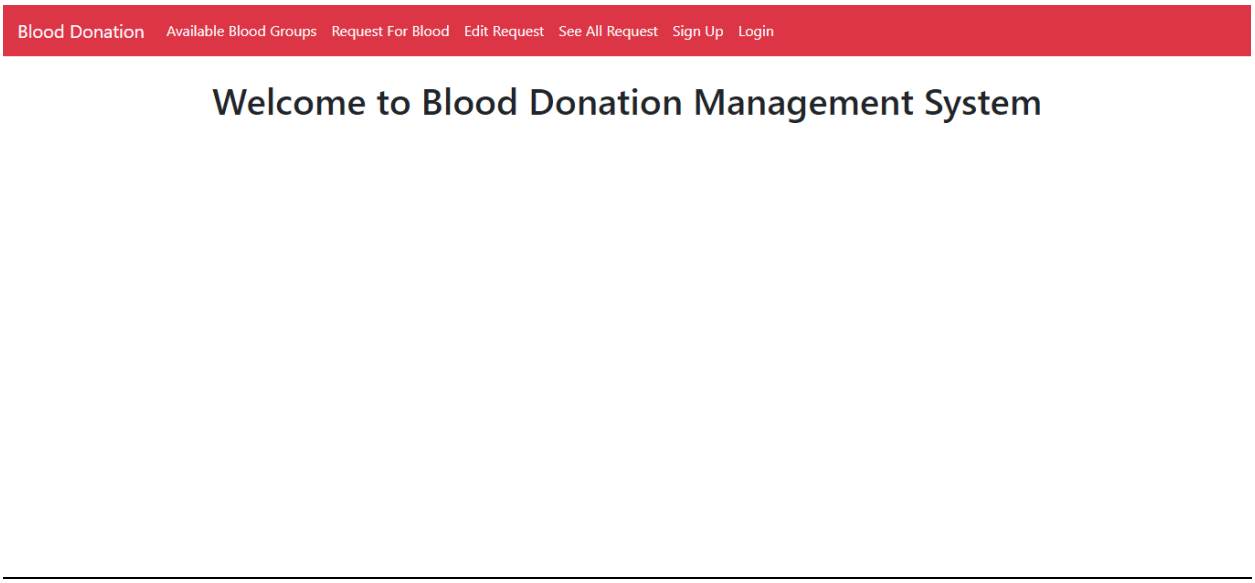


Sequence Diagram:

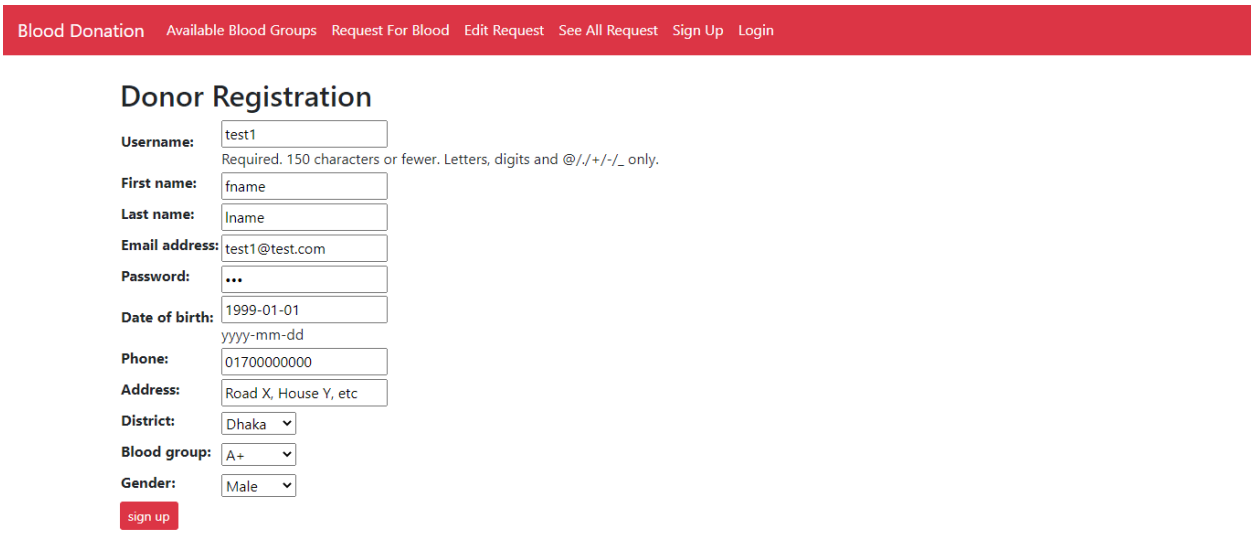


Blood Donation Management System Main Pages:

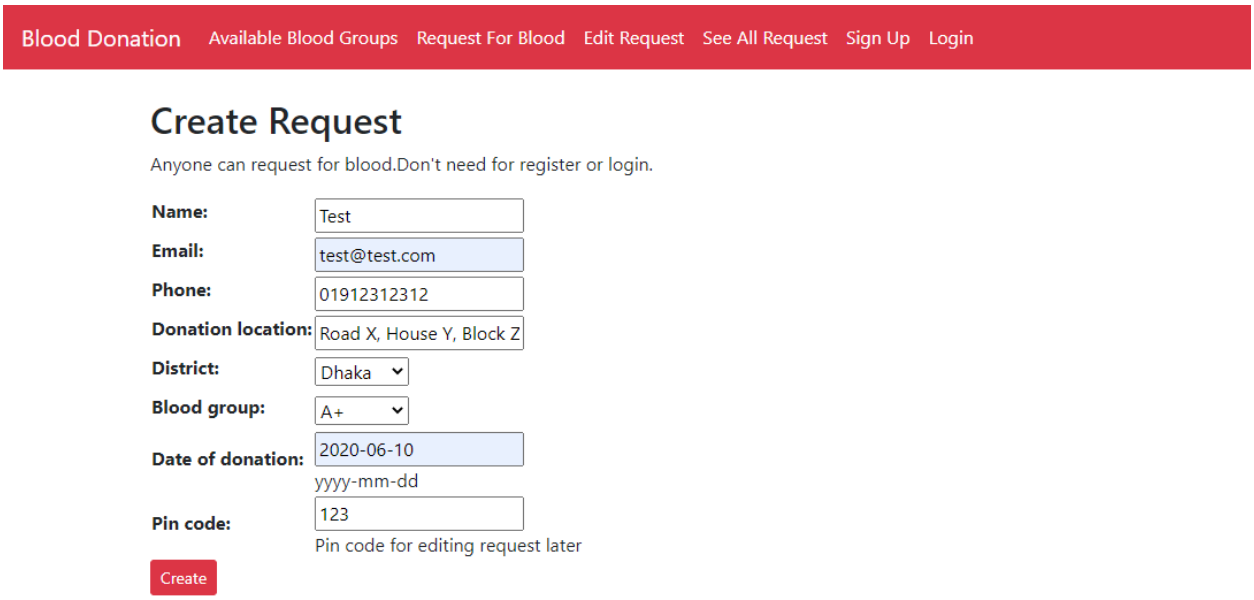
Home Page:



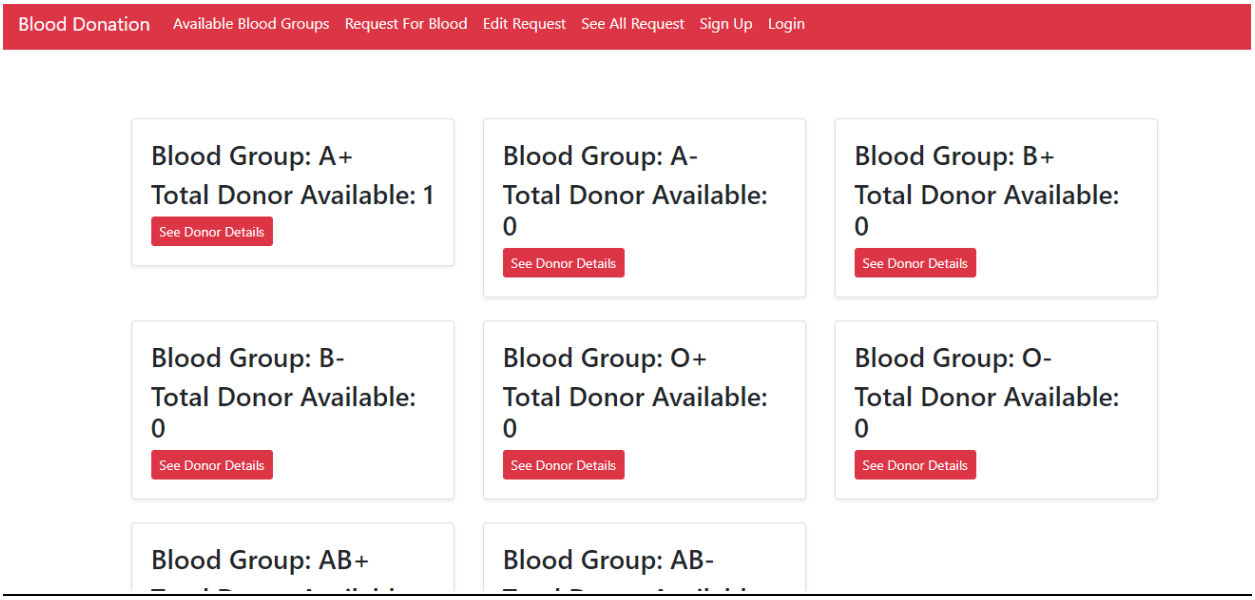
Signup:



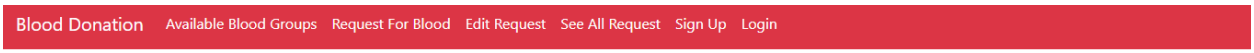
Create Blood Request Page:



Available Blood Groups Page:



All Blood Requests Page:



All Request

Name	Phone	Email	Blood Group	Donation Date	Location
Test	01912312312	test@test.com	A+	June 10, 2020	Road X, House Y, Block Z | Dhaka
Test2	0121242145	test2@test.com	A+	Jan. 1, 2020	Road Z, House A | Dhaka
test	0101201021	test@test.com	A+	June 10, 2020	Dhaka | Dhaka
Test4	0100401040	test@test.com	O+	Jan. 1, 2020	Road X, House Y, Block Z | Dhaka