

**A  
SOFTWARE REQUIREMENT SPECIFICATION  
ON  
BLOOD BANK MANAGEMENT SYSTEM  
UNDER  
NON SYLLABUS PROJECT**



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# **Chapter 1: Introduction Of Project**

## **1. INTRODUCTION**

- The project blood bank management system is known to be a pilot project that is designed for the blood bank to gather blood from various sources and distribute it to the needy people who have high requirements for it.
- The Software is designed to handle the daily transaction of the blood bank and Search the details when required.
- It also helps to register the details of donors, blood collection details as well as blood-issued reports.
- The software application is designed in such a manner that it can suit the needs of all the blood bank requirements in the course of the future.
- It will help us to find the Blood group with its most efficient time to take care of the blood and it is easier to hand over the blood to the hospital to help people to get blood on time.
- This all thing has been stored and been seen in this blood bank management system. To help more people try their best to do so.

### **1.1 Objective of Project**

Blood Bank Management Software is designed and suitable for several Blood Banks either operating as individual organizations or part of organizations covering all blood banking processes from donor recruitment, donor management, mobile session component preparation, screening covering all tests, bloodstock inventory maintenance, patient registration, cross-matching, patient issues, etc.

### **1.2 Types Of users**

- 1 Hospitals.
- 2 Who wants to donate.
- 3 Who wants to get information.

Anybody can use this blood bank management system for donors as well as those who need blood e.g., Public, Hospitals, Blood Banks, etc.

### 1.3 Constraints and Dependency

The Donor and the acceptor are constrained to create an account first to avail of the services. The internet connection is also a constraint for this web application. The web application is also constrained by the database capacity so it works well with a smaller

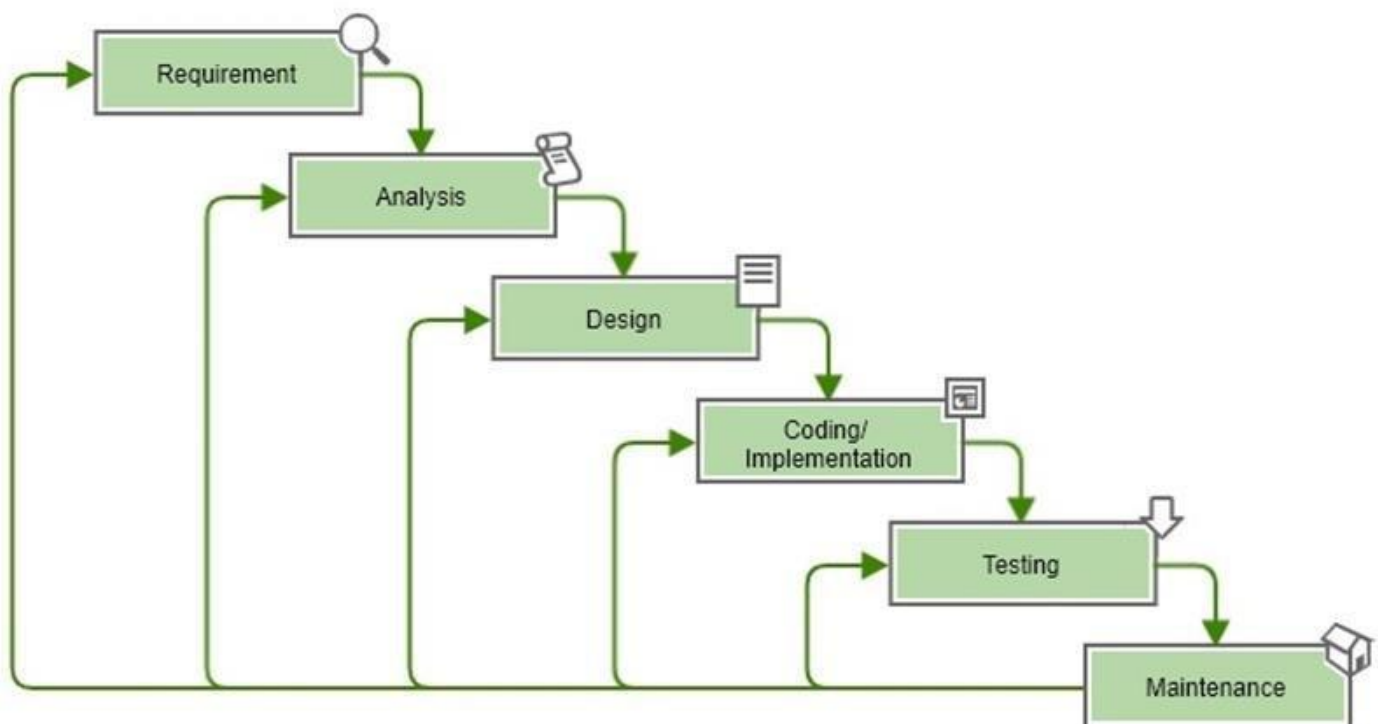
number of donors and hospitals. The access to manage the databases is different for different people. The receptionist is given

access to maintain the database of the registered donors and hospitals. The inventory manager is allowed access to update the inventory details and payment of the order placed by the hospitals. It is assumed that the users have enough resources to run the web application i.e a mobile phone or a computer that supports the required functions. It is assumed that the online payments carried out

are looked by the respective bank administrators. The web application depends on applications such as Oracle and MySQL for creating and managing the database.

The front end is designed with the help of HTML, PHP, and Bootstrap.

### 1.4 1.4 Methodology Used (Waterfall Model)



**The sequential phases in the Waterfall model are:**

**Requirement Gathering and analysis:** All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification doc.

**System Design:** The requirement specifications from the first phase are studied in this phase and system design is prepared. System Design helps in specifying hardware and system requirements and also helps in defining overall system architecture.

**Implementation:** With inputs from system design, the system is first developed in small programs called units, which are integrated into the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing.

**Integration and Testing:** All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

**Deployment of the system:** Once the functional and nonfunctional testing is done, the product is deployed in the customer environment or released into the market.

**Maintenance:** Some issues come up in the client environment. To fix those issues patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.

All these phases are cascaded to each other in which progress is seen as flowing steadily downwards *like a waterfall* through the phases. The next phase is started only after the defined set of goals are achieved for the previous phase and it is signed off, so the name "Waterfall Model". In this model, phases do not overlap.

## **Chapter 2: Requirement Analysis**

### **2.1 Functional Requirement**

1. **Access Website:** Users should be able to access web-application through either an application browser or similar service on the mobile phone or computer. There should not be any limitation to access the web-application.

2. **User Registration:**

Given that the user has accessed a web application, then the user should be able to register through the web-

application. The donor user must provide a first name, gender, blood group, location, contact, username, and password.

3. **New Releases:**

When a new/updated version of the web application is released, the appearance will be automatically appears when the user accesses the web application.

4. **User log-in:**

Given that the user has registered, then the user should be able to log in to the web application. The login information will be stored on the database for future use.

5. **Search result in a list view:**

Search results can be viewed in a list. Each element in the list represents a specific donor. Each element should include first name, gender, blood group, location, contact according to the user position.

There should be a maximum of ten result displays.

6. **Request Blood:**

User(Hospital) should be able to request blood at an emergency situation, user need to define blood group, location, required date, contact. The order requested will be sent to the blood bank and then to the

Inventory to check the availability. If available, the requested blood will be sent to the requested donor(Hospital).

#### **7. View Request:**

The Blood Bank should be able to view received requests and then respond to them and can search requests by selecting two options: select blood group and provision.

#### **8. Search Blood Bank Stock:**

Receiving the order from Hospital, the bloodstock in the Blood Bank Inventory will be searched to match the requested order. Thus matched blood units will be sent to the Hospital.

#### **9. View Order Details:**

The Hospital, Blood Bank should be able to view the OrderId, time of the order placed, name of the hospital, location and the address of the hospital. In addition to this an additional feature of tracking the delivery person which includes his location and the checkpoints passed.

#### **10. View Delivery Status:**

The Hospital, Blood Bank should be able to view the status of the delivery time. If the delivery seems to be delayed then the hospital manager must be able to call the delivery person to get an update on the delivery.

## **2.2 Nonfunctional Requirement**

### **1. Availability :**

The system including the offline and online components should be available 24/7.

### **2. Reliability:**

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure.

### **3. Security:**

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully.

### **4. Correctness:**

The Blood Unit sent by the Blood Bank should be matched with the requested Blood Unit by the Hospital, which should reach the correct destination(Requested Hospital).

### **5. Maintainability:**

The Blood Inventory Manager should maintain correct records of the Blood Inventory Stock.

### **6. Usability:**

The cost of the Blood Units is standardized.

### **7. Extensibility:**

Requirements for website extensibility in case there is a need to add new functional requirements.

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 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 systems. Users are very generous to attend the donation with such a small announcement. (Email & SMS Messages).



## 2.3 Technology Used

The technology used in the front end web-development is:-

1. HTML5
2. CSS
3. JavaScript

The technology used in back end web-development is:-

1. MySQL
2. PHP

## 2.4 H/w Configuration

Particulars	Client system	Server system
Operating system	Windows 2000 Prof/Linux	Linux
Processor	Pentium 4, 1.2GHz	Pentium4, 2GHz
Hard Disk	40GB	100GB
RAM	256MB	512GB

## 2.5 Graphical User Interface

### i. User Interfaces

It has been required that every form's interface should be user-friendly and simple to use.

### ii. Hardware Interfaces

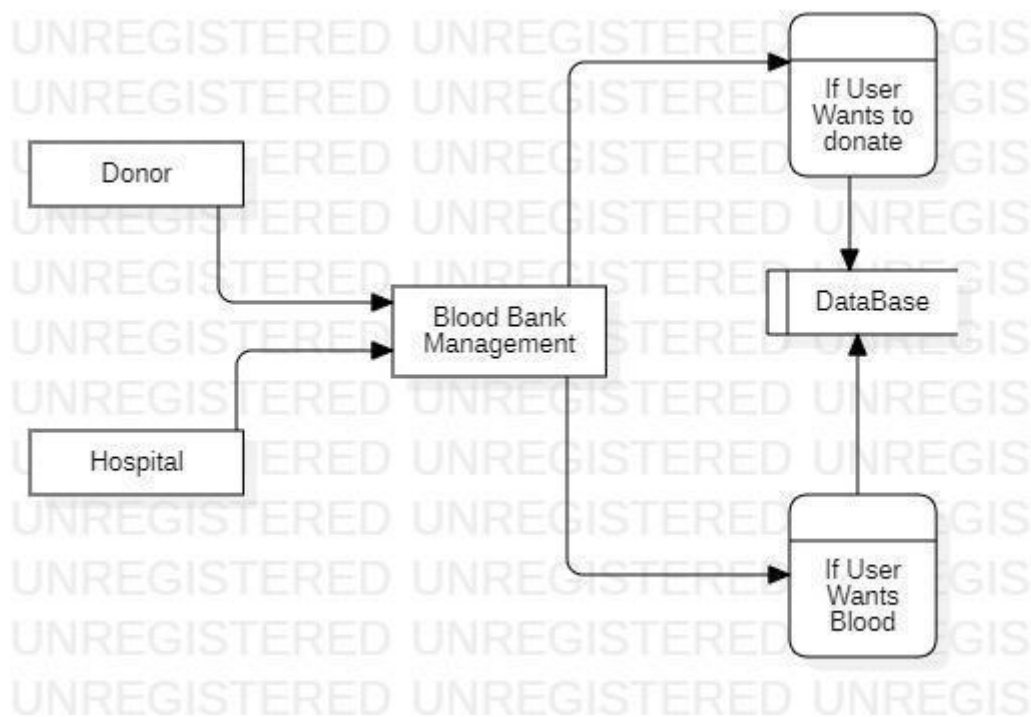
- 1GHz or High processor
- 256 MB RAM
- 40 GB Hard Disk

## Chapter 3: Design

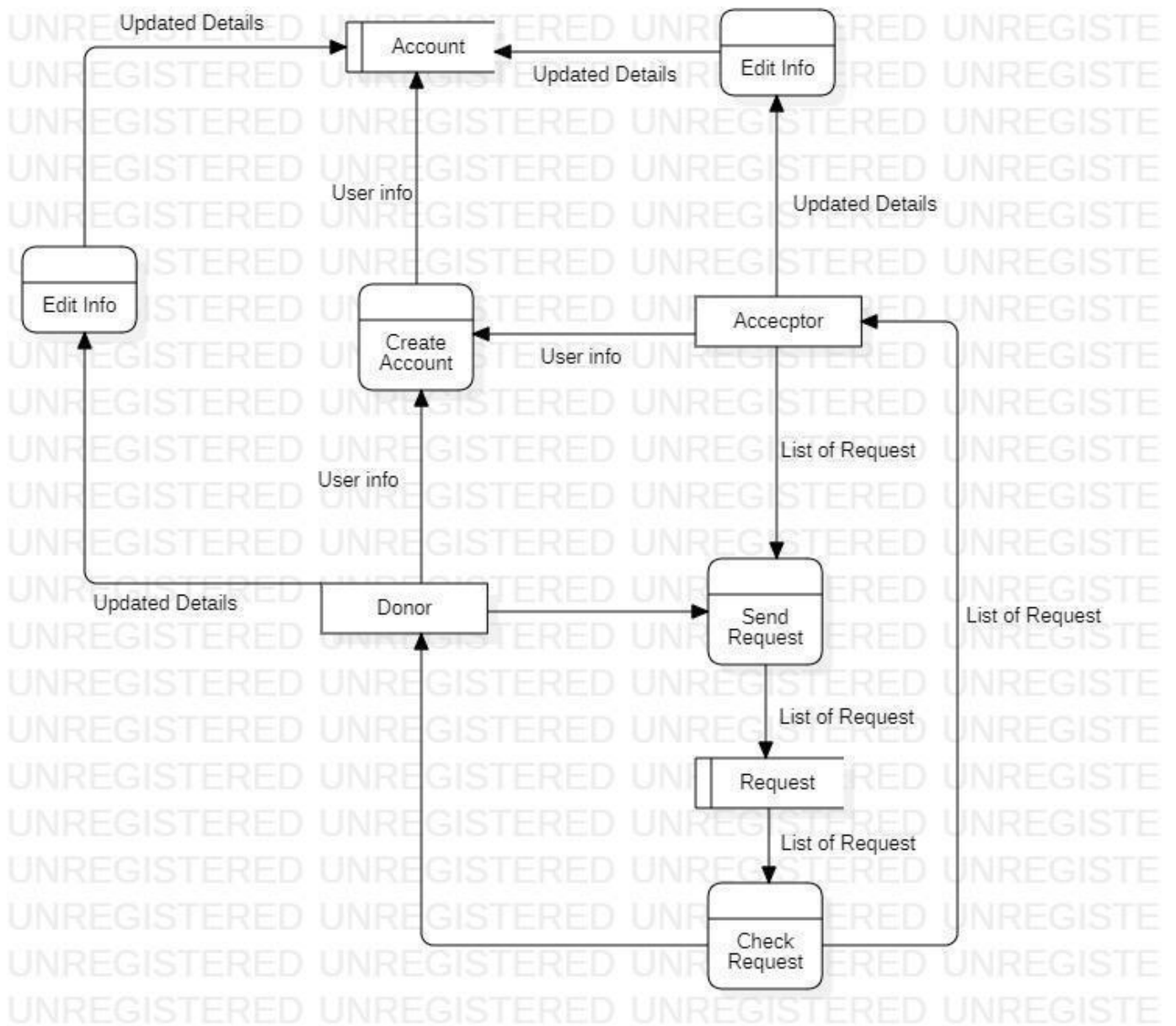
The design document that we will develop during this phase is the blueprint of the software. It describes how the solution to the customer problem is to be built. Since the solution to complex problems isn't usually found on the first try, iterations are most likely required. This is true for software design as well. For this reason, any design strategy, design method, or design language must be flexible and must easily accommodate changes due to iterations in the design.

### 3.1 DFD

#### Level - 0



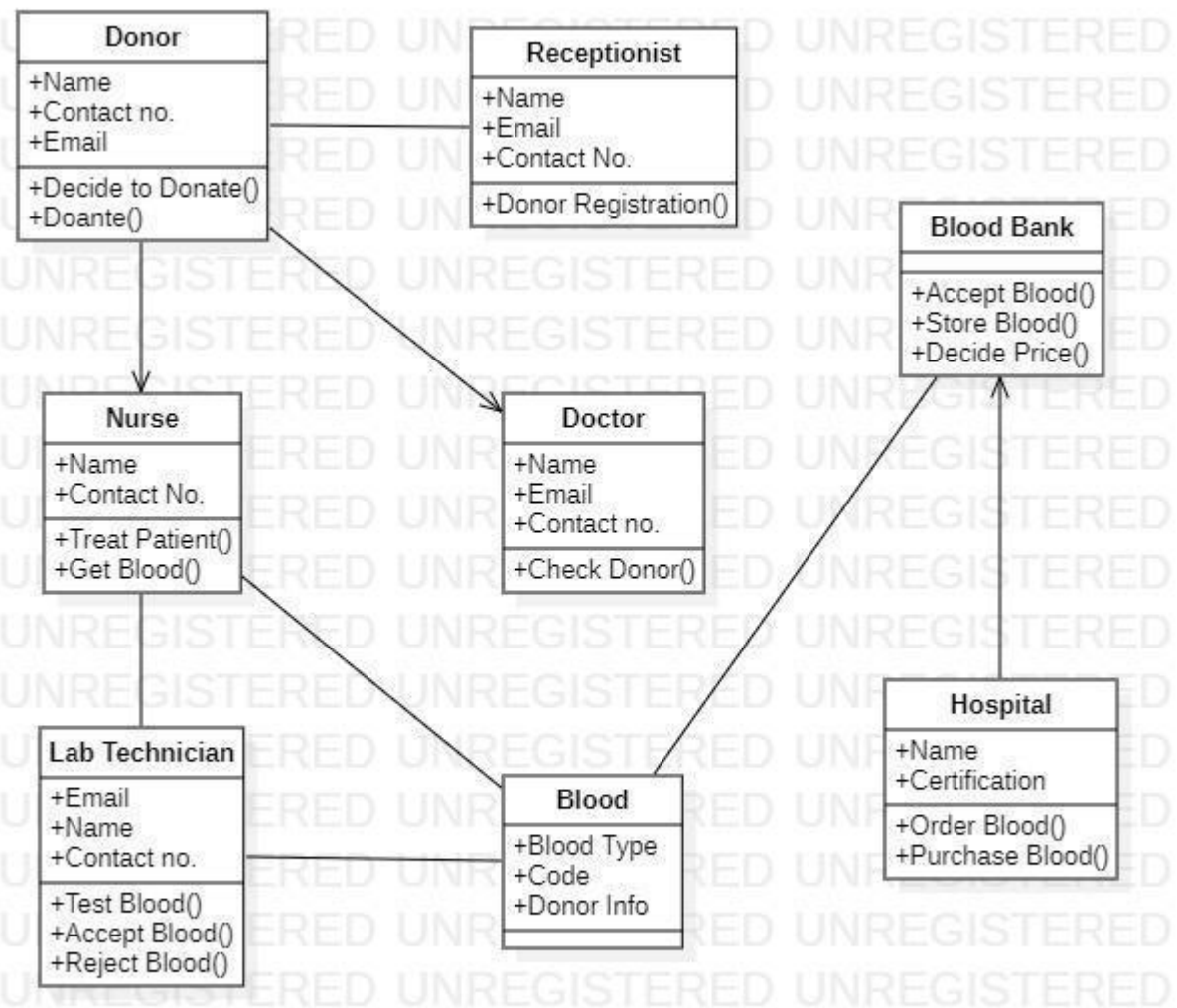
## Level - 1



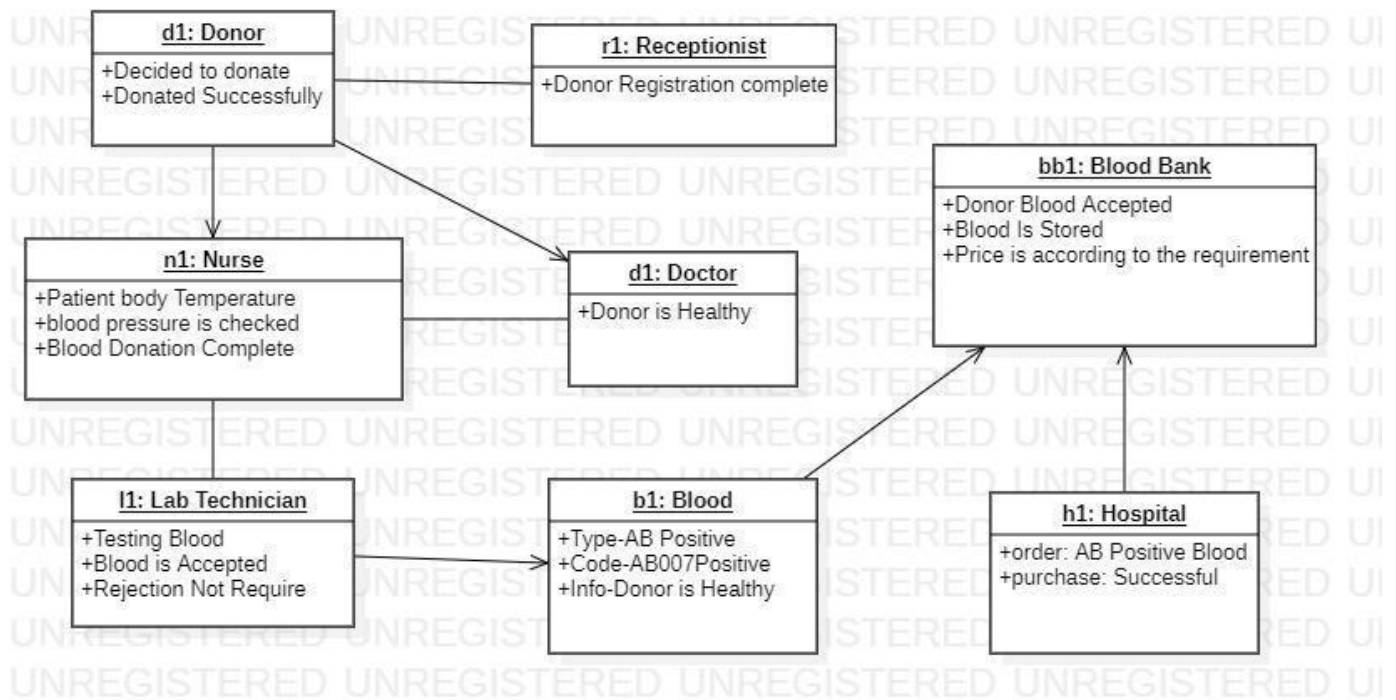
### 3.2 UML

Structural:-

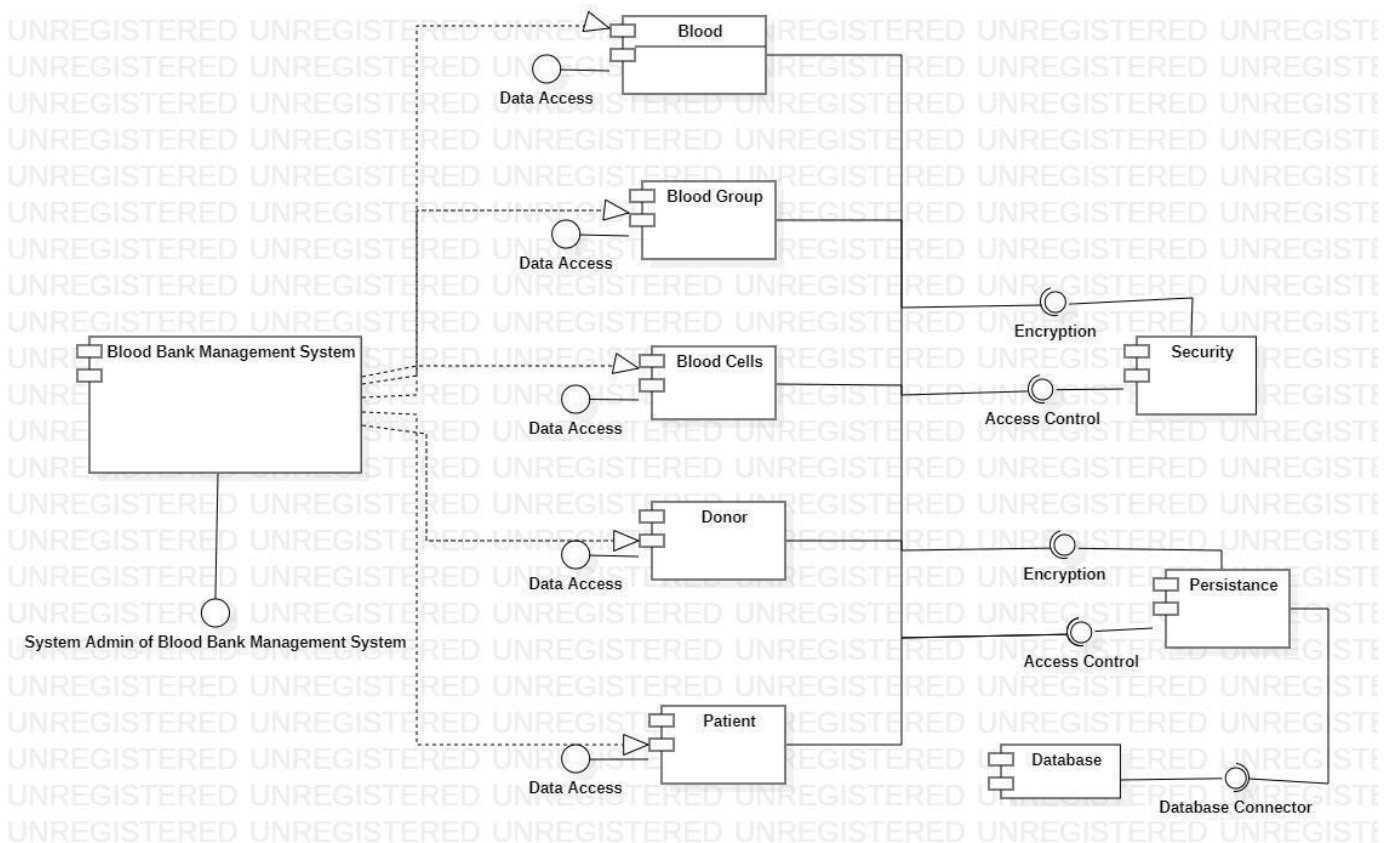
#### 1. Class Diagram



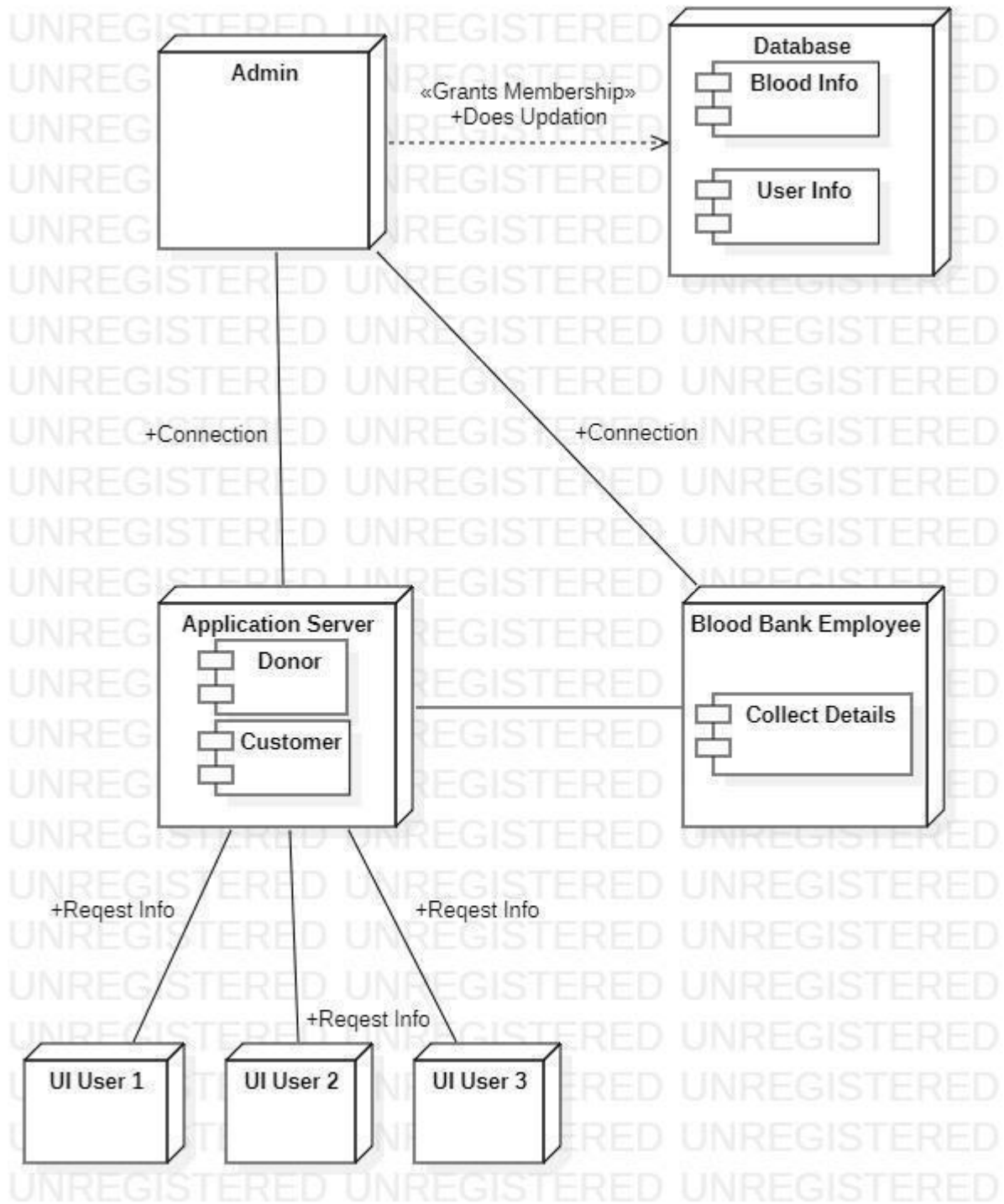
## 2. Object



## 3. Component Diagram

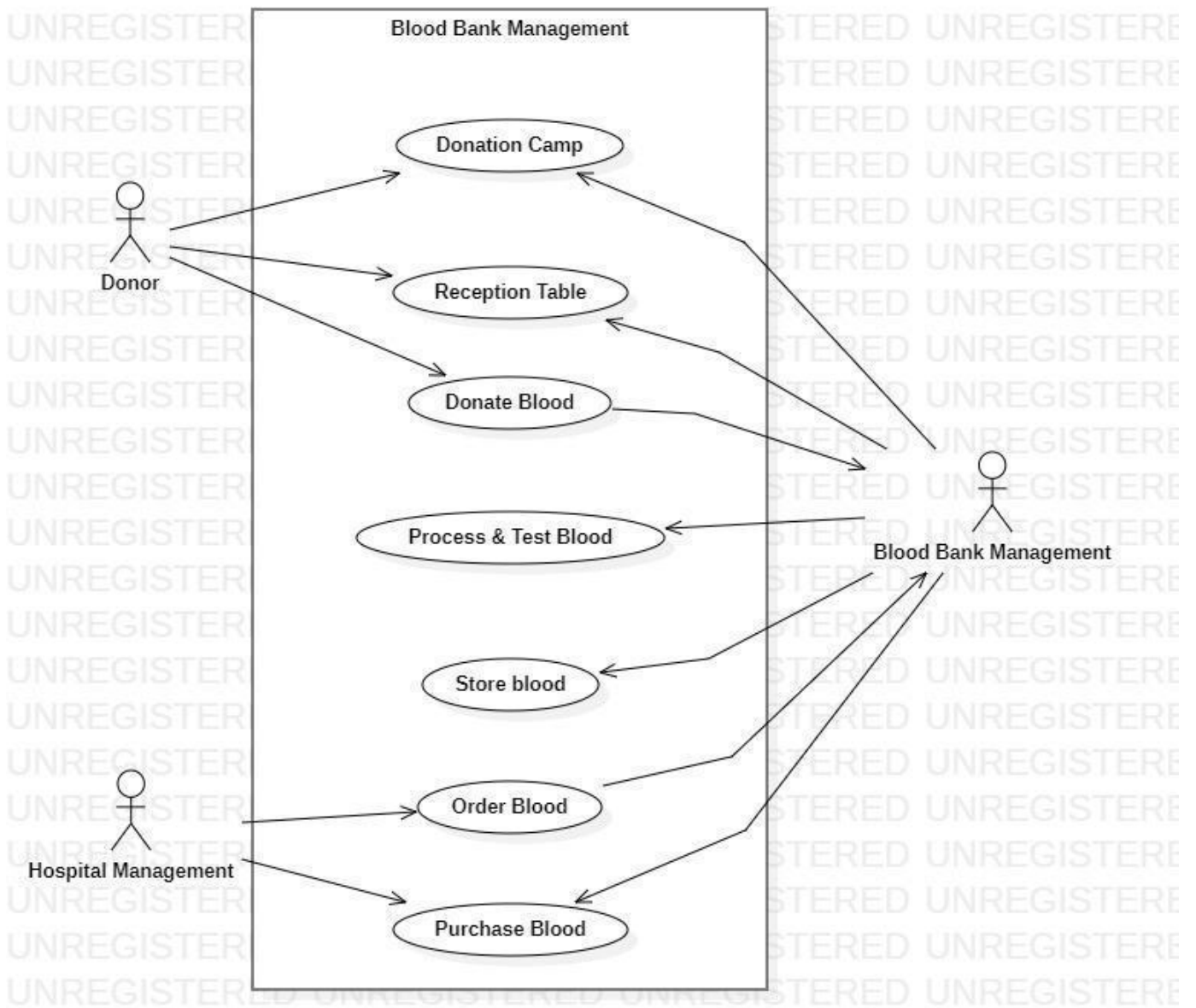


#### 4. Deployment Diagram

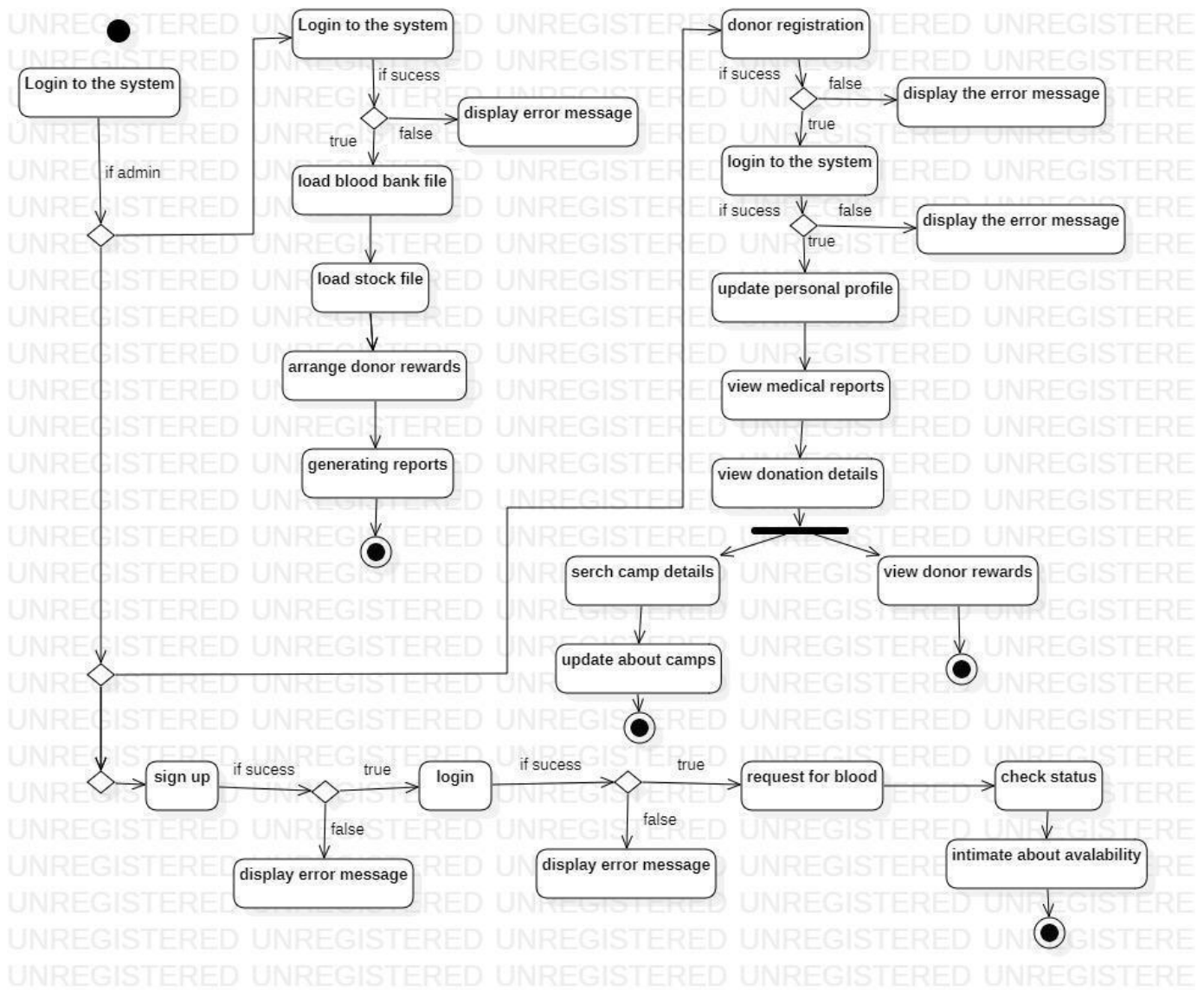


Behavioral:-

1. Use case

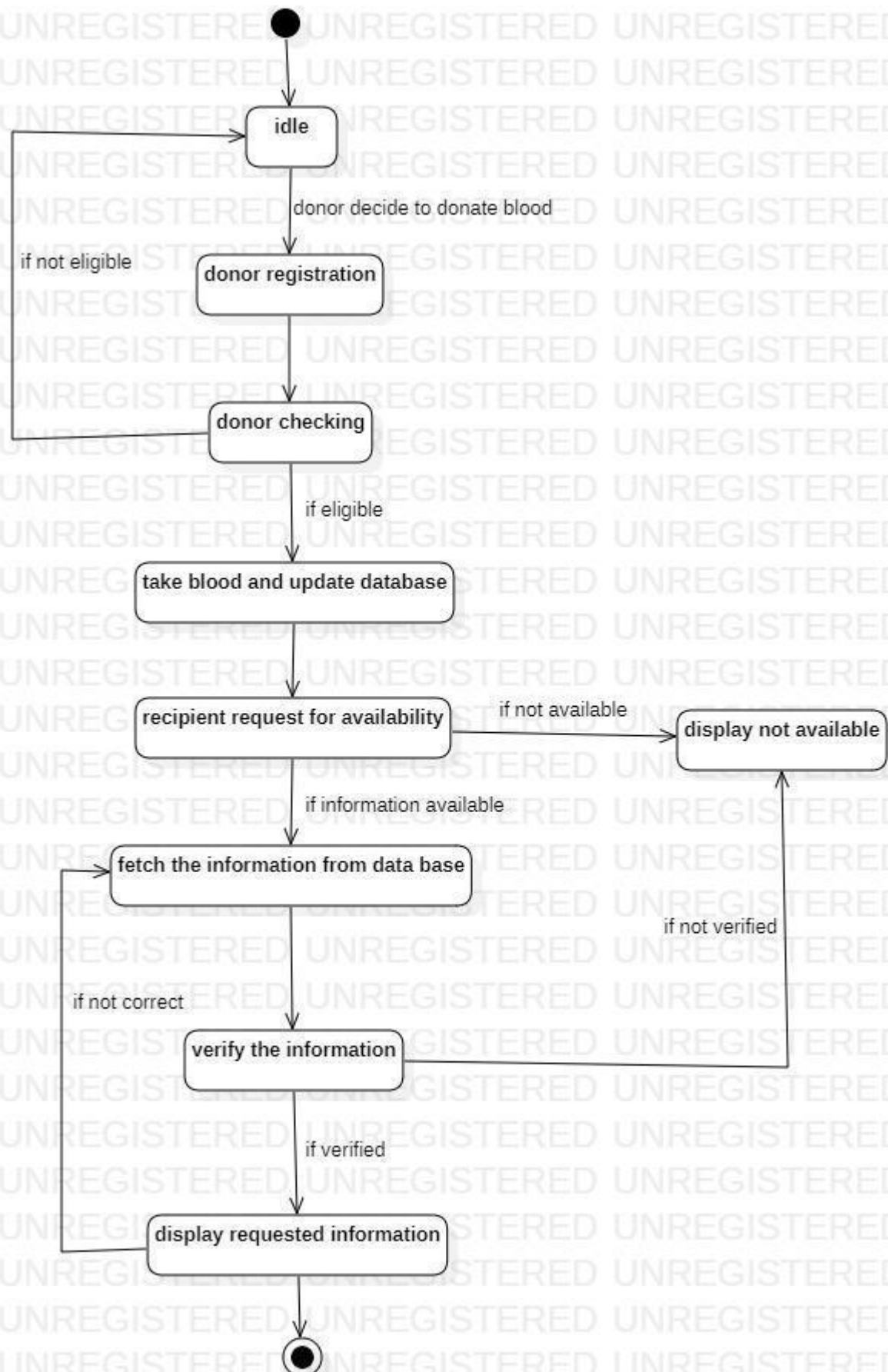


## 2. Activity Diagram

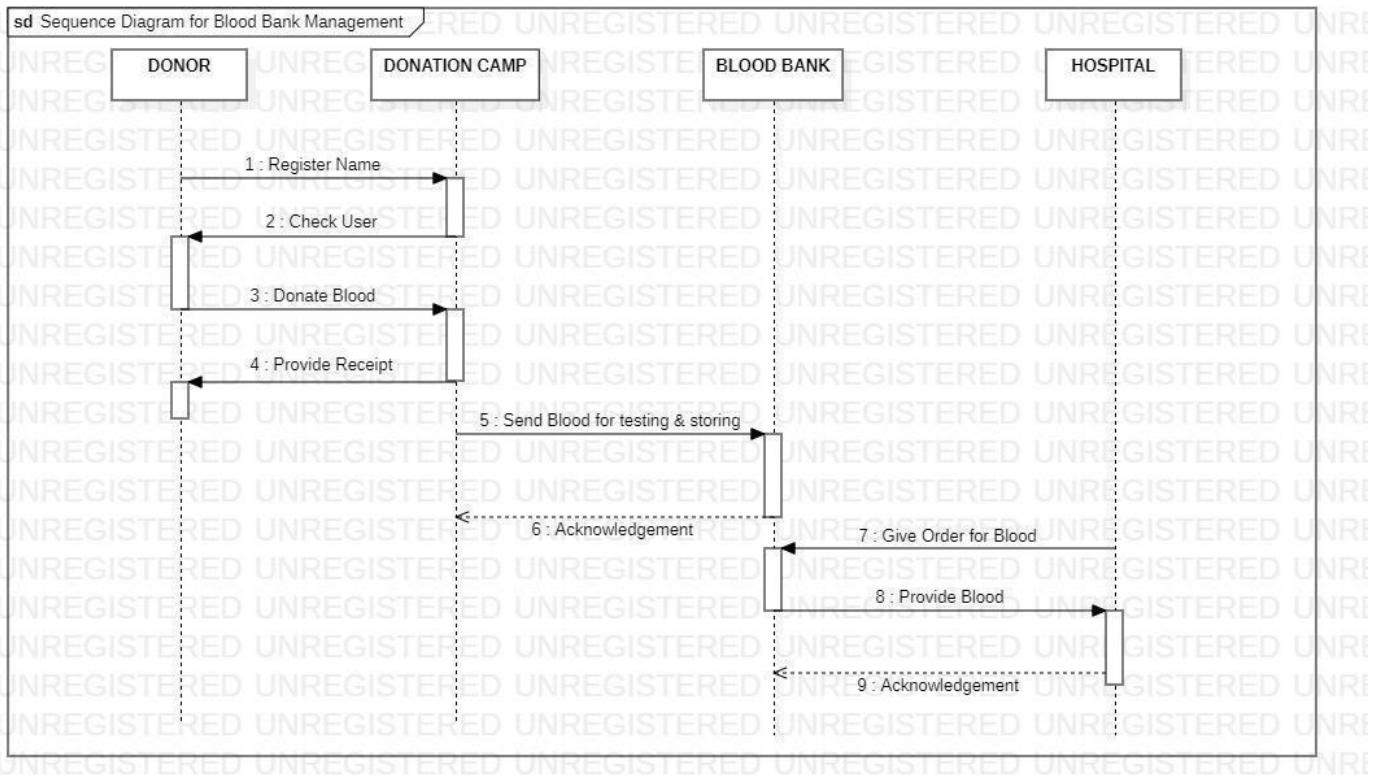




### 3. State Chart

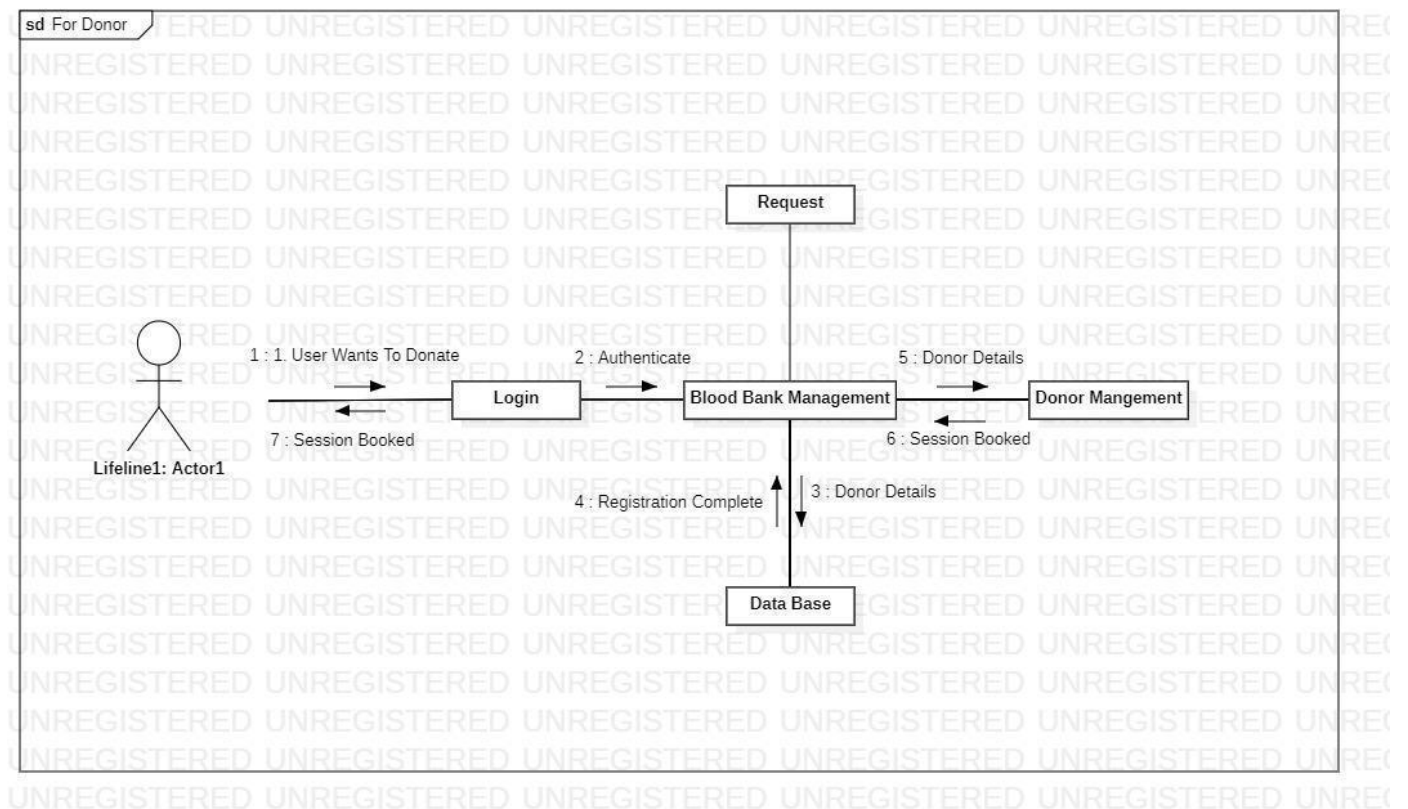


#### 4. Sequence Diagram

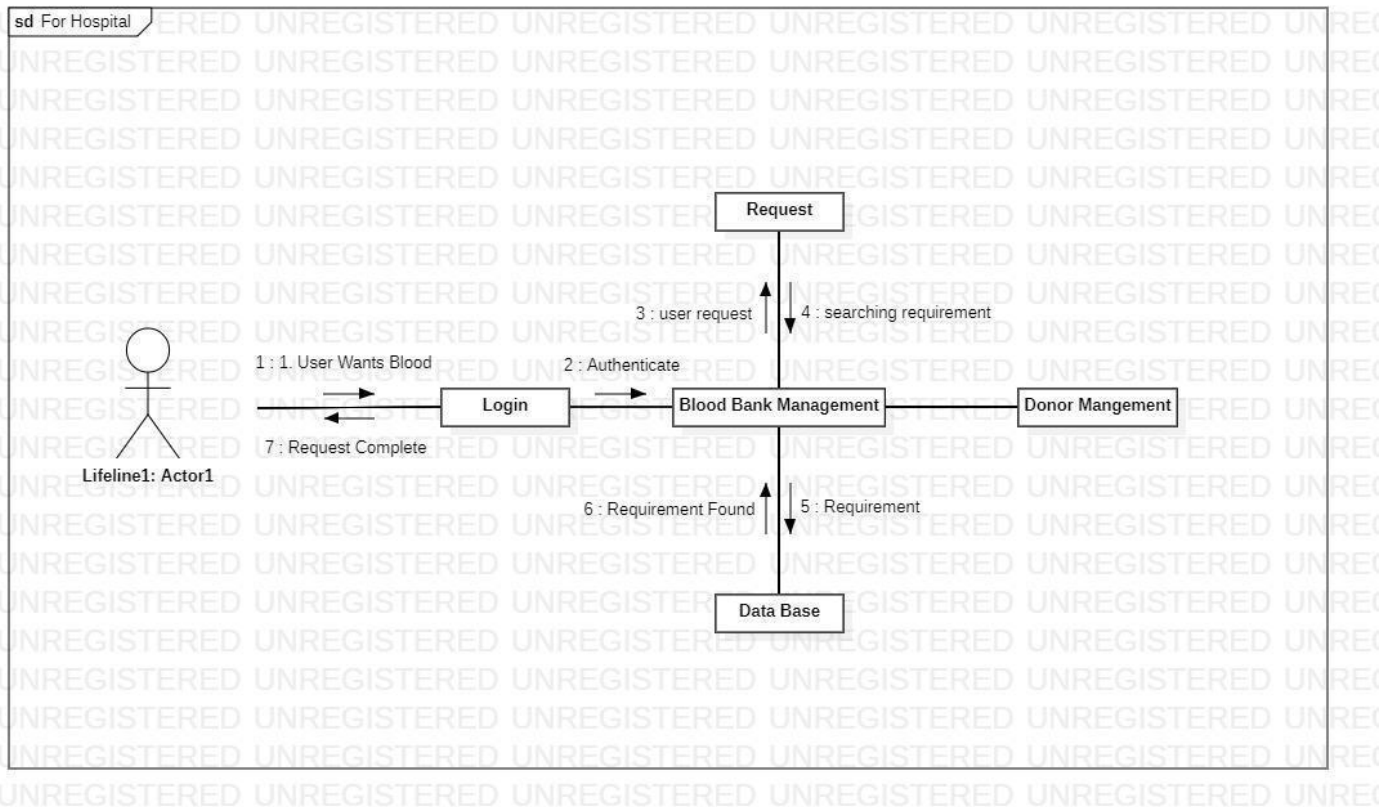


#### 5. Collaboration Diagram

For Donor



For Hospital



## Chapter 4: Conclusion

This project is designed to meet the requirements of the users of the Blood Bank Management system. It has been developed using HTML, CSS, JavaScript, and MySQL keeping in mind the specifications of the system.

**For designing the system we have used simple data flow diagrams.**

Overall the project teaches us the essential skills like:

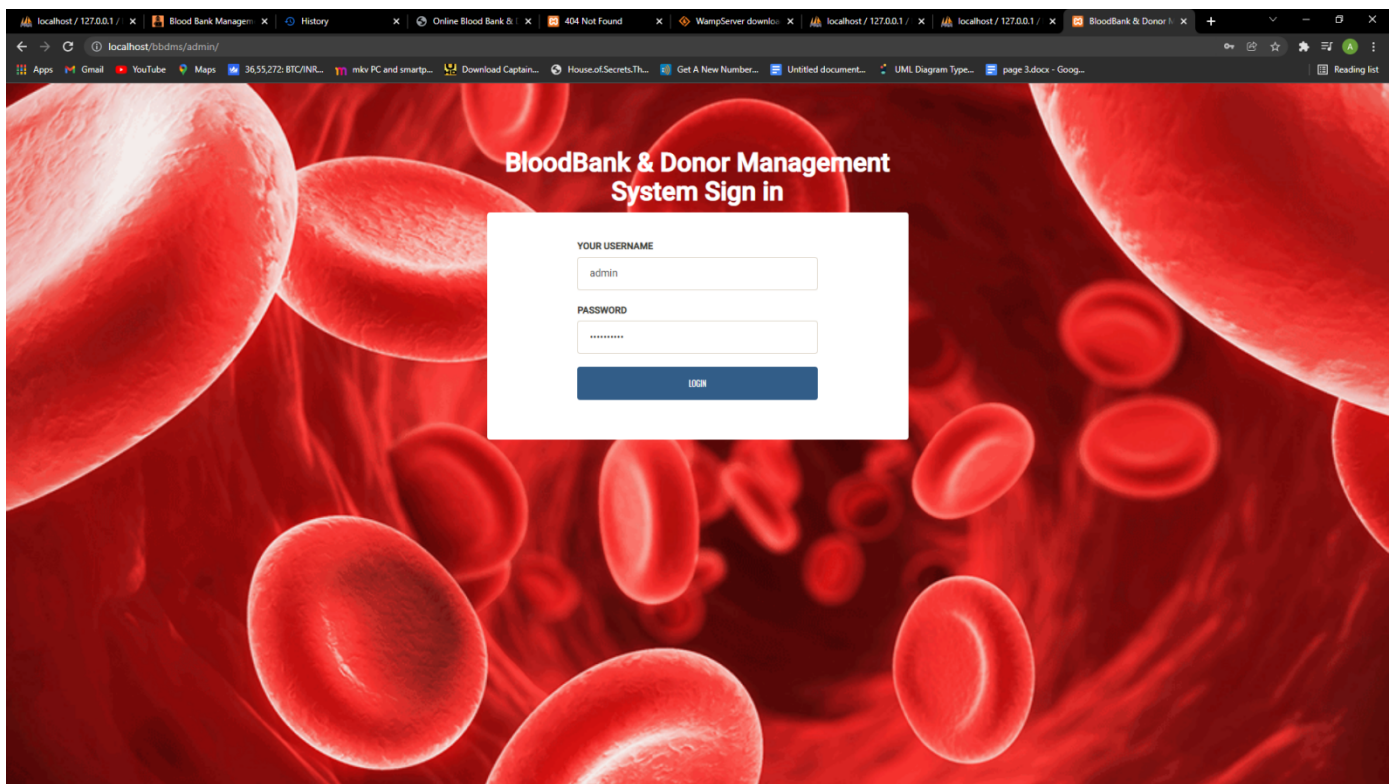
- ☐ Using system analysis and design techniques like data flow diagrams in designing the system.
- ☐ Understanding database handling and query processing using My SQL.

## Chapter 5: References

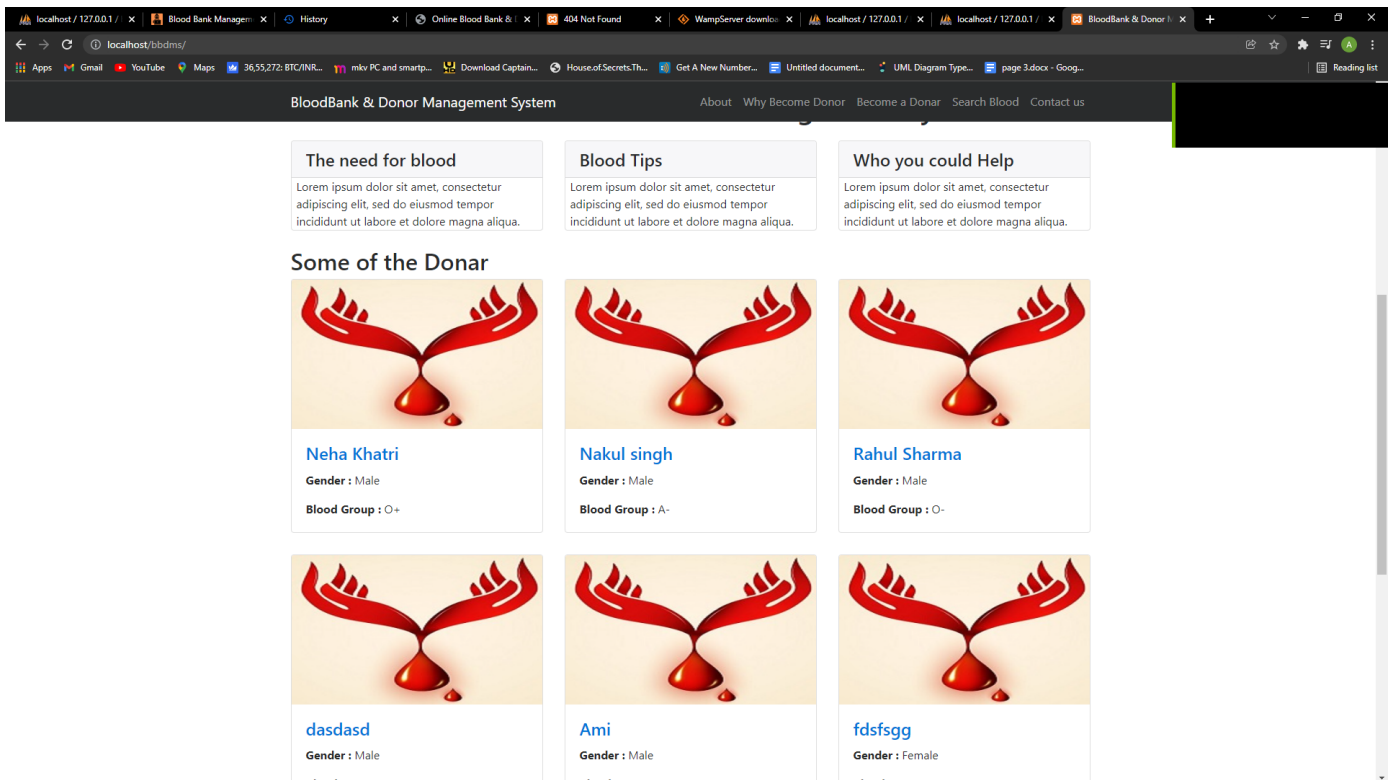
<https://www.eraktkosh.in/>  
<https://www.friends2support.org/>

## Chapter 6: Snapshots of Your project

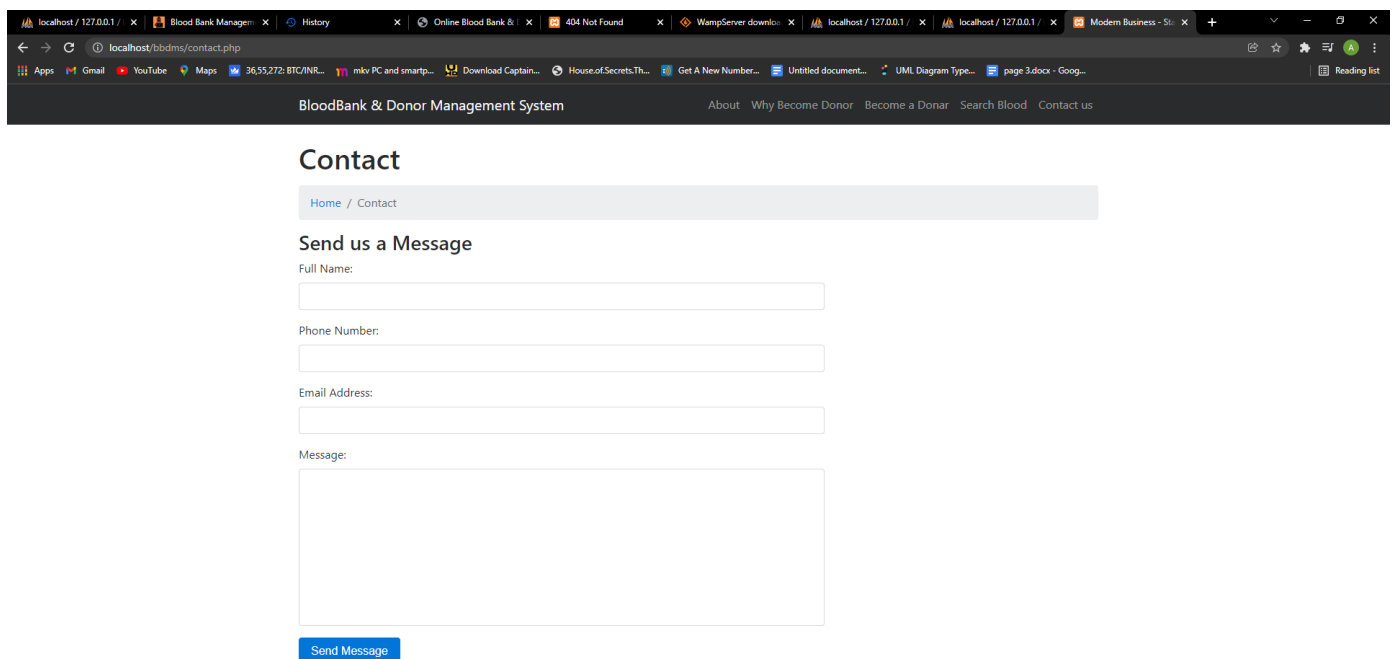
### Admin Login Page:-



## Home Page:-



## Contact Us Page:



## Chapter 7: Code

### 1. Home Page:-

```
<!Doctype html>
<html>
<head>
<center>
<body bgcolor="white">
<form name="Home" method="post">
<table>
<title>Blood Bank System</title>
<link rel="stylesheet" type="text/css" href="style.css"/>
<div class="topnav">
  <a class="active " href="Home.php">Home</a>
  <a class="active " href="reg.php">Register</a>
  <a class="active " href="search1.php">Search</a>
  <a class="active " href="logout.php">Log Out</a>
</div>
<body>
<tr>
<td>
<h1><u>Blood Group</u></h1>
</td>
</tr>
<tr><br></tr>

<tr>
<td>
<p>The human body contains around 8 to 10 pints of blood depending on the size of the individual. However, the composition of the blood is not the same in each person. This is what determines the person's blood type.</p><br>
<p>There are four ABO groups:</p>
<ol>
<li>Group A: The surface of the red blood cells contains A antigen, and the plasma has anti-B antibody that would attack any foreign B antigen containing red blood cells.</li>

<li>Group B: The surface of the red blood cells contains B antigen, and the plasma has anti-A antibody that would attack any foreign A antigen containing red blood cells.</li>

<li>Group AB: The red blood cells have both A and B antigens, but the plasma does not contain anti-A/anti-B antibodies. Individuals with type AB can receive any ABO blood type.</li>

<li>Group O: The plasma contains both types of anti-A/anti-B antibodies, but the surface of the red blood cells does not contain any A/B antigens. Having none of these A/B antigens means that they can be donated to a person with any ABO blood type.</li>
</ol>
</td>
</tr>
<tr><br></tr>

<tr>
<td>
```

```

<h1><u>Why Donate Blood?</u></h1>
</td>
</tr>
<tr><br></tr>

```

```

<tr>
<td>
<p>A blood donation truly is a “gift of life” that a healthy individual can give to others in their community who are sick or injured. In one hour’s time, a person can donate one unit of blood that can be separated into four individual components that could help save multiple lives.</p><br>

```

```

<p>From one unit of blood, red blood cells can be extracted for use in trauma or surgical patients. Plasma, the liquid part of blood, is administered to patients with clotting problems. The third component of blood, platelets, clot the blood when cuts or other open wounds occur, and are often used in cancer and transplant patients. Cryoprecipitated antihemophilic factor (AHF) is also used for clotting factors.</p>
</td>
</tr>
<tr><br></tr>

```

```

</body>
</table>
</form>
</center>
</head>
</html>

```

## 2. Header:-

```

<!DOCTYPE html>
<html>
<body bgcolor="green">
<head>
<div id="page">
    <div id="header">
        <div>
            <a href="index.html" class="logo"></a>
            <ul id="navigation">
                <li class="selected">
                    <a href="index.html">Home</a>
                </li>
                <li>
                    <a href="about.html">About</a>
                </li>
                <li class="menu">
                    <a href="projects.html">Projects</a>
                    <ul class="primary">
                        <li>
                            <a href="proj1.html">proj 1</a>
                        </li>
                    </ul>
                </li>
            </ul>

```

```

                                </li>
                                <li class="menu">
                                    <a href="blog.html">Blog</a>
                                    <ul class="secondary">
                                        <li>
                                            <a href="singlepost.html">Single
post</a>
                                        </li>
                                    </ul>
                                </li>
                                <li>
                                    <a href="contact.html">Contact</a>
                                </li>
                            </ul>
                        </div>
                    </div>
                </head>
            </body>
        </html>

```