FACULTY OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

Jain Global Campus, Kanakapura Taluk, Ramanagaram District, Karnataka, India -562112

2022-2023

A Mini-Project Report on

"BLOOD DONATION DATABASE MANAGEMENT SYSTEM"

Submitted in partial fulfilment for the course
Database systems
Laboratory as part of the degree of

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING

Submitted by

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JAIN (Deemed-to-be University)

2022-2023

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CERTIFICATE

This is to certify that the mini-project work on **"BLOOD DONATION DATABASE MANAGEMENT SYSTEM"** as part of 21CIC43L – DATABASE MANAGEMENT SYSTEM LABORATORY is carried out by **Abishek Kumar Sah (21BTRCS256), Arunabh Sharma (21BTRCS263), Shiv Ranjan Kumar Adhikari (21BTRCS230), Theertha K Sunil (21BTTLN001)** are the bonafide students of Bachelor of Technology at the Faculty of Engineering & Technology, **Jain (Deemed-to-be) University**, Bangalore in partial fulfillment for the award of degree in Bachelor of Technology in Computer Science & Engineering, during the year **2022-2023**.

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1.

2.

DECLARATION

We, **Abishek Kumar Sah - 21BTRCS256, Arunabh Sharma - 21BTRCS263, Shiv Ranjan Kumar Adhikari - 21BTRCS230, Theertha K Sunil - 21BTTLN001** are the students of fourth semester B. Tech in Computer Science & Engineering at Faculty of Engineering & Technology, **Jain (Deemed-to-be) University**. We hereby declare that the mini-project titled **"BLOOD DONATION DATABASE MANAGEMENT SYSTEM"** has been carried out by us and submitted in partial fulfillment for the award of degree in **Bachelor of Technology in Computer Science & Engineering** during the academic year **2022-2023**. Further, the matter presented in the project has not been submitted previously by anybody for the award of any degree or any diploma to any other University, to the best of our knowledge and faith.

Signature of Students

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ABSTRACT

The aim of this project is to create a Data Management System for blood donation that simplifies the donation process and its management in an efficient way. This software is designed with a user-friendly interface that makes it easy for users to navigate and use.

Using this system, administrators can manage different blood types collected from various locations and store them efficiently. Information about donors and acceptors can also be edited or deleted as needed by the administrator. Whenever blood type information is required, acceptors will be immediately notified, ensuring no delay in availability.

This system is beneficial to both administrators and customers as it streamlines and simplifies the blood donation process. The front-end of the system was created using Java, while the back-end was created using MYSQL. These components are connected using the JDBC Server.

Overall, this system can be a valuable tool for healthcare organizations, blood banks, and other stakeholders involved in the blood donation process. By providing a centralized system for managing donor and blood data, these systems can help ensure that the blood supply is safe, efficient, and effective in meeting the needs of patients.

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CHAPTER 1

INTRODUCTION

1.1 Definition

A Database Management System (DBMS) is a computerized system that enables users to create and maintain a database. The DBMS is a general-purpose software system that facilitates the processes of defining, constructing, manipulating, and sharing database among various users and applications.

Defining a database involves specifying the data types, structures, and constraints of the data to be stored in the database. This meta-data is stored by DBMS in the form of a database catalogue or dictionary.

Constructing the database is the process of storing the data on some storage medium that is controlled by the DBMS.

Manipulating a database includes functions such as querying the database to retrieve specific data, updating the database to reflect changes in the mini world and generating reports from the data.

Sharing a database allows multiple users and programs to access the database simultaneously.

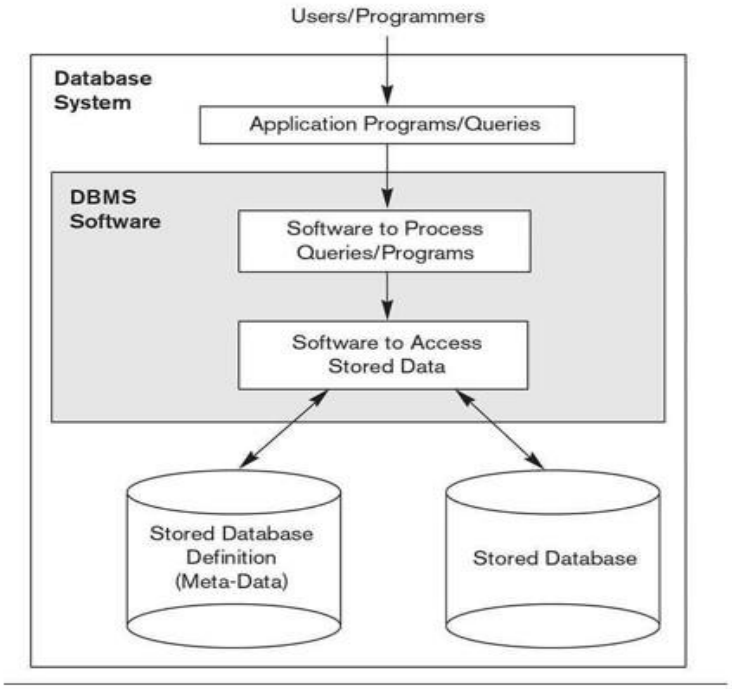


Figure 1.1
A simplified database

1.2History and evolution of DBMS

1.2.1 Hierarchical DBMS and Network DBMS

Hierarchical DBMS was based on binary trees, where the shape was like a tree and relations were only limited between parent and child records.

Advantages: Less redundant data, Data independency, security and integrity.

Disadvantages: Complex implementation, Absence of standard and many relationships were harder to handle.

Network DBMS is made of sets of relationships where a set represents a one to-many relationships between one record and another.

Disadvantage: Complexity and difficulty in design and maintenance and lack of structural independence.

1.2.2 Relational DBMS

RDBMS separated physical storage of data from its conceptual representation and provided a mathematical foundation for data representation and querying.

Advantages: Data abstraction, program-data independence and application flexibility.

Disadvantages: It was quite slow, since it did not use physical storage pointers or record placement to access related data records.

1.2.3 Object-Relational DBMS

ORDBMS provided more general data structures. They incorporated many object oriented paradigms such as abstract data type, encapsulation of operations, inheritance and object identity. This is used in specialized applications, such as engineering design, multimedia publishing and manufacturing systems.

1.3 PDO (PHP Data Object): -

1.3.1 What is PDO?

PDO refers to **PHP Data Object**, which is a PHP extension that defines a lightweight and consistent interface for accessing a database in PHP. It is a set of PHP extensions which provide a core PDO class and database-specific driver. Each database driver can expose database-specific features as a regular extension function that implements the PDO interface.
PDO mainly focuses on data access abstraction rather than database abstraction. It provides **data-access abstraction layer**, which means, regardless of which database we are using, we have to use the same functions provided by that database to issue queries and fetch data. PDO does not provide data abstraction, as it does not rewrite the SQL or emulate missing features.
The PDO library contains APIs for each of the following tasks commonly associated with working with databases:

- Connecting to a database.
- Executing SQL queries.
- Preparing and executing prepared statements.
- Fetching data
- Error handling
- Retrieving metadata

At its core, PDO is a specification that provides a complete set of interfaces that allow portable access to underlying databases. Php can be used to create different types of executables, including:

a. Command-line scripts

b. Web applications

c. APIs (Application Programming Interfaces)

d. Desktop applications

e. Background processes

1.3.2 Common PDO Components

PDO API provides the following interfaces and classes –

- **PDO Interface:** The PDO interface is the main interface of the PDO API. It defines the common methods and behaviors for working with databases. It extends the Traversable interface and serves as the base for the PDO class.

- **PDOStatement Interface:** The PDOStatement interface represents a prepared statement or a query result set. It extends the Traversable interface and provides methods for executing prepared statements, binding parameters, fetching data, and retrieving information about the executed query.

- **PDOException Class:** The PDOException class represents an exception that is thrown when an error occurs during a PDO operation. It extends the Exception class and provides information about the error, such as the error code and error message.

- **PDO Class:** The PDO class represents a connection to a database. It implements the PDO interface and provides methods for establishing a database connection, executing queries, preparing statements, managing transactions, and retrieving metadata. It is the primary class used for interacting with databases using PDO.

- **PDOStatement Class:** The PDOStatement class represents a prepared statement or a query result set. It implements the PDOStatement interface and provides methods for executing prepared statements, binding parameters, fetching data, and retrieving information about the executed query. Instances of this class are typically obtained through the PDO::prepare() or PDO::query() methods.

1.3.3Accessing a Database

The process of retrieving information from a database via JDBC involves these five basic steps:

1. **Establish a database connection:** Before retrieving data, you need to establish a connection to the database using the PDO class. This involves providing the necessary connection details such as the database type, host, database name, username, and password.

   ```
   $dsn = 'mysql:host=localhost;dbname=mydatabase';
   $username = 'username';
   $password = 'password';

   $pdo = new PDO($dsn, $username, $password);
   ```

2. Prepare the SQL query: After establishing the connection, you need to prepare an SQL query that retrieves the desired information from the database. This can be a SELECT statement with optional conditions, joins, or sorting.

   ```
   $sql = "SELECT * FROM users WHERE age > :age";
   $stmt = $pdo->prepare($sql);
   ```

3. Execute the query: Once the query is prepared, you can execute it using the '**execute()'** method of the PDOStatement object. If the query contains parameters, you can bind their values using '**bindParam()'** or '**bindValue()'** methods before executing the query.

   ```
   $age = 18;
   $stmt->bindParam(':age', $age, PDO::PARAM_INT);
    $stmt->execute();
   ```

4. Fetch the data: After executing the query, you can fetch the retrieved data using methods like '**fetch()'**, '**fetchAll()'**, or '**fetchColumn()'**, depending on your requirements. These methods allow you to retrieve the data row by row or fetch all rows at once.

   ```
   $rows = $stmt->fetchAll(PDO::FETCH_ASSOC);
   ```

5. Process the data: Finally, you can process the fetched data as per your application's needs. This can involve iterating over the result set using loops, accessing specific columns or values, performing calculations, formatting output, or any other necessary operations.

   ```
   foreach ($rows as $row) {
      echo $row['name'] . ' - ' . $row['email'] . '<br>';
   }
   ```

1.3.4 Applications of DBMS

- **Telecom:**
  This database keeps track of the information regarding calls made, network usage, customer details etc.

- **Industry:**
  Manufacturing unit, warehouse, or distribution Centre, each one needs a database to keep the records of ins and outs.

- **Banking System:**
  This database is used for storing customer information, tracking day to day credit and debit transactions, generating bank statements.

- **Education sector:**
  Database systems are frequently used in schools and colleges to store and retrieve the data regarding student details and fees details etc.

- **Online shopping:**
  Database systems are used in online shopping websites to store the product information, addresses and preferences, credit details and provides the relevant list of products based on query.

1.4 Problem Statement

1.4.1 Introduction

The problem definition for the system is to develop a software for "Blood Donation Database Management System". This system maintains a database of the donors and acceptors of different blood types.

1.4.2 Objectives

- **Efficient Blood Type Management:** The system aims to enable the administrator to effectively manage different blood types collected from various locations. This includes storing the information related to blood types in a structured and organized manner for easy retrieval and tracking.

- **User-Friendly Interface:** The system focuses on providing a user-friendly interface to ensure ease of use for both the administrators and the customers. The interface should be intuitive, visually appealing, and designed with user experience in mind.

- **Donor and Acceptor Information Management:** The system aims to facilitate the management of donor and acceptor information. The administrator should be able to add, edit, and delete donor and acceptor data efficiently. This includes storing relevant personal details, medical history, and contact information.

- **Real-Time Availability:** The system aims to eliminate any delays in accessing blood type information. Whenever a specific blood type is required, the system should immediately notify the acceptors, ensuring prompt availability and reducing response time.

- **Integration of Front-End and Back-End:** The system integrates the front-end user interface, created using php, with the back-end database management system, implemented using MYSQL. The connection is established using the PHP Server, enabling seamless data communication between the user interface and the database.

1.4.2 Functionalities

It is designed to provide functionalities as follows:

- **Donor Registration:** The system allows the registration of new donors, collecting their personal information, contact details, and medical history. This information is securely stored in the database for future reference.

- **Blood Type Management:** The system enables the management of different blood types collected from various locations. The administrator can add, update, and delete blood type records, ensuring accurate tracking and availability information.

- **Donor and Acceptor Information Management:** The system facilitates the management of donor and acceptor data. The administrator can add, edit, and delete information related to donors and acceptors, including personal details, medical history, and contact information.

- **Inventory Management:** The system tracks and manages the inventory of available blood units for each blood type. It provides real-time updates on the quantity of each blood type in stock, ensuring efficient allocation and utilization of the available blood supply.

- **Blood Requests and Notifications:** The system allows acceptors to make blood requests based on their specific blood type requirements. The system notifies the acceptors and relevant personnel immediately when a matching blood type becomes available.

- **Reporting and Analytics:** The system generates reports and provides analytics related to blood donation activities. It offers insights into donor demographics, blood type distributions, donation trends, and other relevant data. This information can be used for decision-making and resource planning.

- **User Access and Security:** The system incorporates user access controls and security measures to protect sensitive donor and acceptor information. Different user roles and permissions can be assigned to ensure data confidentiality and integrity.

- **User-Friendly Interface:** The system offers a user-friendly interface for easy navigation and interaction. It is designed to provide a seamless and intuitive user experience, allowing administrators and users to perform tasks efficiently.

1.4.3 Scope

The scope of a blood donation management system is to streamline and automate the process of managing blood donations, from donor registration to inventory management and distribution. It aims to enhance the efficiency, accuracy, and safety of blood collection and utilization. The system typically includes features such as donor registration, appointment scheduling, donor eligibility assessment, blood typing and screening, inventory tracking, blood product allocation, and reporting capabilities. It can be utilized by blood banks, hospitals, and other healthcare organizations involved in blood donation and transfusion services. The system facilitates better coordination among donors, blood banks, and healthcare providers, ensuring a reliable supply of safe blood products when needed.

CHAPTER 2

REQUIREMENT ANALYSIS

2.1 Problem Statement:

The problem definition for the system is to develop a software for "Blood Donation Database Management System". This system maintains a database of the donors and exchanger of different blood types.

2.2 Usability:

Desktop interface Windows 11

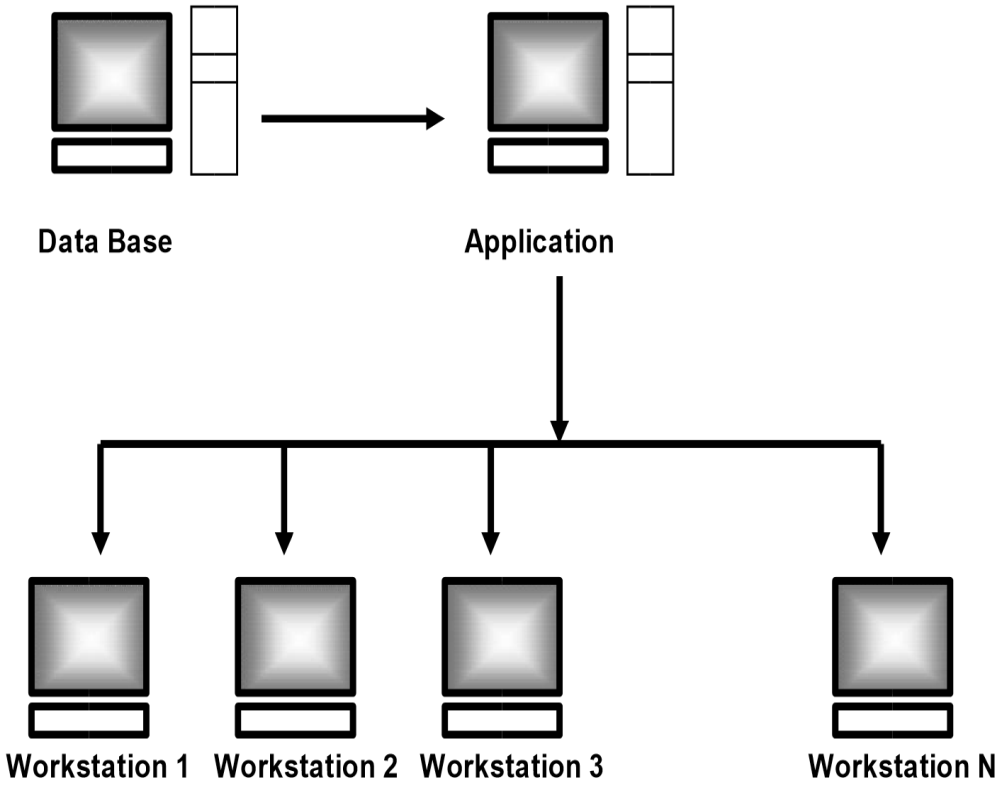
2.3 Technology:

Front end: HTML, CSS

Back end: PHP

2.4 Performance:

The performance depends on the hardware specification.



2.5 Software Used for Server/Client

Type	Software	Hardware
WorkStation/Node	Windows11	Core i7 RAM-4.0 GB HardDisk-120GB+256GB
DatabaseServer	Mysql	Core i7 RAM-4.0 GB HardDisk-120GB+256GB
ApplicationServer	PHP	Core i7 RAM-4.0 GB HardDisk-120GB+256GB

Summary:

In this chapter the problem statement, hardware, and software used to run the project is explained in detail. The software requirements to run the project in discussed in detail.

CHAPTER 3

DESIGN AND IMPLEMENTATION

3.1 Entities

Entities used in this project are:

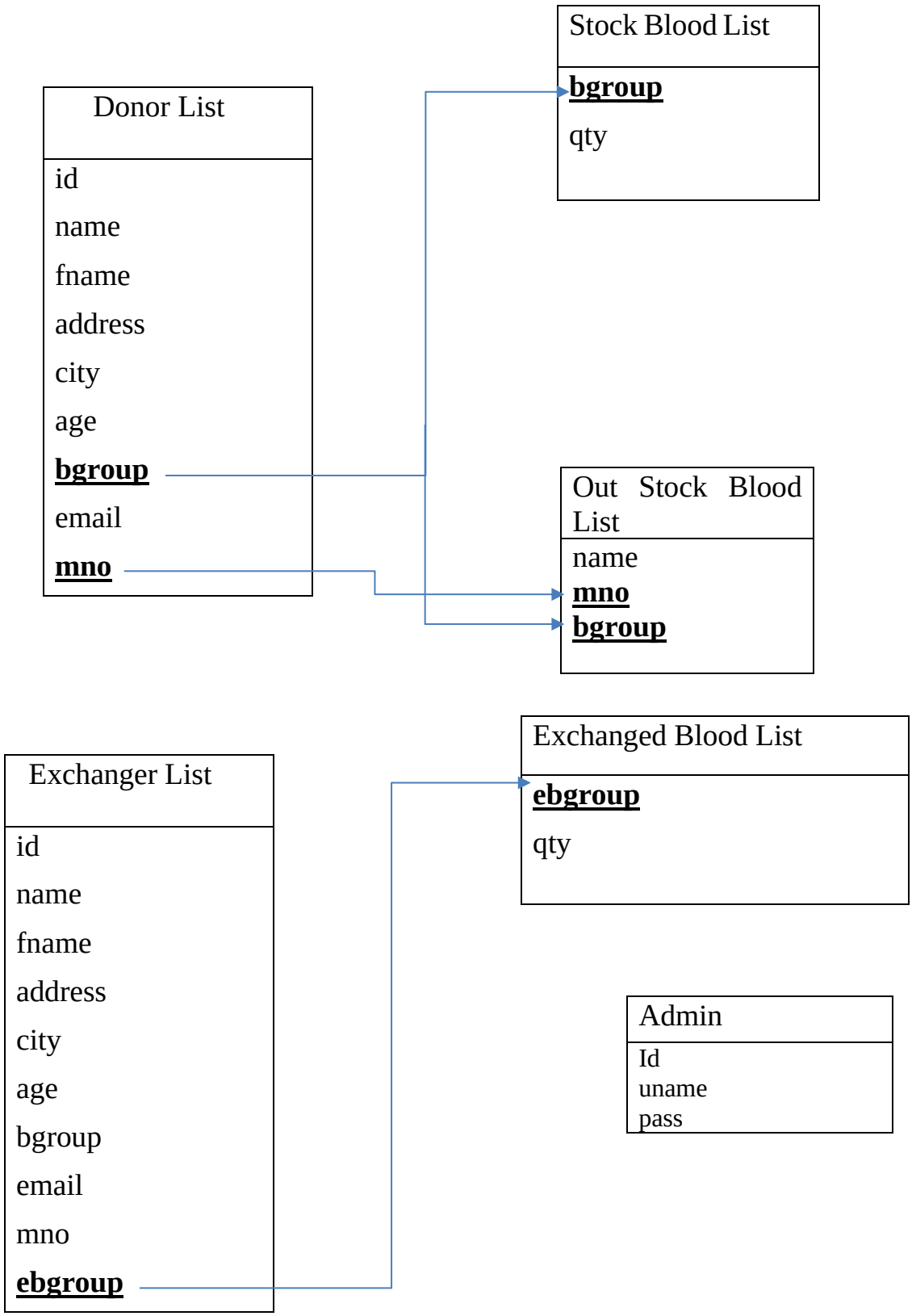
- Admin
- Donor List
- Stock Blood List
- Exchanger List
- Out Stock Blood List
- Exchanged Blood List

3.2 Attributes

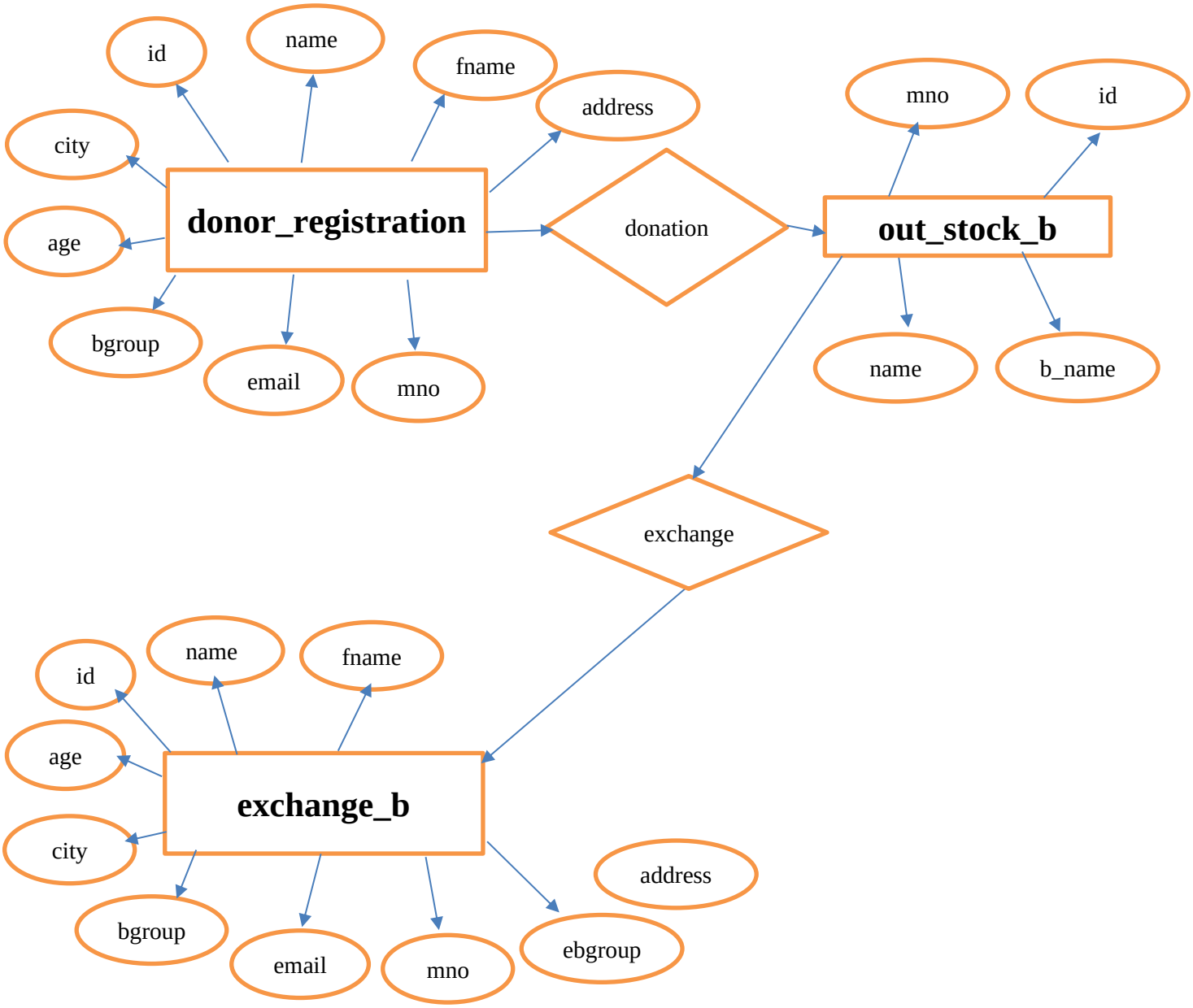
Attributes of the entities used in the project are:

- admin(id, uname, pass)
- donor_registration(id, name, fname, address, city, age, bgroup, email, mno)
- exchange_b(id, name, fname, address, city, bgroup, mno, email, ebgroup)
- out_stock_b(id, bname, name, mno)

3.3 **Schema Diagram**



3.4 ER Diagram



3.5 PHP Code Use

Front page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Admin Login</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style>

      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Donation Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Welcome Admin</h1><br><br>

         <ul>
            <li><a href="donor-red.php">Donor Registration</a></li>
            <li><a href="donor-list.php">Donor List</a></li>
            <li><a href="stock-blood.php">Stock Blood List</a></li>
         </ul><br><br><br><br><br>
         <ul>
            <li><a href="exchange-blood-registration.php">Blood Exchange Registration</a></li>
            <li><a href="exchange-blood-list.php">Exchanger Details</a></li>
            <li><a href="out-stock-blood-list.php">Out Stock Blood List</a></li>
         </ul>
```

```
      </div>
      <div id="footer"><h4 align="center">Copyright@DBMS</h4>
     <p align="center"><a href="logout.php"><font color="white">Logout</a>
     </p>
    </div>
    </div>
    </div>
</body>
</html>
```

Code for connecting MySql with php

```
<?php
$db=new PDO('mysql:host=localhost;dbname=mypro_bbms','root',");
if($db){

}
else{
   echo "Not connect";
}
?>
```

Donor Registration Page Code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style>
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Donor Registration</h1>
         <center>
         <div id="form">
            <form action="" method="post">
         <table>
            <tr>
               <td width="200px" height="50px">Enter Name</td>
               <td width="200px" height="50px"><input type="text" name="name"
placeholder="Enter Name"></td>
               <td width="200px" height="50px">Enter Father's Name</td>
               <td width="200px" height="50px"><input type="text" name="fname"
placeholder="Enter Father's Name"></td>
            </tr>
            <tr>
               <td width="200px" height="50px">Enter Address</td>
```

```
            <td width="200px" height="50px"><textarea name="address"></textarea></td>
            <td width="200px" height="50px">Enter City</td>
            <td width="200px" height="50px"><input type="text" name="city" placeholder="Enter
City"></td>
          </tr>
          <tr>
            <td width="200px" height="50px">Enter Age</td>
            <td width="200px" height="50px"><input type="text" name="age" placeholder="Enter
Age"></textarea></td>
            <td width="200px" height="50px">Select  Blood Group</td>
            <td width="200px" height="50px">
              <select name="bgroup" >
                <option >A+</option>
                <option >A-</option>
                <option >B+</option>
                <option >B-</option>
                <option >AB+</option>
                <option >AB-</option>
                <option >O+</option>
                <option >O-</option>
              </select>
          </tr>
          <tr>
            <td width="200px" height="50px">Enter E-mail</td>
            <td width="200px" height="50px"><input type="text" name="email"
placeholder="Enter E-mail"></td>
            <td width="200px" height="50px">Enter Mobile Number</td>
            <td width="200px" height="50px"><input type="text" name="mno" placeholder="Enter
Mobile Number"></td>
          </tr>
          <tr>
            <td><input type="submit" name="sub" value="Save"></td>
          </tr>

        </table>
        </form>
        <?php
        if(isset($_POST['sub'])){

          $name=$_POST['name'];
          $fname=$_POST['fname'];
          $address=$_POST['address'];
          $city=$_POST['city'];
          $age=$_POST['age'];
          $bgroup=$_POST['bgroup'];
          $mno=$_POST['mno'];
          $email=$_POST['email'];
```

```
            $q=$db->prepare("INSERT INTO
donor_registration(name,fname,address,city,age,bgroup,mno,email)
VALUES(:name,:fname,:address,:city,:age,:bgroup,:mno,:email)");
            $q->bindValue('name',$name);
            $q->bindValue('fname',$fname);
            $q->bindValue('address',$address);
            $q->bindValue('city',$city);
            $q->bindValue('age',$age);
            $q->bindValue('bgroup',$bgroup);
            $q->bindValue('mno',$mno);
            $q->bindValue('email',$email);
            if($q->execute()){
               echo "<script>alert('Donor Registration Successfull')</script>";
            }
            else{
               echo "<script>alert('Donor Registration Failed')</script>";
            }
         }
         else{

         }

         ?>

         </div></center>


      </div>
      <div id="footer"><h4 align="center">Copyright@DBMS</h4>
    <p align="center"><a href="logout.php"><font color="white">Logout</a>
    </p>
   </div>
   </div>
   </div>
</body>
</html>
```

Code for Admin Login

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Admin Login</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
</head>
<style>
   #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
</style>
<body>
   <div class="full">
    <div id="inner_full">
      <div id="header"><h2>Blood Bank Management System</h2></div>
      <div id="body">
         <br><br><br><br><br>
         <form action="" method ="post">
         <table align="center">
            <tr>
               <td width="200px" height="70px"><b>Enter Username</b></td>
               <td width="100px" height="70px"><input type="text" name="un" placeholder="Enter
Username" style="width:180px;height:30px;border-radius:10px"></td>
            </tr>
            <tr>
               <td width="200px" height="70px"><b>Enter Password</b></td>
               <td width="100px" height="70px"><input type="password" name="ps"
placeholder="Enter Password" style="width:180px;height:30px;border-radius:10px;"></td>
            </tr>
            <tr>
               <td><input type="submit" name="sub" value="Login" style="width:70px ;height:40px;
border-radius:5px;"></td>
            </tr>
         </table>
</form>
<?php
if(isset($_POST['sub'])){
    $un=$_POST['un'];
    $ps=$_POST['ps'];
```

```
    $q=$db->prepare("SELECT * FROM admin WHERE uname='$un' && pass='$ps'");
    $q->execute();
    $res=$q->fetchAll(PDO::FETCH_OBJ);
    if($res){

        $_SESSION['un']=$un;
         header("Location:admin-home.php");

    }
    else{
        echo "<script>alert('Wrong User')</script>";
    }

}
?>
        </div>
        <div id="footer"><h4 align="center">Copyright@DBMS</h4></div>
    </div>
    </div>
</body>
</html>
```

Donor List Interface Page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style type="text/css">
      td{
         width:200px;
         height:40px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;

      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;"> Blood


Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Donor Registration</h1>
         <center>
         <div id="form">
            <table>
               <tr>
                  <td><center><b><font color="blue"> Name </font></b></center></td>
                  <td><center><b><font color="blue"> <font> Father's Name</font></b></center></td>
                  <td><center><b><font color="blue"> Address</font></b></center></td>
                  <td><center><b><font color="blue"> City</font></b></center></td>
                  <td><center><b><font color="blue"> Age</font></b></center></td>
                  <td><center><b><font color="blue"> Blood Group</font></b></center></td>
                  <td><center><b><font color="blue"> Mobile No.</font></b></center></td>
                  <td><center><b><font color="blue"> E-Mail</font></b></center></td>
```

```
                </tr>
                <?php
                $q=$db->query("SELECT * FROM donor_registration");
                while($r1=$q->fetch(PDO::FETCH_OBJ))
                {
                   ?>
                <tr>
                    <td><center><?=$r1->name; ?></center></td>
                    <td><center><?=$r1->fname;?></center></td>
                    <td><center><?=$r1->address;?></center></td>
                    <td><center><?=$r1->city;?></center></td>
                    <td><center><?=$r1->age;?></center></td>
                    <td><center><?=$r1->bgroup;?></center></td>
                    <td><center><?=$r1->mno;?></center></td>
                    <td><center><?=$r1->email;?></center></td>
                </tr>
                   <?php
                }
                ?>
              </table>

          </div></center>
       </div>
       <div id="footer"><h4 align="center">Copyright@DBMS</h4>
      <p align="center"><a href="logout.php"><font color="white">Logout</a>
      </p>
    </div>
    </div>
    </div>
</body>
</html>
```

Stock Blood Page Code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style type="text/css">
      td{
         width:200px;
         height:40px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Stock Blood List</h1>
         <center>
         <div id="form" style="height:450px;position:absolute;">
            <table>
               <tr>
                  <td><center><b><font color="blue">Name</font></b></center></td>
                  <td><center><b><font color="blue">Qty</font></b></center></td>
               </tr>

               <tr>
                   <td><center>A+</center></td>
```

```
    <td><center>
      <?php
      $q=$db->query("SELECT * FROM donor_registration  WHERE bgroup='A+'");
       echo $row=$q->rowcount();
      ?>

    </center></td>
</tr>
<tr>
    <td><center>A-</center></td>
    <td><center>
    <?php
      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='A-'");
       echo $row=$q->rowcount();
      ?>
    </center></td>
</tr>
<tr>
    <td><center>B+</center></td>
    <td><center>
    <?php
      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='B+'");
       echo $row=$q->rowcount();
      ?>
    </center></td>
</tr>
<tr>
    <td><center>B-</center></td>
    <td><center>
    <?php
      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='B-'");
       echo $row=$q->rowcount();
      ?>
    </center></td>
</tr>
<tr>
    <td><center>AB+</center></td>
    <td><center>
    <?php
      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='AB+'");
       echo $row=$q->rowcount();
      ?>
    </center></td>
</tr>
<tr>
    <td><center>AB-</center></td>
    <td><center>
    <?php
      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='AB-'");
       echo $row=$q->rowcount();
      ?>
    </center></td>
```

```
                </tr>
                <tr>
                    <td><center>O+</center></td>
                    <td><center>
                    <?php
                      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='O+'");
                       echo $row=$q->rowcount();
                      ?>
                    </center></td>
                </tr>
                <tr>
                    <td><center>O-</center></td>
                    <td><center>
                    <?php
                      $q=$db->query("SELECT * FROM donor_registration WHERE bgroup='O-'");
                       echo $row=$q->rowcount();
                      ?>
                    </center></td>
                </tr>

              </table>

            </div></center>


          </div>

        <p align="center"><a href="logout.php"><font color="white">Logout</a>
        </p>
      </div>
      </div>
      </div>
</body>
</html>
```

Blood Exchange registration page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Exchange Blood Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style>
      #form1{
         width:80%;
         height:320px;
         background-color:red;
         color:white;
         border-radius:10px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h3>Exchange Blood Donor Registration</h3>
         <center>
         <div id="form1">
            <form action="" method="post">
         <table>
             <tr>
               <td width="200px" height="50px">Enter Name</td>
               <td width="200px" height="50px"><input type="text" name="name"
placeholder="Enter Name"></td>
```

```
            <td width="200px" height="50px">Enter Father's Name</td>
            <td width="200px" height="50px"><input type="text" name="fname"
placeholder="Enter Father's Name"></td>
          </tr>
          <tr>
            <td width="200px" height="50px">Enter Address</td>
            <td width="200px" height="50px"><textarea name="address"></textarea></td>
            <td width="200px" height="50px">Enter City</td>
            <td width="200px" height="50px"><input type="text" name="city" placeholder="Enter
City"></td>
          </tr>
          <tr>
            <td width="200px" height="50px">Enter Age</td>
            <td width="200px" height="50px"><input type="text" name="age" placeholder="Enter
Age"></textarea></td>
            <td width="200px" height="50px">Enter E-Mail</td>
            <td width="200px" height="50px"><input type="text" name="email"
placeholder="Enter E-Mail">
          </tr>
          <tr>
            <td width="200px" height="50px">Enter Mobile Number</td>
            <td width="200px" height="50px"><input type="text" name="mno" placeholder="Enter
Mobile Number"></td>
          </tr>
           <tr>
            <td width="200px" height="50px">Select Blood Group</td>
            <td width="200px" height="50px">
                <select name="bgroup" >
              <option >A+</option>
              <option >A-</option>
              <option >B+</option>
              <option >B-</option>
              <option >AB+</option>
              <option >AB-</option>
              <option >O+</option>
              <option >O-</option>
            </select>
           </td>
           <td width="200px" height="50px">Exchange Blood Group</td>
            <td width="200px" height="50px">
              <select name="exbgroup" >
              <option >A+</option>
              <option >A-</option>
              <option >B+</option>
              <option >B-</option>
              <option >AB+</option>
              <option >AB-</option>
              <option >O+</option>
              <option >O-</option>
            </select>
           </td>
          </tr>
```

```
            <tr>
               <td><input type="submit" name="sub" value="Save"></td>
             </tr>

          </table>
          </form>
          <?php
          if(isset($_POST['sub'])){

             //front end data input
             $name=$_POST['name'];
             $fname=$_POST['fname'];
             $address=$_POST['address'];
             $city=$_POST['city'];
             $age=$_POST['age'];
             $bgroup=$_POST['bgroup'];
             $mno=$_POST['mno'];
             $email=$_POST['email'];
             $exbgroup=$_POST['exbgroup'];
             //front end data input end

             //select and insert
             $q="select * from donor_registration where bgroup='$bgroup'";
             $st=$db->query($q);
             $num_row=$st->fetch();
             $id=$num_row['id'];
             $name=$num_row['name'];
             $b1=$num_row['bgroup'];
             $mno=$num_row['mno'];
             $q1="INSERT INTO out_stock_b (bname,name,mno) values(?,?,?)";
             $st1=$db->prepare($q1);
             $st1->execute([$b1,$name,$mno]);
             //select and insert end

             //delete code
             $q2="delete from  donor_registration where id='$id' ";
             $st1=$db->prepare($q2);
             $st1->execute();
             //delete

             //exchange ingo insert
             $q=$db->prepare("INSERT INTO
exchange_b(name,fname,address,city,age,bgroup,mno,email,ebgroup)
VALUES(:name,:fname,:address,:city,:age,:bgroup,:mno,:email,:ebgroup)");
             $q->bindValue('name',$name);
             $q->bindValue('fname',$fname);
             $q->bindValue('address',$address);
             $q->bindValue('city',$city);
             $q->bindValue('age',$age);
             $q->bindValue('bgroup',$bgroup);
             $q->bindValue('mno',$mno);
             $q->bindValue('email',$email);
```

```
            $q->bindValue('ebgroup',$exbgroup);
            if($q->execute()){
               echo "<script>alert('Donor Registration Successfull')</script>";
            }

            else{
               echo "<script>alert('Donor Registration Failed')</script>";
            }
            //exchange info insert end
         }
         ?>
         </div></center>
         </div>
      <div id="footer"><h4 align="center">Copyright@DBMS</h4>
     <p align="center"><a href="logout.php"><font color="white">Logout</font></a>
     </p>
   </div>
   </div>
   </div>
</body>
</html>
```

Exchanger List page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style type="text/css">
      td{
         width:200px;
         height:40px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Donor Registration</h1>
         <center>
         <div id="form">
            <table>
               <tr>
                  <td><center><b><font color="blue"> Name </font></b></center></td>
                  <td><center><b><font color="blue"> <font> Father's
Name</font></b></center></td>
                  <td><center><b><font color="blue"> Address</font></b></center></td>
                  <td><center><b><font color="blue"> City</font></b></center></td>
```

```
                    <td><center><b><font color="blue"> Age</font></b></center></td>
                    <td><center><b><font color="blue"> Given Blood Group</font></b></center></td>
                    <td><center><b><font color="blue"> Mobile No.</font></b></center></td>
                    <td><center><b><font color="blue"> E-Mail</font></b></center></td>
                    <td><center><b><font color="blue"> Taken Blood Group</font></b></center></td>
                </tr>
                <?php
                $q=$db->query("SELECT * FROM exchange_b");
                while($r1=$q->fetch(PDO::FETCH_OBJ))
                {
                    ?>
                <tr>
                    <td><center><?=$r1->name; ?></center></td>
                    <td><center><?=$r1->fname;?></center></td>
                    <td><center><?=$r1->address;?></center></td>
                    <td><center><?=$r1->city;?></center></td>
                    <td><center><?=$r1->age;?></center></td>
                    <td><center><?=$r1->bgroup;?></center></td>
                    <td><center><?=$r1->mno;?></center></td>
                    <td><center><?=$r1->email;?></center></td>
                    <td><center><?=$r1->ebgroup;?></center></td>
                </tr>
                    <?php
                }
                ?>
            </table>

        </div></center>


    </div>


    </p>
  </div>
  </div>
  </div>
</body>
</html>
```

Out-Stock blood List page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style type="text/css">
      td{
         width:200px;
         height:40px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Out Stock Blood List</h1>
         <center>
         <div id="form">
            <table>
               <tr>
                  <td><center><b><font color="blue"> Name </font></b></center></td>
                  <td><center><b><font color="blue"> <font> Mobile No</font></b></center></td>
                  <td><center><b><font color="blue"> Blood Group</font></b></center></td>
                </tr>
               <?php
               $q=$db->query("SELECT * FROM out_stock_b");
```

```
                while($r1=$q->fetch(PDO::FETCH_OBJ))
                {
                   ?>
                <tr>
                    <td><center><?=$r1->name; ?></center></td>
                    <td><center><?=$r1->mno;?></center></td>
                    <td><center><?=$r1->bname;?></center></td>

                </tr>
                   <?php
                }
                ?>
              </table>

          </div></center>


       </div>


     </p>
    </div>
    </div>
    </div>
</body>
</html>
```

Exchanged blood List page code

```
<?php
include('connection.php');
session_start();
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Donor Registration</title>
   <link rel="stylesheet" type="text/css" href="css/style.css?v=1">
   <style type="text/css">
      td{
         width:200px;
         height:40px;
      }
      #full{
         margin: 0;
         padding: 0;
         background:url("blood.jpg");
         position:absolute;
      }
   </style>
</head>
<body>
   <div id="full">
    <div id="inner_full">
      <div id="header"><h2><a href="admin-home.php" style="text-decoration:none;color:white;">
Blood Bank Management System</a></h2></div>
      <div id="body">
         <br>
         <?php
          $un=$_SESSION['un'];
         if(!$un){
            header("Location:index.php");
         }
         ?>
         <h1>Donor Registration</h1>
         <center>
         <div id="form">
            <table>
               <tr>
                  <td><center><b><font color="blue"> Name </font></b></center></td>
                  <td><center><b><font color="blue"> <font> Father's
Name</font></b></center></td>
                  <td><center><b><font color="blue"> Address</font></b></center></td>
                  <td><center><b><font color="blue"> City</font></b></center></td>
                  <td><center><b><font color="blue"> Age</font></b></center></td>
```

```
                    <td><center><b><font color="blue"> Given Blood Group</font></b></center></td>
                    <td><center><b><font color="blue"> Mobile No.</font></b></center></td>
                    <td><center><b><font color="blue"> E-Mail</font></b></center></td>
                    <td><center><b><font color="blue"> Taken Blood Group</font></b></center></td>
                </tr>
                <?php
                $q=$db->query("SELECT * FROM exchange_b");
                while($r1=$q->fetch(PDO::FETCH_OBJ))
                {
                    ?>
                <tr>
                    <td><center><?=$r1->name; ?></center></td>
                    <td><center><?=$r1->fname;?></center></td>
                    <td><center><?=$r1->address;?></center></td>
                    <td><center><?=$r1->city;?></center></td>
                    <td><center><?=$r1->age;?></center></td>
                    <td><center><?=$r1->bgroup;?></center></td>
                    <td><center><?=$r1->mno;?></center></td>
                    <td><center><?=$r1->email;?></center></td>
                    <td><center><?=$r1->ebgroup;?></center></td>
                </tr>
                    <?php
                }
                ?>
            </table>

        </div></center>


    </div>


  </p>
 </div>
 </div>
 </div>
</body>
</html>
```

Summary:

In this chapter the entities, attributes, schema diagram, ER diagram and queries are explained in detail. All the triggers, procedures, and snippets of php code and MYSQL code used in this project is listed above.

CHAPTER 4

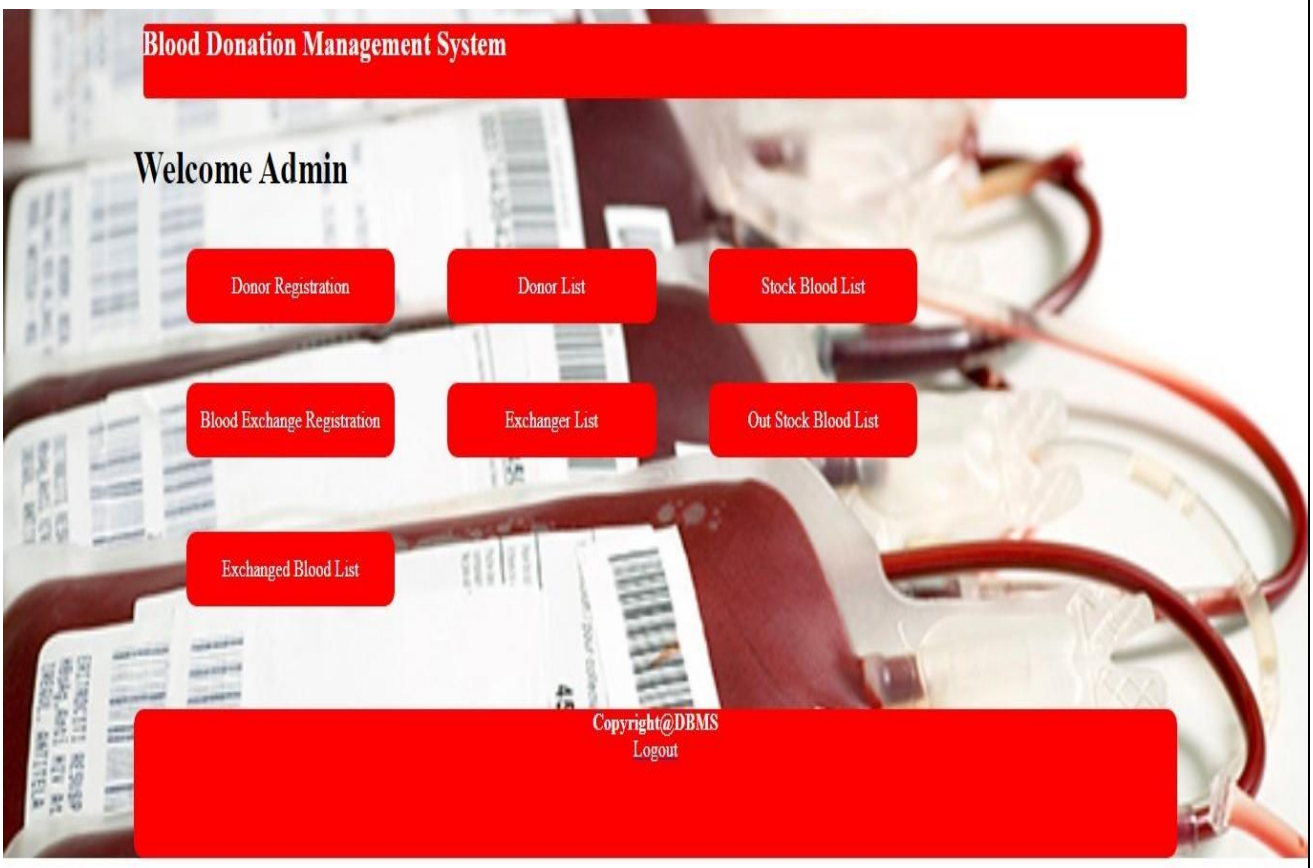
RESULTS AND SNAPSHOTS

From this project we can extract:

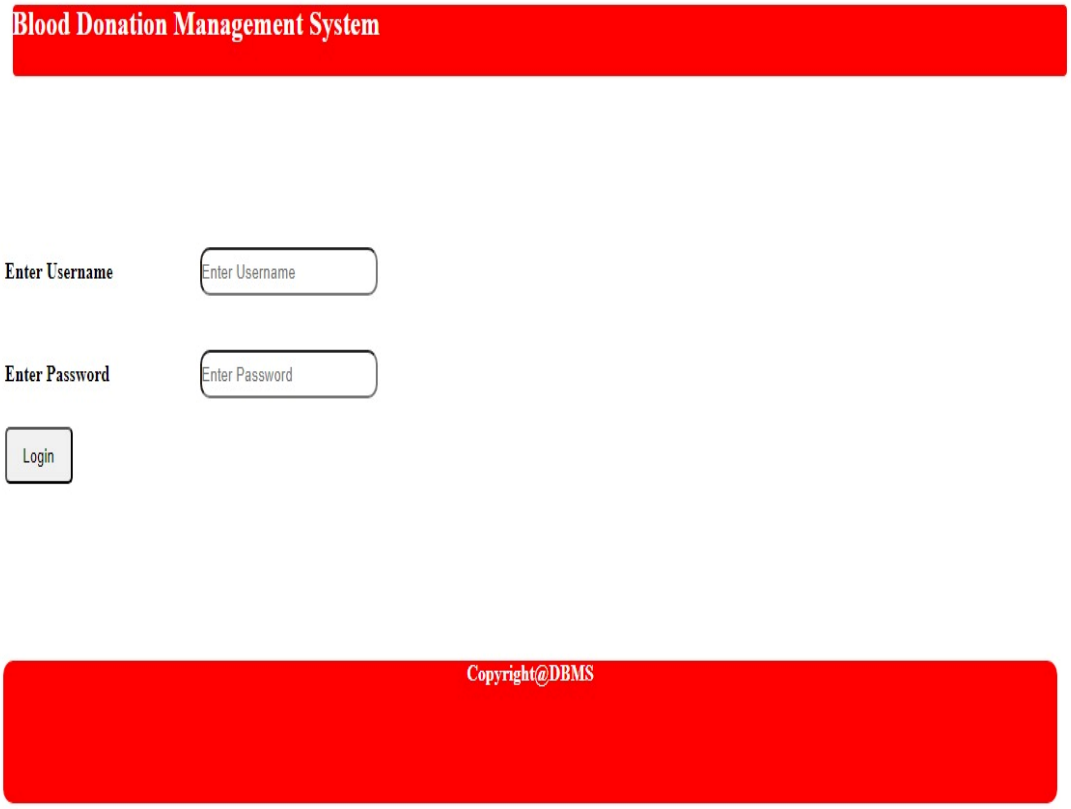
- donor details
- different blood types
- location of donors
- provide information about available blood types.
- Blood exchange details

4.1 FRONT END SNAPSHOTS

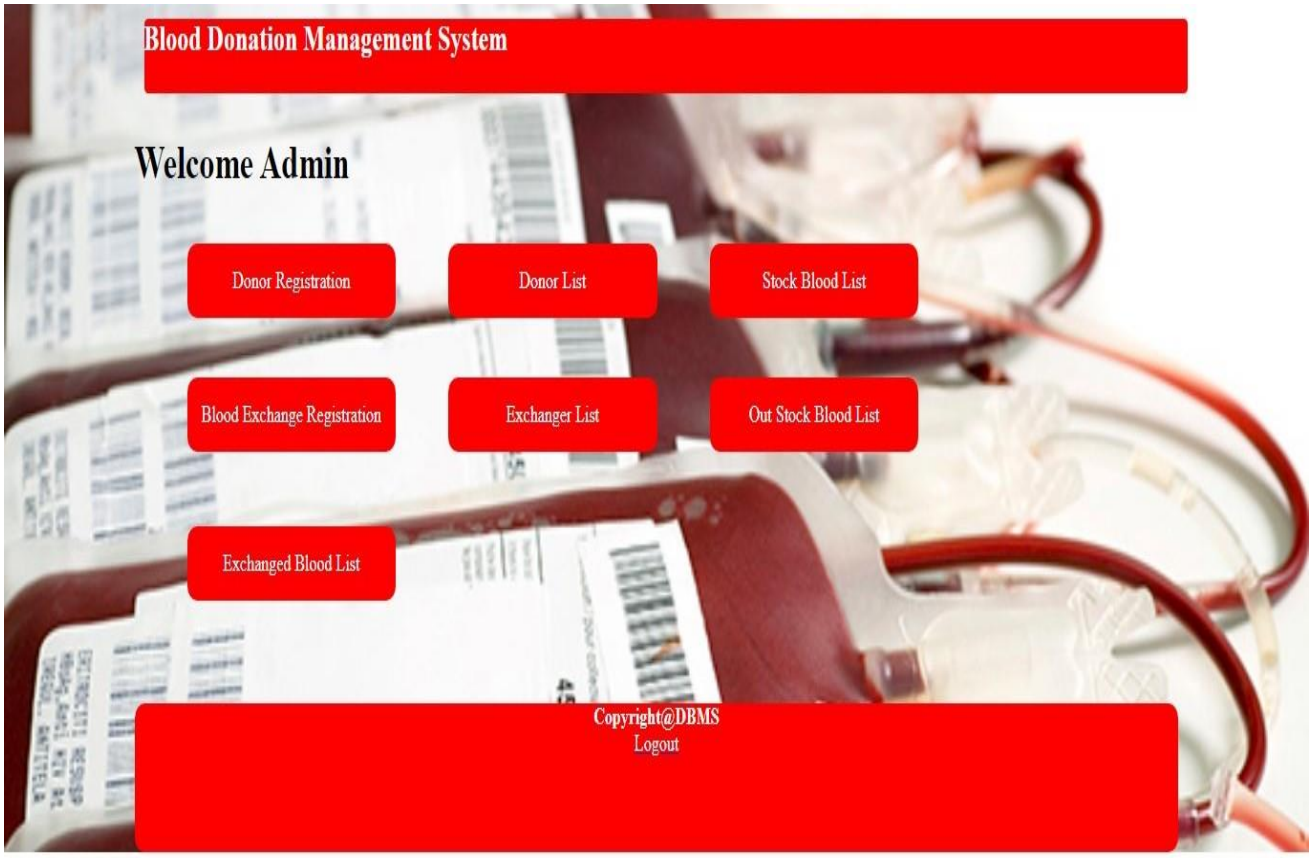
Home page: We have three buttons on this page for sign up, sign in and admin login.



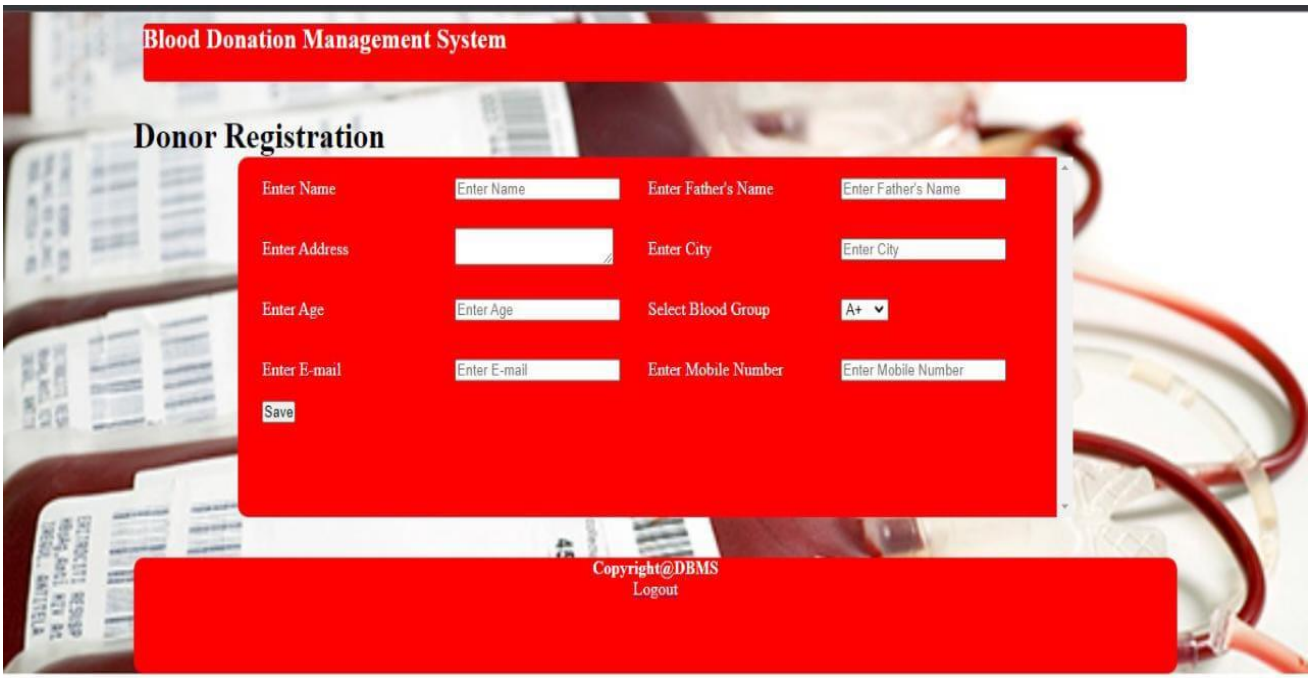
Log-in Page


Blood Donation Management System
Enter Username
Enter Username
Enter Password
Enter Password
Login
Copyright@DBMS

Log-out page

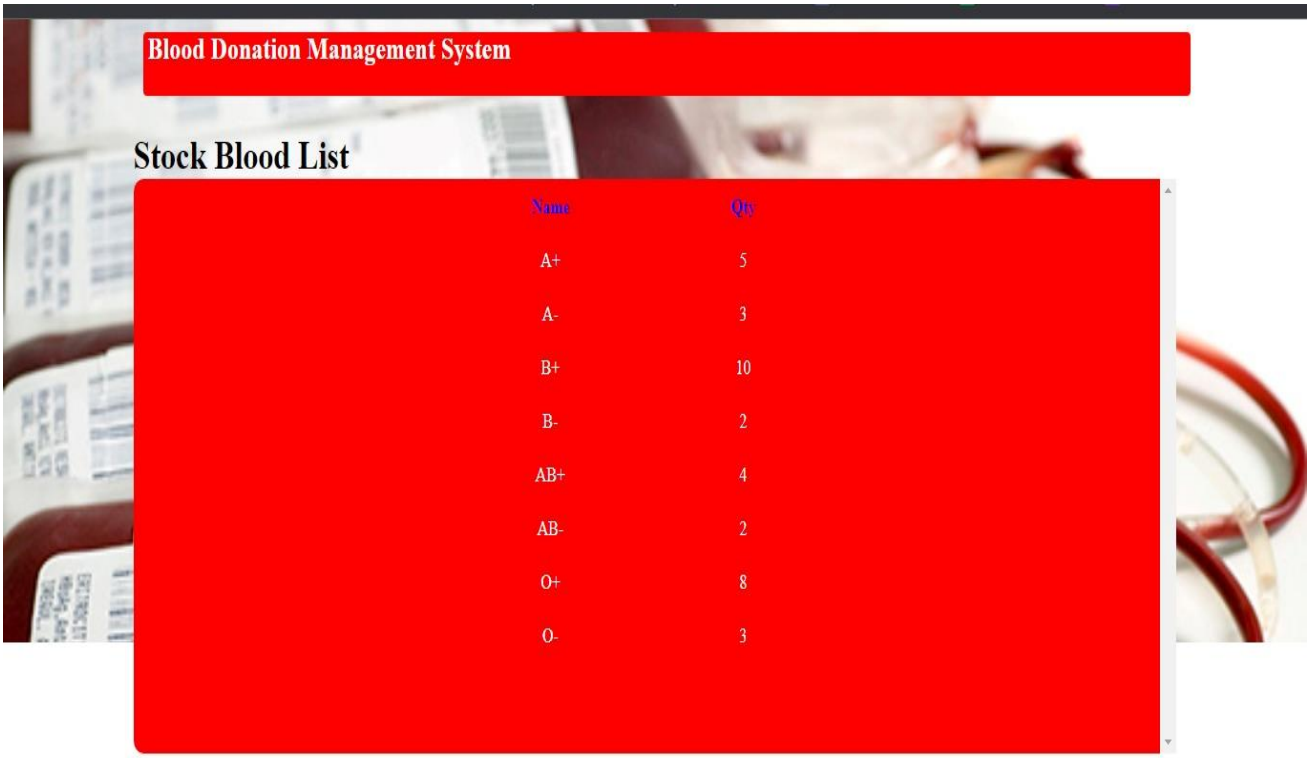

Blood Donation Management System
Welcome Admin
Donor Registration
Donor List
Stock Blood List
Blood Exchange Registration
Exchanger List
Out Stock Blood List
Exchanged Blood List
Copyright@DBMS
Logout

Donor Registration Page

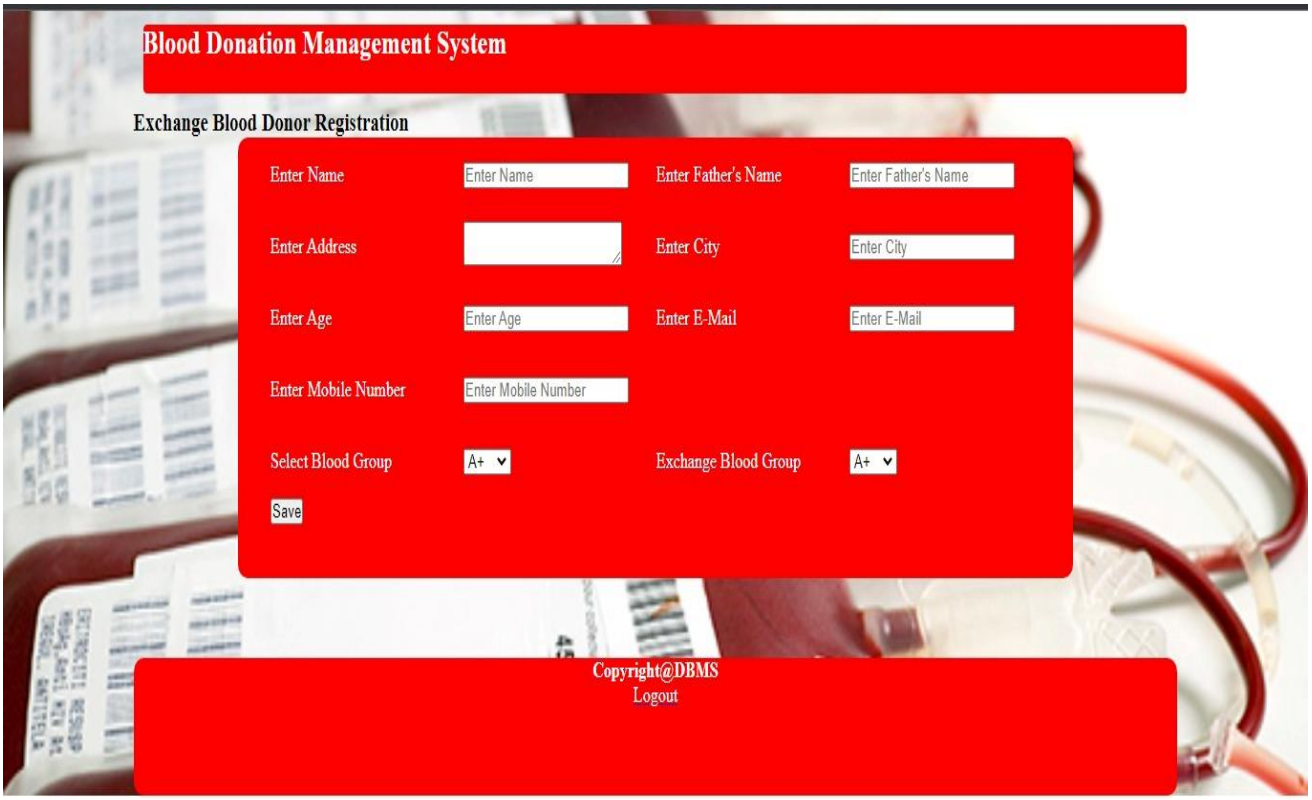


Donor List page

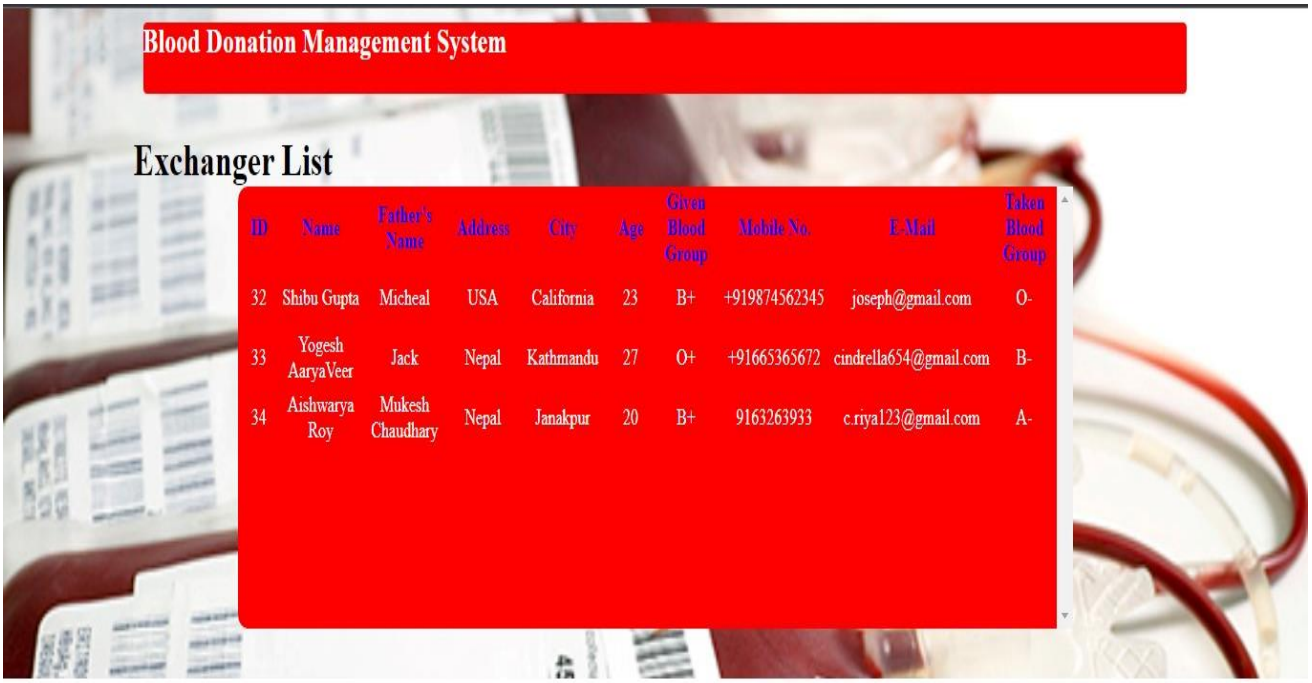
Stock Blood List



Exchange Blood Donor Registration



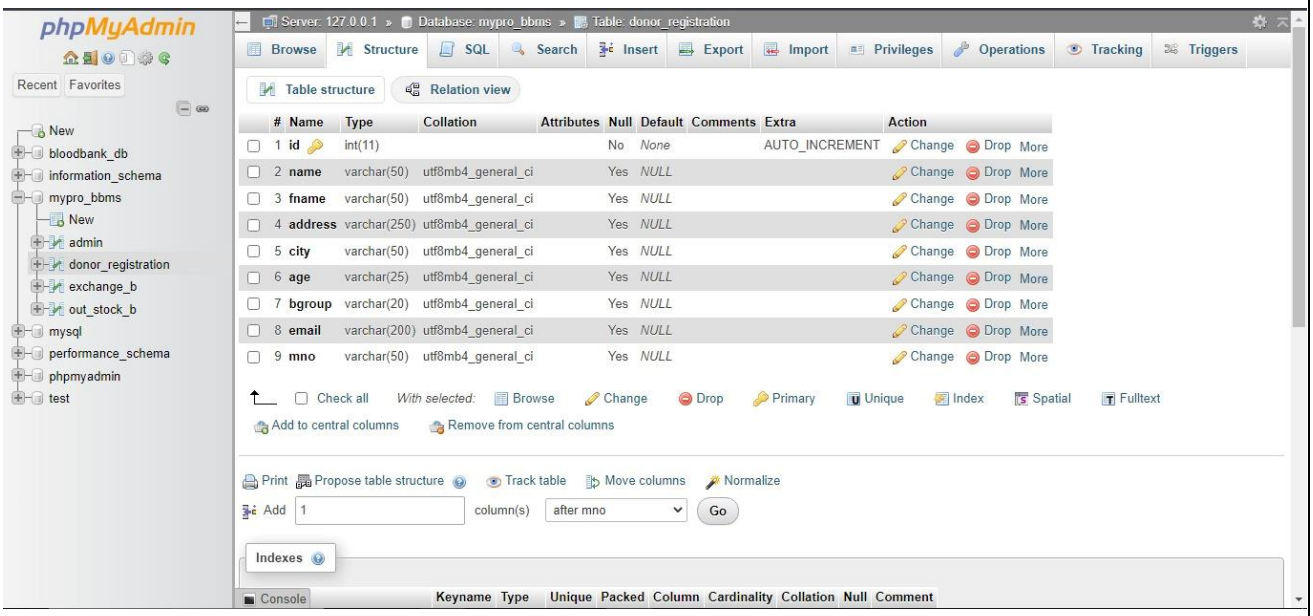
Exchanger List page



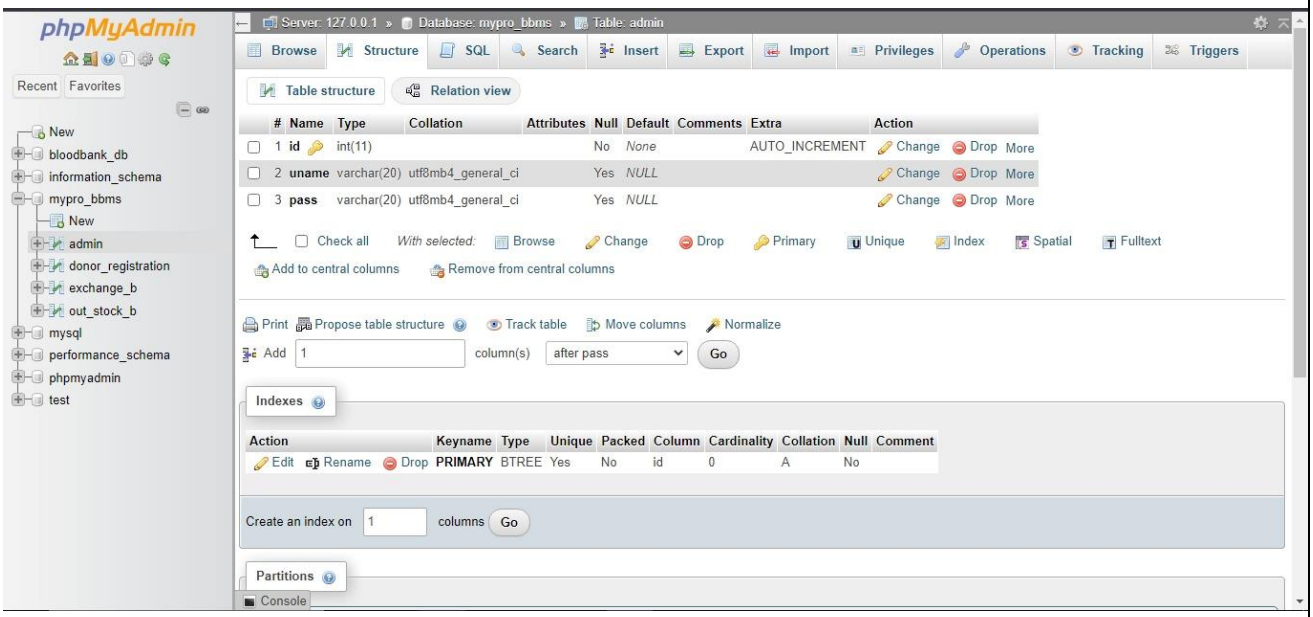
4.2 Back-End Screenshots

MySql Tables:

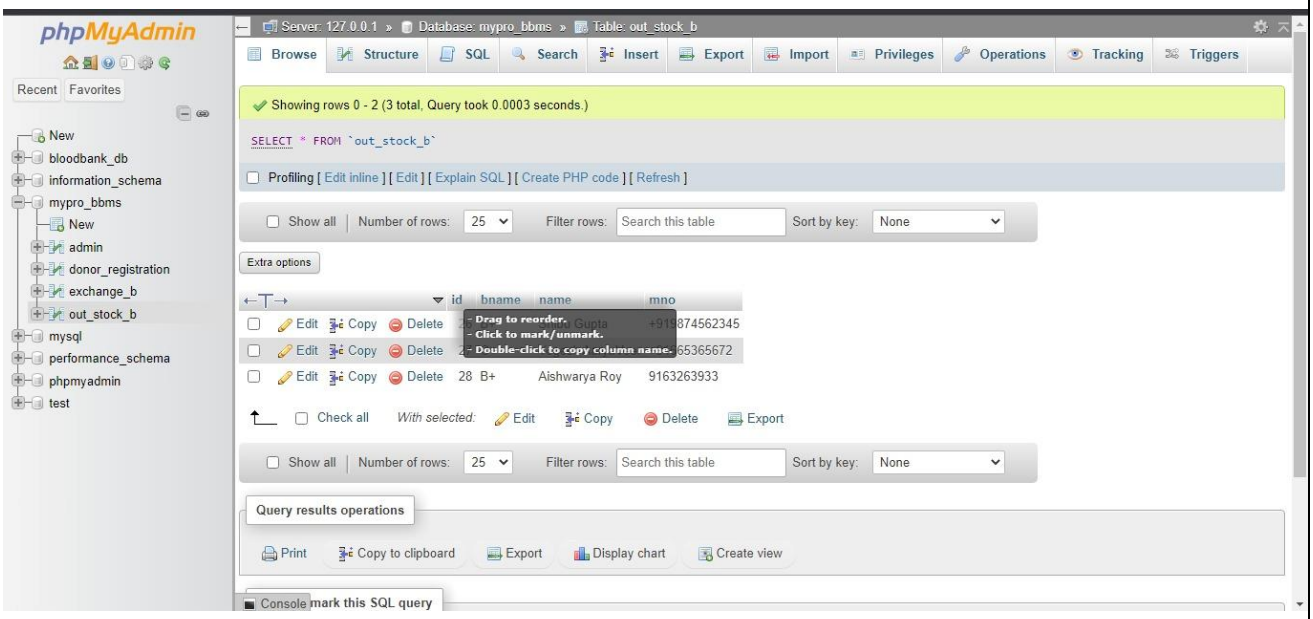
Blood Donor registration Table:



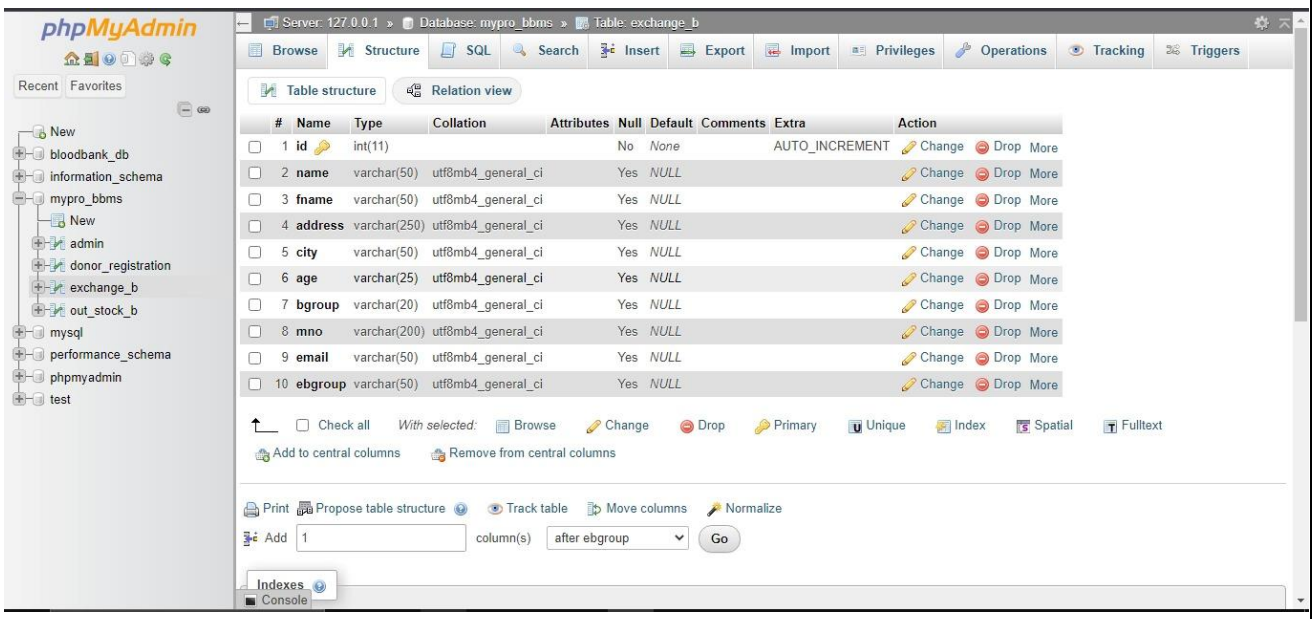
Admin Login Table:



Out Stock Table:



Exchange Table:



Summary:

The snapshots of the front-end interface and back-end interface are listed in this chapter. The description of each snapshot is explained briefly.

4.3 CONCLUSION AND FUTURE SCOPE

The blood donation database management system is a vital tool for organizing and maintaining critical information related to blood donors, inventory, and distribution. It ensures the accuracy, efficiency, and safety of blood transfusion services. By centralizing donor data, streamlining processes, and enabling better coordination among healthcare organizations, the system plays a significant role in meeting the demand for safe blood products. It also provides a foundation for future advancements, such as mobile integration, blockchain technology, AI and ML algorithms, EHR integration, and improved interoperability, all of which can further enhance the effectiveness and reliability of blood transfusion services. Ultimately, the blood donation database management system contributes to saving lives and improving patient outcomes through a well-organized and optimized blood supply chain.

The future scope of a blood donation database management system involves integrating emerging technologies, enhancing donor engagement through mobile platforms, improving donor eligibility assessment, implementing real-time inventory management, promoting interoperability, leveraging data analytics, and generating actionable insights. These advancements aim to further optimize the blood supply chain, enhance blood safety, and ensure an efficient and reliable blood transfusion process.