BLOOD DONATION MANAGEMENT SYSTEM

A MINI PROJECT REPORT

SUBMITTED BY

Hemalatha R	**221701020**
Keerthana V	**221701029**
Loshika G	**221701034**
Thoshikarani S T	**221701061**

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND DESIGN ENGINEERING

RAJALAKSHMI ENGINEERING COLLEGE
THANDALAM
CHENNAI – 602105

ANNA UNIVERSITY: CHENNAI 600625

BONAFIDE CERTIFICATE

Certified that this project report **"Blood Donation Management System"** is the Bonafide work of **" Hemalatha R(221701020), Keerthana V (221701029), Loshika G (221701034), Thoshikarani S T (221701061)**" who carried out the project work under my supervision.

SIGNATURE

Mr.S.Uma Maheswara Rao M.E.,
Professor and Head,
Computer Science and Design,
Rajalakshmi Engineering College,
Thandalam, Chennai – 602105.

SIGNATURE

Mr.Vijaykumar M.Tech.,
Asst. Professor (SS),
Computer Science and Design,
Rajalakshmi Engineering College,
Thandalam, Chennai – 602105.

EXTERNAL EXAMINER

INTERNAL EXAMINER

ACKNOWLEGEMENT

We are highly obliged to take this opportunity to thank our Chairman, **Mr. S. Meganathan**, Chairperson, **Dr.Thangam Meganathan,** and Principal, **Dr. S.N. Murugesan,** for providing all the facilities required to carry out this project work.

We are ineffably indebted to our H.O.D. **Mr. S. Uma Maheswara Rao, M.E.,** for his conscientious guidance and encouragement in making this project recognizable.

We are extremely thankful to our faculty **Mr.Vijaykumar M.Tech.,** for his valuable guidance and indefatigable support and extend our heartfelt thanks to all the teaching and non-teaching staff of the **Computer Science Design department** who helped us directly or indirectly in the completion of this project successfully.

At last but not least gratitude goes to our friends who helped us compiling the project and finally to god who made all things possible.

Any omission in this brief acknowledgement doesn't mean lack of gratitude.

Hemalatha R **221701020**

Keerthana V **221701029**

Loshika G **221701034**

Thoshikarani S T **221701061**

ABSTRACT

Blood donation is a critical activity that ensures the availability of blood to those in need during medical emergencies. Our project, "Blood Donation Management System," is designed to streamline the process of donor registration, blood bank management, and recipient matching.

The system provides an interface for donors, administrators, and hospitals to efficiently manage donations and requests. This project aims to reduce manual errors and enhance the accessibility of blood banks using a database-driven system. Developed using PHP and MySQL on a Mac PC with XAMPP, the system ensures scalability and reliability.

TABLE OF CONTENTS

CHAPTER – 1

INTRODUCTION

1.1 INTRODUCTION

The "Blood Donation Management System" aims to streamline the process of managing blood donors, blood availability, and recipient requests. The project provides essential information regarding donor registrations, bloodstock, and matching recipients in need, thereby enhancing the efficiency and accessibility of blood donation services. This system ensures that vital information is presented in an organized manner for users' convenience.

1.2 SCOPE OF THE WORK

The "Blood Donation Management System" bridges the gap between donors and recipients, making it easier for hospitals and blood banks to manage supply and demand. By automating key processes and maintaining accurate records, this system addresses the growing need for organized blood donation services, ensuring quicker access and better resource management.

1.3 PROBLEM STATEMENT

Despite the critical role of blood donations in saving lives, the lack of an efficient system leads to manual errors, delays, and challenges in meeting urgent needs. Many blood banks and hospitals struggle to manage the donor database and match donors with recipients effectively. This project aims to address these issues by providing a user-friendly platform that ensures timely and accurate blood availability and donor-recipient matching.

1.4 AIM AND OBJECTIVES OF THE PROJECT

The primary aim of this project is to build an efficient and reliable system to manage blood donations, ensuring seamless coordination between donors, hospitals, and blood banks. The objectives include:

1. Automating the donor registration process.
2. Maintaining real-time data on blood availability.
3. Facilitating efficient matching of donors and recipients.
4. Enhancing accessibility and ease of use for stakeholders.

CHAPTER – 2

SYSTEM SPECIFICATIONS

2.1 HARDWARE SPECIFICATIONS

Processor: Intel i5 or equivalent

Memory Size: 8GB (Minimum)

Storage (HDD): 1 TB (Minimum)

2.2 SOFTWARE SPECIFICATIONS

Operating System: macOS or Windows (with XAMPP installed)

Front-End: PHP

Back-End: MySQL

Development Environment: XAMPP (PHP, MySQL)

Languages: PHP, SQL

CHAPTER - 3

MODULE DESCRIPTION

This application consists of two main modules. When the program runs, users will be directed to a login window. Based on their credentials, they can log in as an Administrator or a Donor (User). The description of the modules is as follows:

3.1 Admin Login

When an individual logs in as an Administrator, they are required to enter their username and password. Upon successful login, the Administrator has the authority to:

- Add, update, and delete blood details.
- Manage donor information.
- View real-time blood availability and analytics.
  The Administrator has full control over the database and ensures that all data is accurate and up to date.

3.2 Donor (User) Login

When a person logs in as a Donor, they can access the following features:

- View Blood Availability: Check the available blood groups and their respective quantities.
- Donate Blood: Submit a request or schedule a blood donation.
- Search Donors: Look up donor details (if enabled) for emergencies or referrals.

CHAPTER - 4

SAMPLE CODING

Sample 1: Donor Registration Code

```
<?php
include('includes/header.php');
include('includes/navbar.php');

if (isset($_POST['name'])) {
    $name = $_POST["name"];
    $guardiansname = $_POST["guardiansname"];
    $gender = $_POST["gender"];
    $dob = $_POST["dob"];
    $weight = $_POST["weight"];
    $bloodgroup = $_POST["bloodgroup"];
    $email = $_POST["email"];
    $address = $_POST["address"];
    $contact = $_POST["contact"];
    $username = $_POST["username"];
    $password = $_POST["password"];

    include 'admin/dbconnect.php';

    $qry = "INSERT INTO donor(name, guardiansname, gender, dob, weight, bloodgroup,
email, address, contact, username, password)
            VALUES ('$name', '$guardiansname', '$gender', '$dob', '$weight', '$bloodgroup',
'$email', '$address', '$contact', '$username', '$password')";
    $result = mysqli_query($conn, $qry);

    if (!$result) {
        echo "ERROR";
    } else {
        echo "<div class='text-center text-success'><h1>Registration Successful!</h1>";
        echo "<a href='index.php'><h3>Go Back</h3></a>";
    }
}
?>

<!-- HTML FORM FOR REGISTRATION -->
<h2 class="text-center text-danger">Register as a Donor!</h2>
<div class="container mx-5">
    <!-- Add your form code here -->
</div>

<script>
    function myFunction() {
        var x = document.getElementById("myInput");
```

```
        x.type = x.type === "password" ? "text" : "password";
    }

    function validate() {
        var email = document.getElementById("email").value;
        var mobNo = document.getElementById("contact").value;
        var currYear = new Date().getFullYear();
        var dob = document.getElementById("dob").value;
        var year = dob.split('-')[0];
        var age = currYear - year;
        var weight = document.getElementById("weight").value;

        if (email.indexOf('@') <= 0) {
            document.getElementById('email-msg').innerHTML = "Please enter a valid email.";
            return false;
        }
        if (mobNo.length !== 10 || isNaN(mobNo)) {
            document.getElementById('mob-msg').innerHTML = "Enter a 10-digit contact
number.";
            return false;
        }
        if (age < 18 || age > 65) {
            document.getElementById("age-msg").innerHTML = "Donors must be between
18-65 years.";
            return false;
        }
        if (weight < 50) {
            document.getElementById("weight-msg").innerHTML = "Donors must weigh at least
50 kg.";
            return false;
        }
        return true;
    }
</script>
<?php
include('includes/footer.php');
?>
```

Sample 2: SQL Database Schema and Sample Data

```
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET time_zone = "+00:00";

CREATE TABLE IF NOT EXISTS `admin` (
  `user_id` int(11) NOT NULL,
  `username` varchar(50) NOT NULL,
  `password` varchar(50) NOT NULL,
  `name` varchar(50) NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=3 DEFAULT CHARSET=latin1;

INSERT INTO `admin` (`user_id`, `username`, `password`, `name`) VALUES
(2, 'admin', 'admin', 'admin');

CREATE TABLE IF NOT EXISTS `announce` (
  `id` int(11) NOT NULL,
  `announcement` varchar(50) NOT NULL,
  `bloodneed` varchar(3) NOT NULL,
  `dat` date NOT NULL,
  `organizer` varchar(50) NOT NULL,
  `requirements` text NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=3 DEFAULT CHARSET=latin1;

INSERT INTO `announce` (`id`, `announcement`, `bloodneed`, `dat`, `organizer`,
`requirements`) VALUES
(1, 'DEMO ANNOUNCEMENT', 'B+', '2018-06-24', 'Helping Hands', 'Weight at least 50kg,
No alcohol intake in 24hrs prior to donation, light meal should be taken before donation, be
in good health, must be 18 years old and must have at least 3 month interval than the last
donation.');

CREATE TABLE IF NOT EXISTS `blood` (
  `id` int(11) NOT NULL,
  `name` varchar(20) NOT NULL,
  `gender` varchar(20) NOT NULL,
  `dob` date NOT NULL,
  `weight` int(11) NOT NULL,
  `bloodgroup` varchar(3) NOT NULL,
  `address` varchar(20) NOT NULL,
  `contact` varchar(10) NOT NULL,
  `bloodqty` int(11) NOT NULL,
  `collection` date NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=19 DEFAULT CHARSET=latin1;

INSERT INTO `blood` (`id`, `name`, `gender`, `dob`, `weight`, `bloodgroup`, `address`,
`contact`, `bloodqty`, `collection`) VALUES
(3, 'shawn mendez', 'M', '1997-05-26', 60, 'B-', 'los', '8521479633', 310, '2018-02-20');

CREATE TABLE IF NOT EXISTS `campaigndb` (
  `id` int(11) NOT NULL,
```

```
  `cname` varchar(50) NOT NULL,
  `oname` varchar(50) NOT NULL,
  `phn` int(10) NOT NULL,
  `cdate` date NOT NULL,
  `descp` text NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=10 DEFAULT CHARSET=latin1;

INSERT INTO `campaigndb` (`id`, `cname`, `oname`, `phn`, `cdate`, `descp`) VALUES
(8, 'Saving Lives Together', 'demo organizer', 1597534560, '2018-06-21', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.');

CREATE TABLE IF NOT EXISTS `donor` (
  `id` int(11) NOT NULL,
  `name` varchar(20) NOT NULL,
  `guardiansname` varchar(20) NOT NULL,
  `gender` varchar(20) NOT NULL,
  `dob` date NOT NULL,
  `weight` int(11) NOT NULL,
  `bloodgroup` varchar(3) NOT NULL,
  `email` varchar(20) NOT NULL,
  `address` varchar(20) NOT NULL,
  `contact` varchar(10) NOT NULL,
  `username` varchar(20) NOT NULL,
  `password` varchar(20) NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=24 DEFAULT CHARSET=latin1;

INSERT INTO `donor` (`id`, `name`, `guardiansname`, `gender`, `dob`, `weight`, `bloodgroup`, `email`, `address`, `contact`, `username`, `password`) VALUES
(18, 'Demo User', 'demo', 'M', '2020-09-03', 51, 'b+', 'demo@demo.com', 'demo', '8520002500', 'demo', 'demo');

CREATE TABLE IF NOT EXISTS `users` (
  `user_id` int(11) NOT NULL,
  `username` varchar(50) NOT NULL,
  `password` varchar(50) NOT NULL,
  `donorname` varchar(50) NOT NULL
) ENGINE=InnoDB AUTO_INCREMENT=2 DEFAULT CHARSET=latin1;

INSERT INTO `users` (`user_id`, `username`, `password`, `donorname`) VALUES
(1, 'user', 'pass', 'harryden');

ALTER TABLE `admin` ADD PRIMARY KEY (`user_id`);
ALTER TABLE `announce` ADD PRIMARY KEY (`id`);
ALTER TABLE `blood` ADD PRIMARY KEY (`id`);
ALTER TABLE `campaigndb` ADD PRIMARY KEY (`id`);
ALTER TABLE `donor` ADD PRIMARY KEY (`id`);
ALTER TABLE `users` ADD PRIMARY KEY (`user_id`);
```

```
ALTER TABLE `admin` MODIFY `user_id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=3;
ALTER TABLE `announce` MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=3;
ALTER TABLE `blood` MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=19;
ALTER TABLE `campaigndb` MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=10;
ALTER TABLE `donor` MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=24;
ALTER TABLE `users` MODIFY `user_id` int(11) NOT NULL AUTO_INCREMENT,
AUTO_INCREMENT=2;
```

Sample 3:Donor Information Update Form

```
<!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">
   <meta name="description" content="">
   <meta name="author" content="">
   <title>BDMS</title>
   <link href="../vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
   <link href="../vendor/metisMenu/metisMenu.min.css" rel="stylesheet">
   <link href="../dist/css/sb-admin-2.css" rel="stylesheet">
   <link href="../vendor/font-awesome/css/font-awesome.min.css" rel="stylesheet"
type="text/css">
   <link rel="stylesheet" href="../icofont/icofont.min.css">
</head>

<body>
   <div id="wrapper">
      <?php include 'includes/nav.php' ?>
      <div id="page-wrapper">
         <div class="row">
            <div class="col-lg-12">
               <h1 class="page-header">BDMS</h1>
            </div>
         </div>
         <div class="row">
            <div class="col-lg-12">
               <div class="panel panel-default">
                  <div class="panel-heading">MESSAGE BOX</div>
                  <div class="panel-body">
                     <div class="row">
                        <div class="col-lg-6">
                           <form role="form" action="updateDonor.php" method="post">
```

```
                        <div class="form-group">
                            <label>Name</label>
                            <input class="form-control" name="name" value="<?php echo
$name; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Guardian's Name</label>
                            <input class="form-control" name="guardiansname"
value="<?php echo $guardiansname; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Gender</label>
                            <select class="form-control" name="gender">
                                <option value="M" <?php if($gender == "M") echo 'selected';
?>>Male</option>
                                <option value="F" <?php if($gender == "F") echo 'selected';
?>>Female</option>
                            </select>
                        </div>
                        <div class="form-group">
                            <label>Date of Birth</label>
                            <input class="form-control" type="date" name="dob"
value="<?php echo $dob; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Weight (kg)</label>
                            <input class="form-control" name="weight" value="<?php echo
$weight; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Blood Group</label>
                            <input class="form-control" name="bloodgroup" value="<?php
echo $bloodgroup; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Email</label>
                            <input class="form-control" name="email" value="<?php echo
$email; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Address</label>
                            <input class="form-control" name="address" value="<?php echo
$address; ?>" required>
                        </div>
                        <div class="form-group">
                            <label>Contact</label>
                            <input class="form-control" name="contact" value="<?php echo
$contact; ?>" required>
                        </div>
                        <input type="hidden" name="id" value="<?php echo $id; ?>">
```

```
                        <button type="submit" class="btn btn-primary">Update</button>
                    </form>
                </div>
            </div>
        </div>
    </div>
</div>
<script src="../vendor/jquery/jquery.min.js"></script>
<script src="../vendor/bootstrap/js/bootstrap.min.js"></script>
<script src="../vendor/metisMenu/metisMenu.min.js"></script>
<script src="../dist/js/sb-admin-2.js"></script>
</body>

</html>

<?php
include 'dbconnect.php';

if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $name = $_POST["name"];
    $guardiansname = $_POST["guardiansname"];
    $gender = $_POST["gender"];
    $dob = $_POST["dob"];
    $weight = $_POST["weight"];
    $bloodgroup = $_POST["bloodgroup"];
    $email = $_POST["email"];
    $address = $_POST["address"];
    $contact = $_POST["contact"];
    $id = $_POST['id'];

    $qry = "UPDATE donor SET name='$name', guardiansname='$guardiansname',
gender='$gender', dob='$dob', weight='$weight', bloodgroup='$bloodgroup', email='$email',
address='$address', contact='$contact' WHERE id='$id'";
    $result = mysqli_query($conn, $qry);

    if (!$result) {
        echo "ERROR: " . mysqli_error($conn);
    } else {
        echo "SUCCESSFULLY UPDATED";
    }
}
?>
```

CHAPTER - 5
SCREEN SHOTS

Fig 5.1 Introduction page

Fig 5.2 Donor Sign Up page

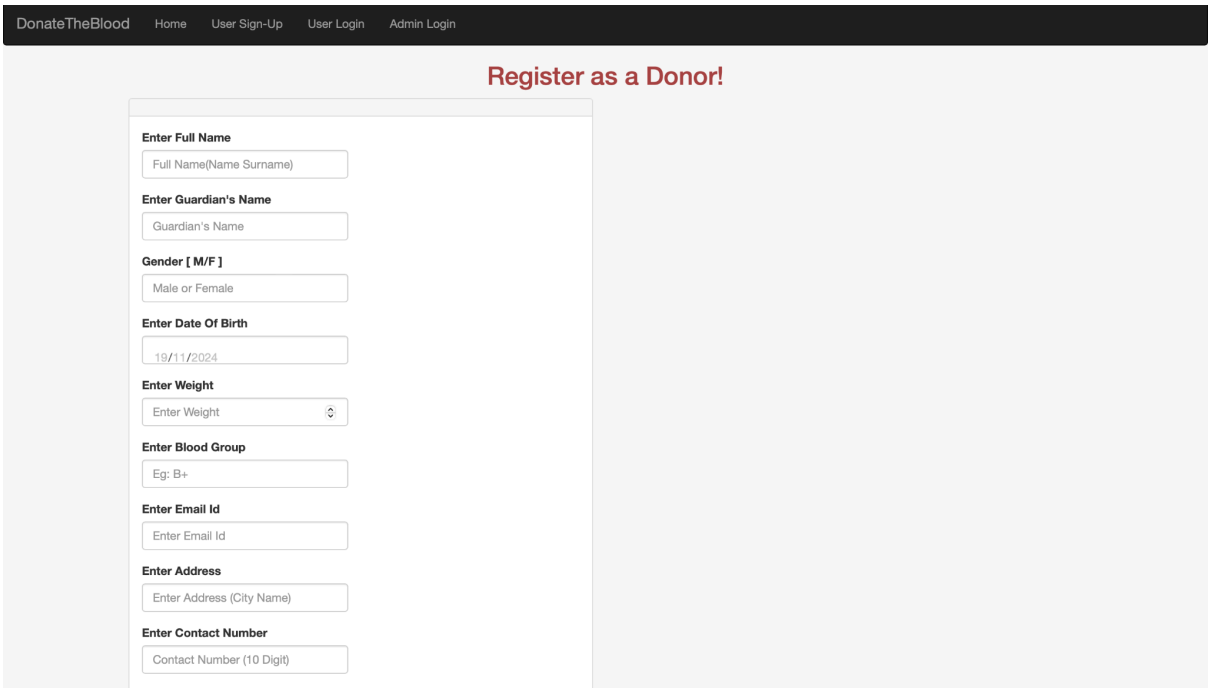


Fig 5.3 User Dashboard Login

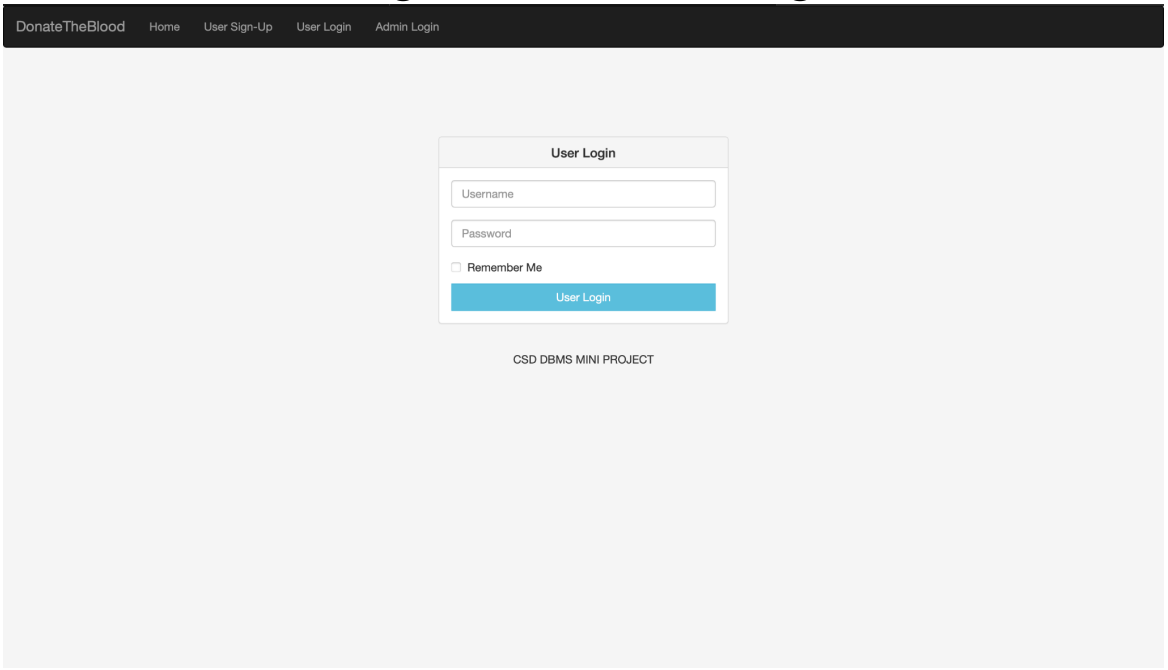
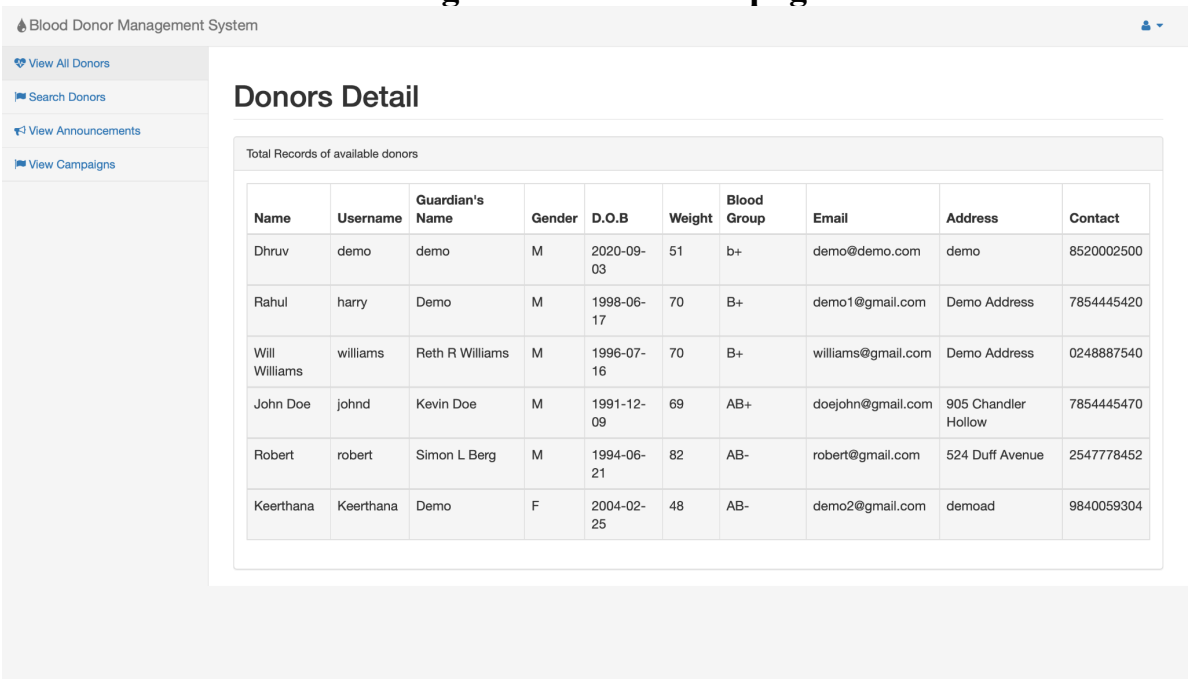
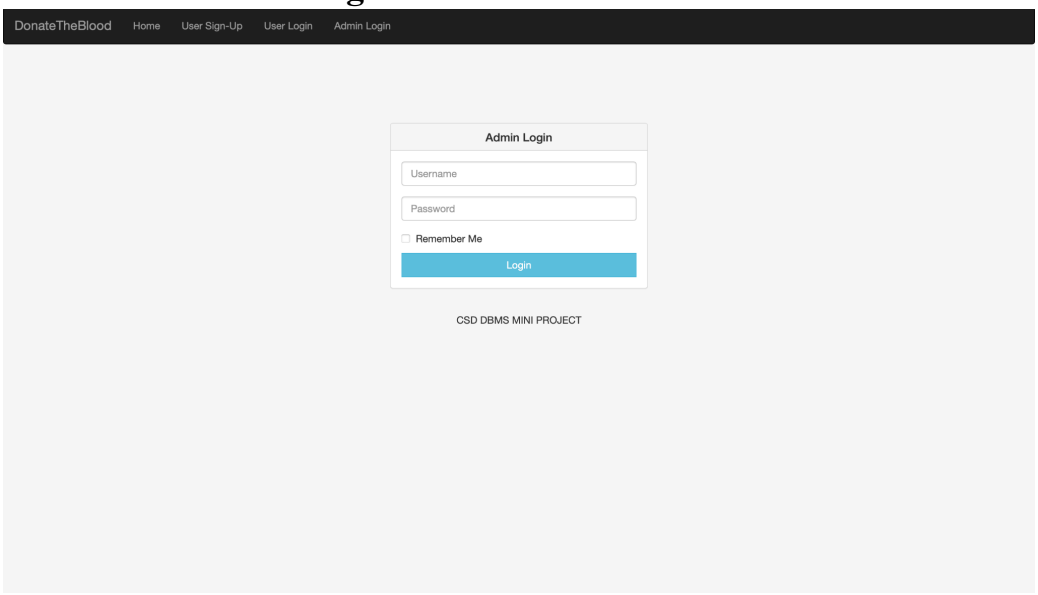


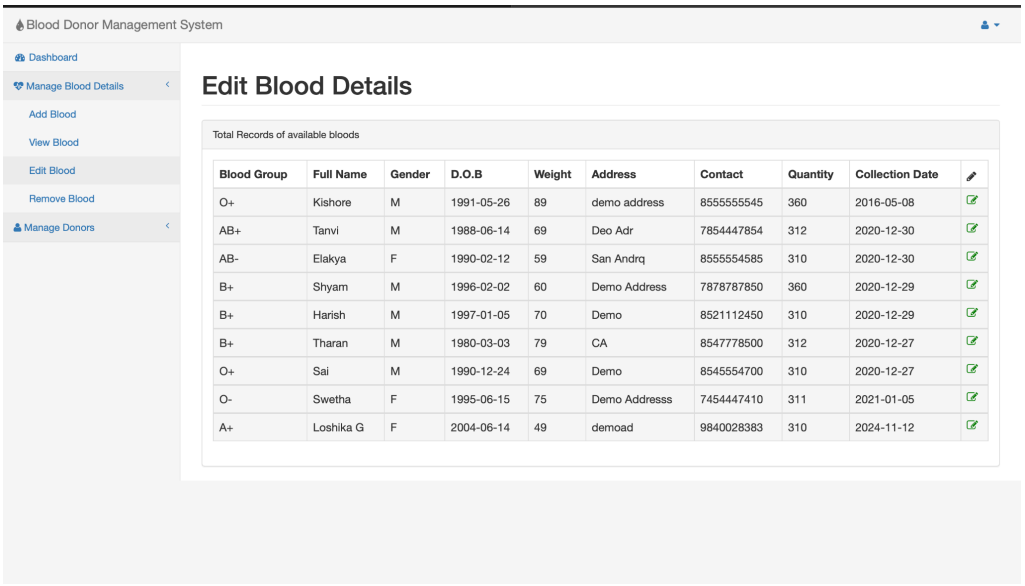
Fig 5.4 Donor details page

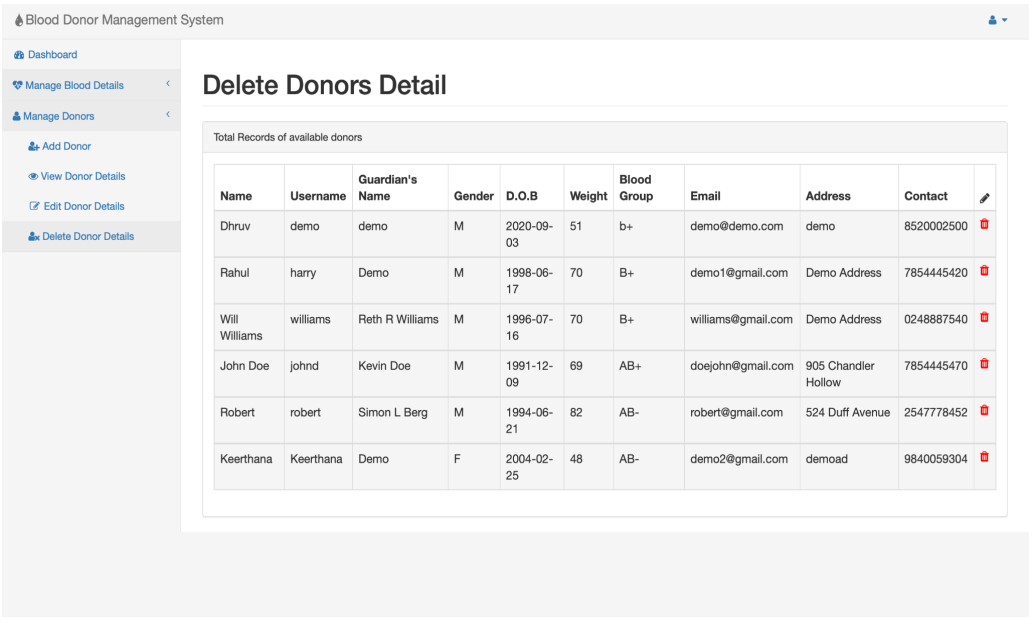


Name	Username	Guardian's Name	Gender	D.O.B	Weight	Blood Group	Email	Address	Contact
Dhruv	demo	demo	M	2020-09-03	51	b+	demo@demo.com	demo	8520002500
Rahul	harry	Demo	M	1998-06-17	70	B+	demo1@gmail.com	Demo Address	7854445420
Will Williams	williams	Reth R Williams	M	1996-07-16	70	B+	williams@gmail.com	Demo Address	0248887540
John Doe	johnd	Kevin Doe	M	1991-12-09	69	AB+	doejohn@gmail.com	905 Chandler Hollow	7854445470
Robert	robert	Simon L Berg	M	1994-06-21	82	AB-	robert@gmail.com	524 Duff Avenue	2547778452
Keerthana	Keerthana	Demo	F	2004-02-25	48	AB-	demo2@gmail.com	demoad	9840059304

Fig 5.5 Admin Dashboard







CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

The Blood Donation Management System (BDMS) simplifies donor registration and data management, ensuring seamless organization of blood donation processes. It provides an efficient platform for maintaining donor records and monitoring availability.

Future enhancements could include real-time donor updates, location-based donor searches, automated notifications, and predictive analytics for blood type demand. These features would further optimize the system, making it a comprehensive and indispensable tool for both administrators and donors.

CHAPTER – 7

REFERENCES

https://dev.mysql.com/doc/

https://www.w3schools.com/mysql/

https://www.javatpoint.com/mysql-tutorial

https://www.php.net/docs.php

https://www.w3schools.com/php/

https://www.geeksforgeeks.org/php-tutorials/