CHAPTER 1

INTRODUCTION

The population of the world is multiplying with each coming year and so are the diseases and health issues. With an increase in the population there is an increase in the need of blood. But in spite of this not more than 10% of the total world population participates in blood donation.

With the growing population and the advancement in medical science the demand for blood has also increased. Due to the lack of communication between the blood donors and the blood recipients, most of the patients in need of blood do not get blood on time and hence lose their lives. There is a dire need of synchronization between the blood donors and hospitals and the blood banks. This improper management of blood leads to wastage of the available blood inventory.

These problems can be dealt with by automating the existing manual blood bank management system. A high-end, efficient, highly available and scalable system has to be developed to bridge the gap between the donors and the recipients and to reduce the efforts required to search for blood donors.

1.1 OBJECTIVES OF THE SYSTEM

The project aims to maintain details about a blood donor and the amount of each type of blood available. It is designed to achieve the following objectives:

- To ease the process of blood donation and reception.
- To improve the existing system.
- To develop a scalable system.
- To be highly available

1.2 ANALYSIS OF THE SYSTEM

- The research study does not cover the actual blood collection activity, and actual blood transfusion operation.
- Blood donors and patients or recipients of blood donation are not system users, their registration or information will be encoded by the blood bank receptionists.
- Also, the study excludes the consideration of system security measures such as password expiration,use of CAPTCHA, idle window timeout, web caching, etc, audit trail, and back-up and recovery.

CHAPTER 2

SYSTEM SPECIFICATION

SOFTWARE AND HARDWARE REQUIREMENTS

2.1 SOFTAWARE REQUIREMENTS

- **Operating system** - Windows XP/2007/2010
- **Application server** - Apache
- **Front end** - Html, php, css, bootstrap
- **Scripts** - Java script
- **Database** - MySQL

2.2 HARDWARE REQUIREMENTS

- **Processor** **:** **I**ntel 486/Pentium processor and above
- **Processor speed** **:** 500MHz or above
- **RAM** **:** 64 MB or above
- **Storage space** **:** 2 MB or above
- **Monitor Resolution** **:** colour monitor with minimum resolution of 640*480

CHAPTER 3

PROJECT DESIGN

3.1 PURPOSE :

The main Purpose of Blood bank management system is to provide a way to the donors to donate blood and make it easy for the needy to receive blood of any type.

3.2 SCOPE:

- Ensure that all the functionalities of a manual blood bank are covered
- To include all the blood banks at least within a city.
- Make sure the program is simple and easy to use.

3.3 PROPOSED SYSTEM :

The proposed system (Blood Bank Management System) is designed to help the Blood Bank administrator to meet the demand of Blood by sending and/or serving the request for Blood as and when required.The proposed system gives the procedural approach of how to bridge the gap between Recipient, Donor, and Blood Banks. This Application will provide a common ground for all the three parties (i.e. Recipient, Donor, and Blood Banks) and will ensure the fulfillment of demand for Blood requested by Recipient and/or Blood Bank.

3.4 ADVANTAGES OF PROPOSED SYSTEM

There are three beneficiaries which can get benefits from the management information system of blood bank which are

1. Donors: person who wants to donate the blood voluntarily at the blood donation camp. Information system also keeps the record of the donors who wants to register online.
2. Seekers: person who wants the blood from the blood bank due to various reasons like accidents, surgeries, delivery and many more.
3. Blood bank: staff people which are working in the blood bank which includes staff member, operator, blood bank in charge, head of pathological department.

CHAPTER 4

IMPLEMENTATION

4.1 TECHNOLOGIES USED

4.4.1 HTML:

HTML stands for Hyper Text Markup Language. It is used to design web pages using markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. Markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most of markup (e.g. HTML) languages are human readable. Language uses tags to define what manipulation has to be done on the text.

HTML is a markup language which is used by the browser to manipulate text, images and other content to display it in required format. HTML was created by Tim Berners-Lee in 1991. The first ever version of HTML was HTML 1.0 but the first standard version was HTML 2.0 which was published in 1999.

4.1.2 PHP:

The term PHP is an acronym for PHP: Hypertext Preprocessor. PHP is a server-side scripting language designed specifically for web development.

- Websites like www.facebook.com, www.yahoo.com are also built on PHP.
- One of the main reason behind this is that PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file.
- The thing that differentiates PHP with client-side language like HTML is, PHP codes are executed on server whereas HTML codes are directly rendered on the browser. PHP codes are first executed on the server and then the result is returned to the browser.
- The only information that the client or browser knows is the result returned after executing the PHP script on the server and not the actual PHP codes present in the PHP file. Also, PHP files can support other client-side scripting languages like CSS and JavaScript.

4.1.3 MySQL:

MySQL is an open-source, fast reliable, and flexible relational database management system, typically used with PHP.

The main features of MySQL are described here.

- MySQL server design is multi-layered with independent modules.
- MySQL is fully multithreaded by using kernel threads. It can handle multiple CPUs if they are available.
- MySQL provides transactional and non-transactional storage engines.
- MySQL has a high-speed thread-based memory allocation system.
- MySQL supports in-memory heap table.

4.1.4 CSS :

- CSS stands for Cascading Style Sheets
- CSS describes how HTML elements are to be displayed on screen, paper, or in other media
- CSS saves a lot of work. It can control the layout of multiple web pages all at once
- External stylesheets are stored in CSS files

4.2 SOURCE CODE:

REGISTRATION CODE (html&php):

```
<?php
include 'includes/connect.php';
session_start();
if(!isset($_SESSION['em'])){
   header("Location: http://localhost/proj/newdonor.php");
}?>
<!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="bloodbankmanagement.com">
    <meta name="author" content="bloodbank.com">
    <title>Blood Bank Management</title>
    <link href="css/bootstrap.min.css" rel="stylesheet">
    <link href="css/custom.css" rel="stylesheet">
    <link href="http://netdna.bootstrapcdn.com/font-awesome/4.0.3/css/font-awesome.css"
rel="stylesheet">
    <link href='http://fonts.googleapis.com/css?family=Open+Sans' rel='stylesheet'
type='text/css'>
    <link href='http://fonts.googleapis.com/css?family=Oswald' rel='stylesheet'
type='text/css'>
  </head>
  <body>
    <!-- Fixed navbar -->
    <div class="navbar navbar-default navbar-fixed-top" role="navigation">
      <div class="container">
        <div class="navbar-header">
          <button type="button" class="navbar-toggle" data-toggle="collapse" data-
target=".navbar-collapse">
            <span class="sr-only">Toggle navigation</span>
            <span class="icon-bar"></span>
            <span class="icon-bar"></span>
            <span class="icon-bar"></span>
          </button>
          <a class="navbar-brand" href="#">Blood Bank Management</a>
        </div>
        <div class="navbar-collapse collapse">
          <ul class="nav navbar-nav navbar-right">
            <li><a href="index.php">Sign-In</a></li>
            <li class="active"><a href="newdonor.php">Sign-Up</a></li>
            <li><a href="about.php">About Us</a></li>
          </ul>
```

```
      </div><!--/.nav-collapse -->
    </div>
  </div>

  <div>
    <h2>NEW DONOR REGISTRATION</h2>
  </div>
    <div class="panel panel-default">
    <div class="panel-heading">
      <h3 class="panel-title">Please enter your personal details:</h3>
    </div></div>
    <form class="form-horizontal" method="post" action="newdonor1a.php">
      <div class="form-group">
        <label class="col-sm-4">Name</label>
          <div class="col-sm-2">
            <input type="text" class="form-control" placeholder="First Name"
name="fname" required>
          </div>
          <div class="col-sm-2">
            <input type="text" class="form-control" placeholder="Middle Name"
name="mname">
          </div>
          <div class="col-sm-2">
            <input type="text" class="form-control" placeholder="Last Name"
name="lname">
          </div>
      </div>
      <div class="form-group">
        <label class="col-sm-4">Sex</label>
          <div class="col-sm-6">
            <select name="sex" class="form-control" required>
            <option value="male">Male</option>
            <option value="female">Female</option>
          </select>
```

```
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">Blood Type</label>
            <div class="col-sm-6">
              <select name="btype" class="form-control" required>
                <option value="O+">O+</option>
                <option value="O-">O-</option>
                <option value="A+">A+</option>
                <option value="A-">A-</option>
                <option value="B+">B+</option>
                <option value="B-">B-</option>
                <option value="AB+">AB+</option>
                <option value="AB-">AB-</option>
              </select>
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">Date Of Birth</label>
            <div class="col-sm-6">
              <input type="date" class="form-control" name="dob" required>
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">Address</label>
            <div class="col-sm-6">
              <input type="text" class="form-control" placeholder="Enter your
Address" name="address" required>
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">City</label>
            <div class="col-sm-6">
```

```
                <input type="text" class="form-control" placeholder="Enter your City"
name="city" required>
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">Mobile</label>
            <div class="col-sm-6">
              <input type="number" class="form-control" placeholder="Enter your
Mobile number" name="mobile" required>
            </div>
        </div>
        <div class="form-group">
          <label class="col-sm-4">Email</label>
            <div class="col-sm-6">
              <p><?= $_SESSION['em']; ?></p>
            </div>
        </div>

        <div class="pull-right">
          <button type="submit" class="btn btn-primary">Next>></button>
        </div>
      </form>
        <!-- Fixed footer -->
   <div class="navbar navbar-inverse navbar-fixed-bottom" role="navigation">
        <div class="container">
            <div class="navbar-text pull-left">
                <p>Project by: <b>VARSHINI RAO</b> </p>
            </div>
            <div class="navbar-text pull-right">
                <a href="#"><i class="fa fa-facebook-square fa-2x"></i></a>
                <a href="#"><i class="fa fa-twitter fa-2x"></i></a>
                <a href="#"><i class="fa fa-google-plus fa-2x"></i></a>
            </div>
        </div>
```

```
    </div>
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.0/jquery.min.js"></script>
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

ADMIN LOGIN:

```
<?php
include ("includes/connect.php");
$uname=$_POST['uname'];
$pw=$_POST['pw'];
$query="SELECT * FROM admin WHERE uname='$uname' and
password='$pw'";
$result=mysqli_query($conn,$query);

if(mysqli_num_rows($result)>0){
    session_start();
    while($l=mysqli_fetch_assoc($result)){
        foreach($l as $e){
                $_SESSION['aid'] = $e['aid'];
                $_SESSION['uname'] = $uname;
                $_SESSION['password'] = $pw;
        }
    }
    echo "<form method='post' action='home_admin.php'><input
type='hidden' name='adminlogin' value='true'></form>";
    header("location: http://localhost/proj/admin/home_admin.php");
}else{
```

```
    echo "<script>alert('Invalid password or email')</script>";
    header("location: http://localhost/proj/admin/index_admin.php");
}
?>
```

CSS CODE:

```
body{
margin:0;
padding:0;
background:url(includes/pic1.jpg);
background-size:cover;
background-position:center;
font-family:sans-serif;
}
.loginbox{
width:320px;
height:420px;
background:#000;
color:#fff;
top:50%;
left:50%;
position:absolute;
transform:translate(-50%,-50%);
box-sizing:border-box;
padding:70px 30px;
}
.avatar{
width:100px;
height:100px;
border-radius:50%;
position:absolute;
top:-50px;
left:102px;
```

```
}
h1{
margin:0;
padding:0 0 20px;
text-align:center;
font-size:22px;
}
.loginbox p{
margin:0;
padding:0;
font-weight:bold;
}
.loginbox input{
width:100%;
margin-bottom:20px;
color:white;
}
.loginbox input[type="email"],input[type="password"],input[type="text"]{
border:none;
border-bottom:1px solid #fff;
background:transparent;
outline:none;
height:40px;
}
.loginbox input[type="submit"]{
border:none;
outline:none;
height:40px;
background:#fb2525;
color:#fff;
font-size:18px;
border-radius:20px;
}
.loginbox input[type="submit"]:hover{
```

```
cursor:pointer;
background:#ffc107;
color:#000;
}
.loginbox a{
text-decoration:none;
font-size:12px;
line-height:20px;
color:darkgrey;
}
.loginbox a:hover{
color:#ffc107;
}
```

BACK END

The language used for back end is SQL. The software developed, contains the following tables:

TABLE CREATION:

```
-- Database: `bbms`
--


-- --------------------------------------------------------


--
-- Table structure for table `admin`
--

CREATE TABLE `admin` (
  `aid` int(8) NOT NULL,
  `uname` varchar(20) NOT NULL,
  `password` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
-- Dumping data for table `admin`
--

INSERT INTO `admin` (`aid`, `uname`, `password`) VALUES
(12340001, 'kirankumar', '123456'),
(12340002, 'kirangowda', '987654');

-- --------------------------------------------------------

--
-- Table structure for table `contact`
--

CREATE TABLE `contact` (
  `msgid` int(5) NOT NULL,
  `id` int(8) NOT NULL,
  `name` varchar(40) NOT NULL,
  `email` varchar(50) NOT NULL,
  `subject` varchar(50) NOT NULL,
  `msg` varchar(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `contact`
--

INSERT INTO `contact` (`msgid`, `id`, `name`, `email`, `subject`, `msg`) VALUES
(3, 20180001, 'kihvh', 'kirankumar070798nv@huojk', 'hujkhu', 'njhjkj');

-- --------------------------------------------------------

--
```

```
-- Table structure for table `donor`
--

CREATE TABLE `donor` (
  `id` int(8) NOT NULL,
  `fname` varchar(50) NOT NULL,
  `mname` varchar(50) DEFAULT NULL,
  `lname` varchar(50) NOT NULL,
  `sex` varchar(6) NOT NULL,
  `btype` varchar(10) NOT NULL,
  `dob` date NOT NULL,
  `address` varchar(100) NOT NULL,
  `city` varchar(50) NOT NULL,
  `mobile` bigint(10) NOT NULL,
  `email` varchar(50) NOT NULL,
  `password` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Table structure for table `donormed`
--

CREATE TABLE `donormed` (
  `id` int(8) NOT NULL,
  `don_date` date NOT NULL,
  `stats` varchar(20) NOT NULL,
  `temp` varchar(20) NOT NULL,
  `pulse` varchar(20) NOT NULL,
  `bp` varchar(20) NOT NULL,
  `weight` varchar(20) NOT NULL,
  `hemoglobin` varchar(20) NOT NULL,
  `hbsag` varchar(20) NOT NULL,
  `aids` varchar(20) NOT NULL,
  `malaria_smear` varchar(20) NOT NULL,
  `hematocrit` varchar(20) NOT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Table structure for table `orders`
--

CREATE TABLE `orders` (
  `oid` int(8) NOT NULL,
  `btype` varchar(10) NOT NULL,
  `units` int(5) NOT NULL,
  `pname` varchar(20) NOT NULL,
  `datetime` datetime NOT NULL,
  `hname` varchar(30) NOT NULL,
  `haddress` varchar(100) NOT NULL,
  `orderbyid` int(8) NOT NULL,
  `details` varchar(100) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Table structure for table `stock`
--

CREATE TABLE `stock` (
  `sid` int(8) NOT NULL,
  `btype` varchar(10) NOT NULL,
  `don_id` int(8) DEFAULT NULL,
  `coll_date` date NOT NULL,
  `bbank` varchar(20) NOT NULL,
  `description` varchar(100) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

CHAPTER 5

SNAPSHOTS

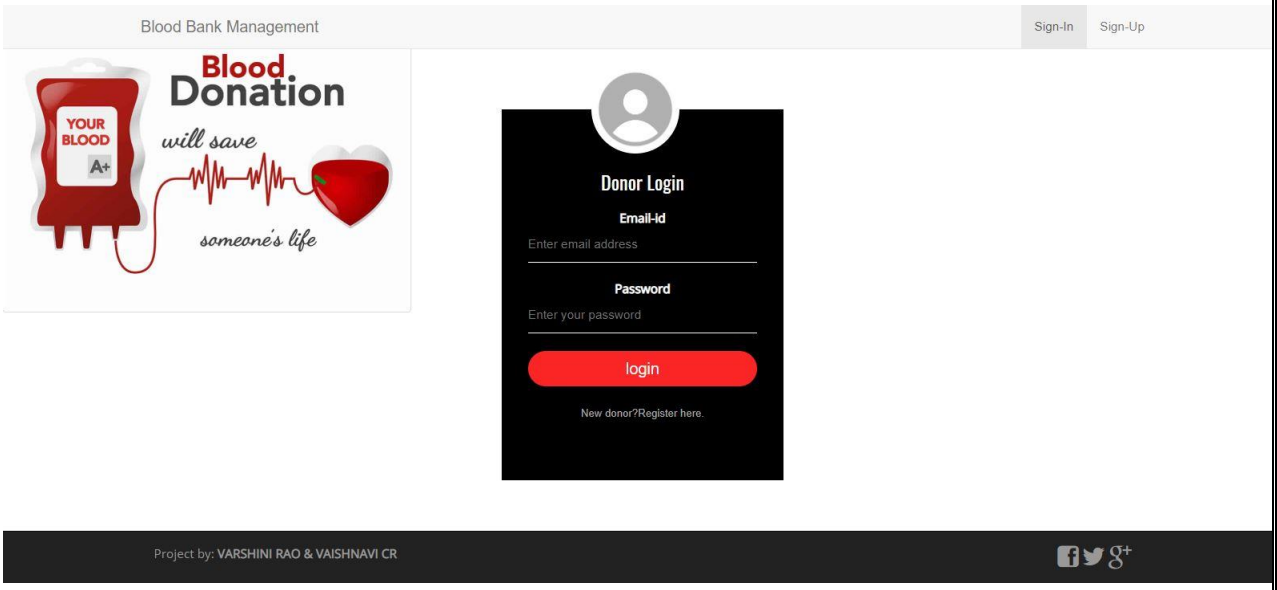


Fig 5.1 Main Page

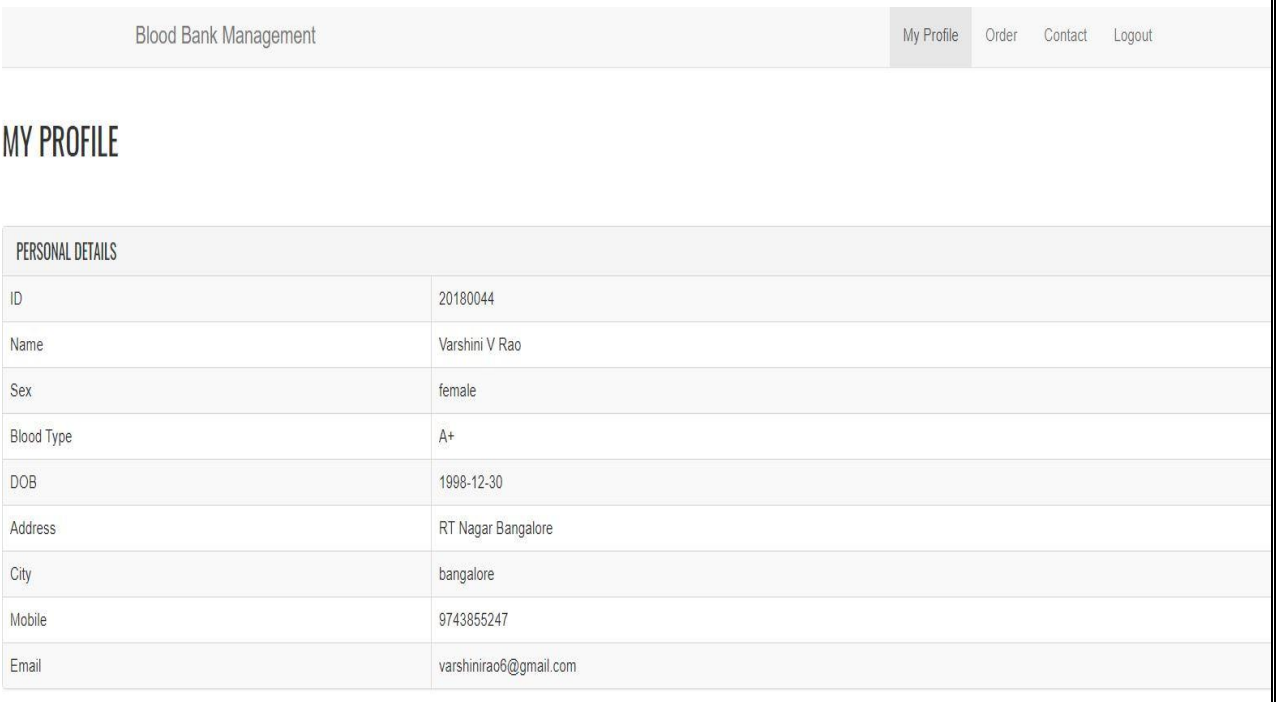


Fig 5.2 Donor Profile

MEDICAL INFORMATION	
Previous donation date	2017-09-02
Stats	Normal
Temperature	30
Pulse	60
Blood Pressure	80
Weight	60
Hemoglobin level	120
hbsag	negative
AIDS	negative
Malaria Smear	negative
Hematocrit	40

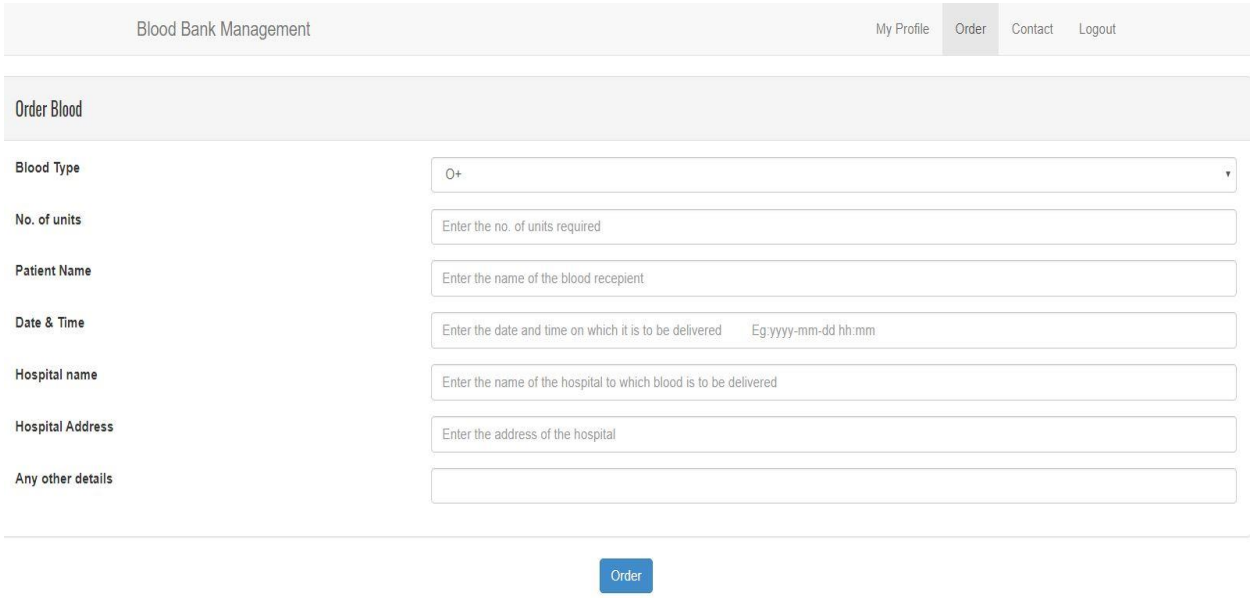


Fig 5.3 Order Blood

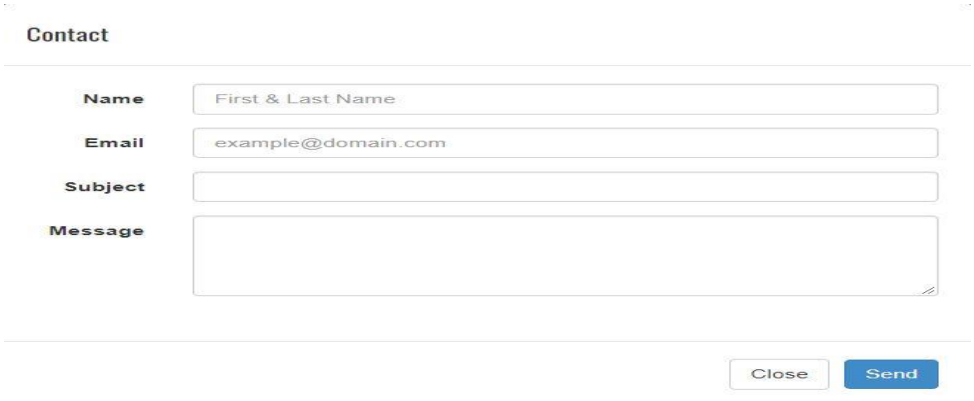
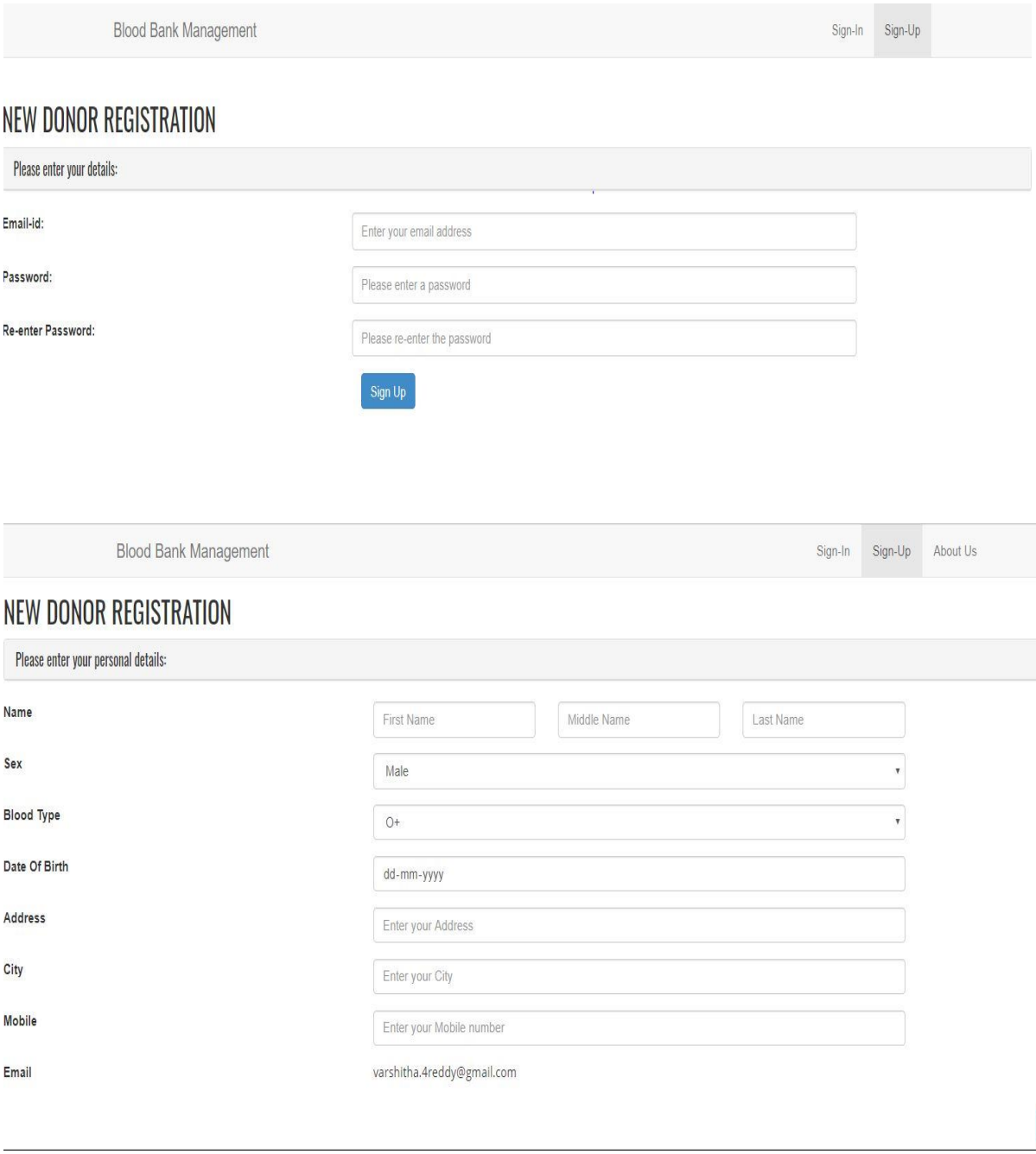


Fig 5.4 Contact


Blood Bank Management
Sign-In
Sign-Up
NEW DONOR REGISTRATION
Please enter your details:
Email-id:
Enter your email address
Password:
Please enter a password
Re-enter Password:
Please re-enter the password
Sign Up
Blood Bank Management
Sign-In
Sign-Up
About Us
NEW DONOR REGISTRATION
Please enter your personal details:
Name
First Name
Middle Name
Last Name
Sex
Male
Blood Type
O+
Date Of Birth
dd-mm-yyyy
Address
Enter your Address
City
Enter your City
Mobile
Enter your Mobile number
Email
varshitha.4reddy@gmail.com
Next>>

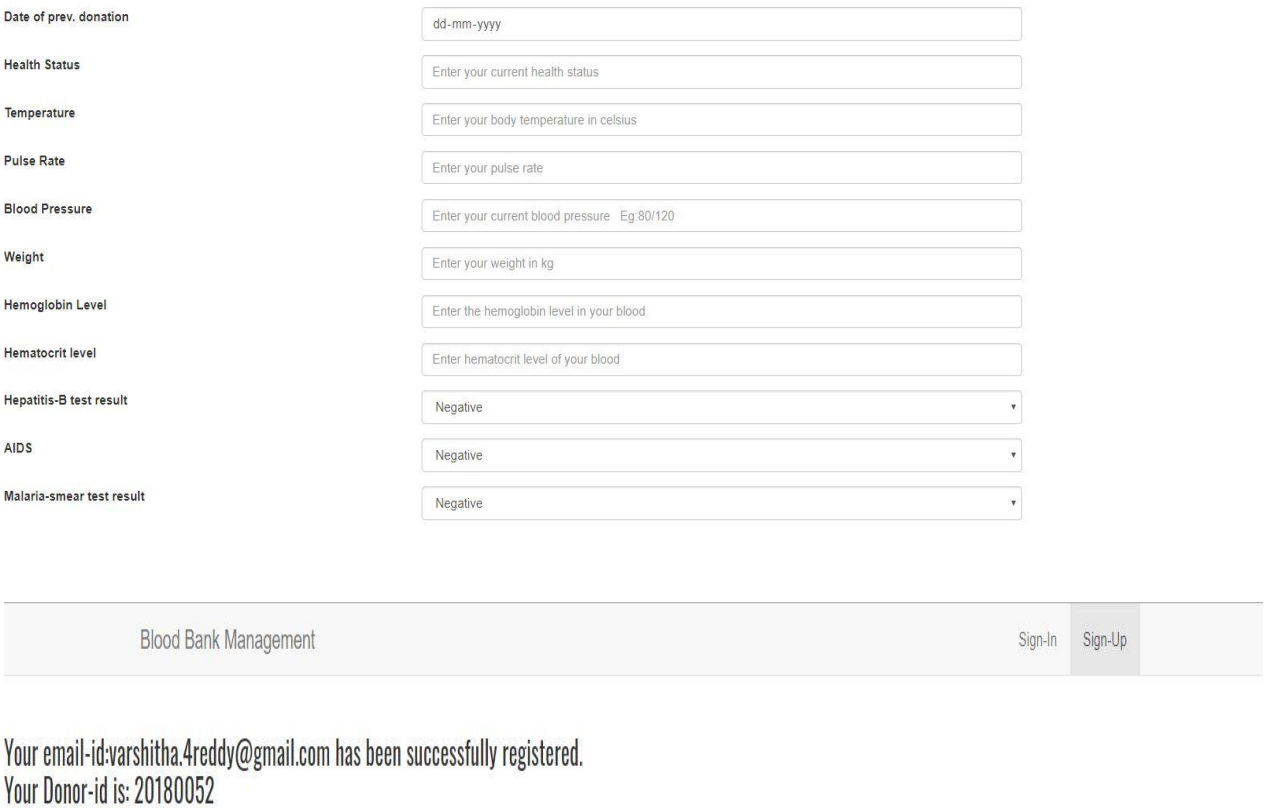


Fig 5.5 New Donor Registration

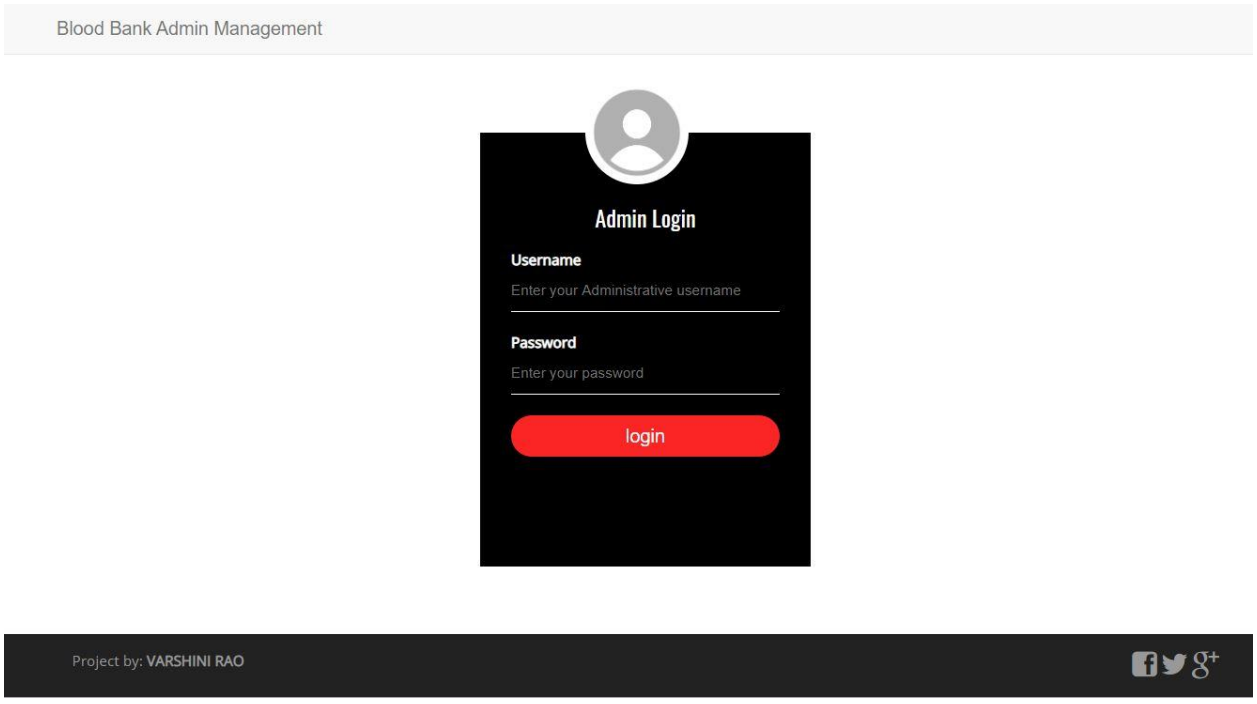
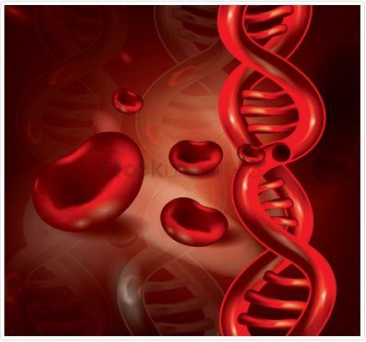


Fig 5.6 Admin Login

Blood Bank Admin Management

Home | Reg. Donors | Stock | Orders | Messages | Logout



HOME PAGE

Project by: VARSHINI RAO & VAISHNAVI CR

Blood Bank Admin Management

Home | Reg. Donors | Stock | Orders | Messages | Logout

Search for Donor by blood group: O+ Search

Search for Donor in city: Search

Registered donors

ID	Name	Email	Gender	Blood type	D.O.B	Address	City	Mobile	
20180044	Varshini Rao	varshinirao6@gmail.com	female	A+	1998-12-30	RT Nagar Bangalore	bangalore	9743855247	Complete info
20180047	Vaishnavi CR	vaishucrk@gmail.com	female	O+	1998-03-22	Dasarahalli Bangalore	Bangalore	8971991408	Complete info
20180048	Pavani Rao	pavanirao2006@gmail.com	female	A+	2006-01-20	Ganganagar	Bangalore	9880826654	Complete info
20180049	Elizabeth Jordan	beth.eliza6@gmail.com	female	B+	1998-06-27	#10,1st main, Pimpri	Pune	8971991408	Complete info
20180050	Babu Rao	edpvvrao@gmail.com	male	AB+	1960-05-19	Ambala Cantt	Haryana	9980105836	Complete info
20180051	Uwaiz Khan	aliuwaizkhan@gmail.com	male	O+	1998-02-14	R T Nagar	Bangalore	9743855247	Complete info
20180052	Varshitha Reddy	varshitha.4reddy@gmail.com	female	A+	1998-03-17	Sahakara Nagara	Bangalore	8217618335	Complete info

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Blood Bank Admin Management

Home | Reg. Donors | Stock | Orders | Messages | Logout

Registered donors with Blood Type:A+

ID	Name	Email	Gender	Blood type	D.O.B	Address	City	Mobile	
20180044	Varshini Rao	varshinirao6@gmail.com	female	A+	1998-12-30	RT Nagar Bangalore	bangalore	9743855247	Complete info
20180048	Pavani Rao	pavanirao2006@gmail.com	female	A+	2006-01-20	Ganganagar	Bangalore	9880826654	Complete info
20180052	Varshitha Reddy	varshitha.4reddy@gmail.com	female	A+	1998-03-17	Sahakara Nagara	Bangalore	8217618335	Complete info

Back

Fig 5.7 Registered Donors

Fig 5.8 Orders

Fig 5.9 Messages

CHAPTER 6

6.1 TESTING

Software testing is a critical element of the ultimate review of specification design and coding. Testing of software leads to the uncovering of errors in the software functional and performance requirements are met. Testing also provides a good indication of software reliability and software quality as a whole. The result of different phases of testing are evaluated and then compared with the expected results. If the errors are uncovered they are debugged and corrected. A strategy approach to software testing has the generic characteristics:

- Different testing techniques are appropriate at different points of time.
- Testing and debugging are different activities, but debugging must be accommodated in the testing strategy.

Following three approaches of debugging were used:

- Debugging by Induction
- Debugging by Deduction
- Backtracking

6.2 TEST PLANS

In this test plan all major activities are described below:

- Unit testing.
- Integration testing.
- Validation testing.
- System testing.

Slno.	Test case Description	Expected result	Actual Result	Remarks
1.	Click on login or register without filling details.	Alert : please fill out fields.	Alert : please fill out fields.	Pass
2.	Enter already registered name.	Alert: Email is already registered with us.Please Login,or use a different email to sign-up.	Alert: Email is already registered with us.Please Login,or use a different email to sign-up	Pass
3.	Try to login with invalid username or password.	Alert: Username or password incorrect.	Alert: Username or password incorrect. Please try again.	Pass

Table 6.1: Test case for Validation

CHAPTER 7

CONCLUSION

Technology is introducing new innovations day by day, thus reducing the time required to do things. The proposed system can be used to reduce the time required to deliver required blood to the needy in cases of emergency. The project can be used by the people interested in donating their blood by locating their nearest blood bank. The web application provides a way of communication and synchronization between the hospitals and the blood banks. It also provides them with the facility of communicating with the nearby donors in emergency. The database is a vital aspect of the system. The database of the hospitals and the blood banks must be checked for consistency on regular basis for smooth working of the system. The web application for the hospitals and the blood banks is developed using open source tools, hence the system developed is quite feasible.

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