B.Sc. Engg. Project

A Project on **Blood Donation Management System**

by

Fahim Al Farid (ID: 21225103155)

Rajbir Ahmed (ID: 21225103170)

Md. Abu Sayem (ID: 21225103140)

Saurav Baral Joy (ID: 21225103147)

Mehedi Hasan Maruf (ID: 21224103066)

Submitted to

Department of Computer Science & Engineering

(In partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science & Engineering)

Department of Computer Science & Engineering

Bangladesh University of Business & Technology (BUBT)

Dhaka 1216

December 10,2024

Acknowledgment

We would like to pay our gratitude to the Almighty Allah who created us with all the abilities to understand analysis and develop the process with patience. We are thankful to our project supervisor Labiba Farah, Lecturer, Computer Science and Engineering Department, Bangladesh University of Business and Technology for her professional guidance and motivation during the work of this project which is a major part of it. Without her valuable support and guidance, this project could not reach this level of development from our point of view.

We would like to thank all the Faculty members, Department of CSE, Bangladesh University of Business and Technology for their valuable time spend in requirements analysis and evaluation of the project work. We would like to express our sincere and warm gratitude to all those who have encouraged us directly, provided mental encouragement and criticized our work in several phases during the development of this project and for preparing this project indirectly.

Abstract

Working with blood donation on a online platform faces different issues and the most important issues are the security of the data and the processing time or power. We have tried to develop a website to put together the donor and the receiver with the MySQL and PHP and solve security issues regarding that. We have a database and made different tables and used the store data and connect them through keys. The important data is kept as encrypted on the shared table. We have used different types of keys for accessing the data. The PHP code will encrypt the password while storing on shared storage and when it'll need to be used, it decrypt itself. As the data will be encrypted, there's no way to read the main data or break the security of the system. We have used bcrypt password-hashing function to encrypt the data that makes it more secure. The most unique part of our work is, no user can be registered unless he verify himself with the OTP code send on his email. It ensures that all the users have registered with their valid email address. The visitor can request for specific data on the website and the data will be pulled from different tables based on their request. The admin controls the whole system as always. We have made a simple website to serve the people in need of blood.

We have been successful to pass the input data and get it as output data through our system. No unnecessary data were pulled and the data selection were held on the storage memory. The final result from the website were also passed as encrypted through the system. As we have used the database, the processing power for the data selection and the data passing has improved and made the data passing time and data processing capacity handy. So we can say, we made a simple website using quite effectively.

Declaration

We hereby declare that the Project on **Blood Donation Management System** studies on Software Engineering Lab submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT) is our own work and that it contains no material which has been accepted for the award to the candidate(s) of any other degree or diploma, except where due reference is made in the text of the project. To the best of our knowledge, it contains no materials previously published or written by any other person except where due reference is made in the project.

—————————   —————————   ——————————   ——————————   ——————————
Fahim Al Farid   Rajbir Ahmed   Md. Abu Sayem   Saurav Baral Joy   Mehedi Hasan Maruf
ID:21225103155   ID:21225103170   ID:21225103140   ID:21225103147   ID:21224103066

iii

Copyright

Dedication

Dedicated to our parents, teachers, friends and who loved us for all their love and inspiration.

Certificate

This is to certify that Copyright by Fahim Al Farid (ID: 21225103155), Rajbir Ahmed (ID: 21225103170), Md. Abu Sayem (ID: 21225103140), Saurav Baral Joy (ID: 21225103147) and Mehedi Hasan Maruf (ID: 21224103066) were belong to the department of Computer Science and Engineering, have completed their Project on Blood Donation Management System satisfactorily in partial fulfillment for the requirement of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology in the year 2024.

———————————————————————————————

Supervisor
Labiba Farah
Lecturer
Department of Computer Science and Engineering
Bangladesh University of Business and Technology

Approval

A Project on Blood Donor Management System is submitted by Fahim Al Farid (ID: 21225103155), Rajbir Ahmed (ID: 21225103170), Md. Abu Sayem (ID: 21225103140), Saurav Baral Joy (ID: 21225103147) and Mehedi Hasan Maruf (ID: 21224103066) under the department of Computer Science and Engineering of Bangladesh University of Business and Technology is accepted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer

Science and Engineering

—————————————————————————

Supervisor
Labiba Farah
Lecturer
Department of Computer Science and Engineering
Bangladesh University of Business and Technology

—————————————————————————

Chairman
Md. Saifur Rahman
Assistant Professor & Chairman
Department of Computer Science and Engineering
Bangladesh University of Business and Technology

Contents

3   Implementation   6

4   Technologies   10

5 Conclusion

List of Figures

Chapter 1

Introduction

1.1   Introduction

. In short we can say that **Blood Donation Management System** is an web application which helps its users to look for the blood donor information and to provide direct link between the donor and recipient. This system helps Administrator to check the database and make changes.

1.2 Problem Statement

The Blood Donation Management System aims to streamline the process of blood donation by connecting donors, recipients, and healthcare centers. It provides a user-friendly platform to register donors, track donation history, and ensure that blood availability is efficiently managed. The system allows hospitals to request blood and donors to view donation opportunities, making it easier to save lives. With automated reminders and donation status updates, it improves the overall blood donation process. This project aims to enhance the speed and accuracy of blood donation operations, ensuring a steady supply for those in need.

1.3 Problem Background

Blood donation is vital for saving lives, but poor tracking and coordination can lead to shortages. Donors struggle to find donation opportunities, and hospitals face difficulty matching blood needs with available donors. A streamlined Blood Donation Management System can reduce these inefficiencies. It improves donor engagement and ensures better coordination between donation centers and hospitals. This system enables quicker responses, especially in emergencies.

1.4   Feasibility Analysis

1.4.1   Technical Feasibility

The Blood Donation Management System can be developed using widely available technologies like web development frameworks (e.g., HTML, CSS, JavaScript) and databases (e.g., MySQL or PostgreSQL) for data storage. The system can be built on a user-friendly platform, ensuring accessibility for both donors and healthcare centers. With cloud-based hosting, the system can be scalable and accessible from anywhere. Mobile compatibility can also be ensured for on-the-go access. Integration with SMS or email services for notifications can be easily implemented, ensuring timely reminders and updates for donors and hospitals.

1.4.2   Economic Feasibility

The Blood Donation Management System is cost-effective to develop using open-source technologies, reducing initial software costs. Hosting the system on affordable cloud platforms ensures minimal infrastructure expenses. By automating the donation process, it reduces administrative costs for hospitals and donation centers. The system's efficiency can lead to better resource management, potentially saving money by optimizing blood inventory. The long-term benefits, such as increased donations and faster response times, will outweigh the initial development and operational costs.

1.4.3   Operational Feasibility

The Blood Donation Management System is easy to operate for both donors and healthcare centers, with a simple and intuitive interface. Training staff to use the system will be straightforward due to its user-friendly design. Regular updates and maintenance can be handled by a small IT team to ensure smooth operations. The system can be accessed anytime, allowing donors to view opportunities and hospitals to manage requests efficiently. Its automated features, like reminders and notifications, will further reduce the operational burden on staff.

1.2   Motivation and Objectives

Safe blood and blood products and their transfusion are a critical aspect of care and public health. They save millions of lives and improve the health and quality of life of many patients every day. The need for blood is universal, but access to blood for all those who need it is not. So our project is to connect blood donor to those who are in need of blood and share kindness.

1.2.1   Project Description

This project will cover three categories of users where the Admin have access all over the database and the Registered Users and the Guest can access specific data from the database.

1. Registered Users (Donors and Recipient)

    • Login and Registration

    • E-mail Notification on Blood Request

    • Abstain for 3 Months after Donating Blood Once

    • Look for Blood Donor on the Basis of Blood Group and District

    • Donor on the Basis of Blood Group and District

2. Admin

- Login

- Inactive Users Deletion on Their Request

- Make Announcement on Campaign

- Blood Bank Information Management

3. Guest

- Contact to Donor for Blood Request

- Leave Any Message to the Admin

Chapter 2

Background

2.1   Introduction

The Blood Donation Management System (BDMS) is designed to streamline the process of blood collection, storage, and distribution. It helps ensure that blood is available when needed, by efficiently managing donors, recipients, and blood banks. This system also improves the tracking of blood donations and reduces errors in record-keeping. It plays a crucial role in healthcare by maintaining a steady and safe blood supply for emergencies and medical treatments. Ultimately, BDMS enhances the overall effectiveness of blood donation drives and supports public health efforts.

2.2   Related Works

There are some famous prominent blood donation groups actively operating on social media platforms. They connect donors and recipients, fostering a supportive community.

- **Bloodman**
- **Badhan**
- **Sandhani**

Chapter 3

Implementation

3.1 Introduction

The implementation of the Blood Donation Management System (BDMS) involves creating a digital platform to manage the entire blood donation process. It connects donors, blood banks, and hospitals for efficient blood collection and distribution. By automating key tasks, the system improves accuracy in tracking donations and reduces manual errors. It also ensures that blood supplies are monitored and maintained for emergencies. Overall, BDMS aims to optimize blood donation efforts and enhance healthcare services.

3.2 Proposed Model

Blood Donation Management System with a clear call to action: "Donate Blood, Save Lives". The proposed model for such a system likely includes the following features:

- **Donor Registration:** A section where individuals can sign up to donate blood, providing details such as blood type, location, and contact information.

- **Donor Search:** A feature that allows hospitals, clinics, or individuals in need of blood to search for donors by blood type and location.

- **Admin Panel:** A backend system for administrators to manage donor data, blood requests, and other system functionalities.

- **Login System:** Secure access for users (donors, recipients, or admins) to manage their profiles and requests.

- **Informative Section:** Pages like "About Us" to educate users on the importance of blood donation and how the platform operates.

- **Donation Request:** A "Donate Now" button or similar functionality leading to a form or process to book an appointment for blood donation.

3.3 Database Implementation

An implementation for the database schema of a Blood Donation Management System. This schema is designed to support the basic features displayed in the interface. The database can be implemented in MySQL .

```
-- phpMyAdmin SQL Dump
-- version 5.2.0
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Oct 27, 2024 at 06:19 PM
```

```
-- Server version: 10.4.24-MariaDB
-- PHP Version: 8.1.6

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;


--
-- Database: `bdms`
--
-- --------------------------------------------------------
--
-- Table structure for table `admin_login`
--
CREATE TABLE `admin_login` (
  `user_id` varchar(40) NOT NULL,
  `pass` varchar(40) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
--
-- Dumping data for table `admin_login`
--
INSERT INTO `admin_login` (`user_id`, `pass`) VALUES
('admin', '1234');

-- --------------------------------------------------------
--
-- Table structure for table `announcement`
--

CREATE TABLE `announcement` (
  `id` varchar(20) NOT NULL,
  `head` varchar(200) NOT NULL,
  `body` varchar(500) NOT NULL,
  `date` varchar(200) NOT NULL DEFAULT current_timestamp(),
  `status` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `announcement`
--

INSERT INTO `announcement` (`id`, `head`, `body`, `date`, `status`) VALUES
('1', 'Test', 'Test', '2022-11-19 22:55:30', '1'),
('2', 'Test1', 'Test1', '2022-11-19 22:55:45', '1');

-- --------------------------------------------------------
--
-- Table structure for table `blood_bank`
--
CREATE TABLE `blood_bank` (
  `id` varchar(20) NOT NULL,
```

```
  `name` varchar(50) NOT NULL,
  `address` varchar(500) NOT NULL,
  `mobile` varchar(200) NOT NULL,
  `email` varchar(50) NOT NULL,
  `am` varchar(20) NOT NULL,
  `ap` varchar(20) NOT NULL,
  `bm` varchar(20) NOT NULL,
  `bp` varchar(20) NOT NULL,
  `om` varchar(20) NOT NULL,
  `op` varchar(20) NOT NULL,
  `abm` varchar(20) NOT NULL,
  `abp` varchar(20) NOT NULL,
  `status` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;


--
-- Dumping data for table `blood_bank`
--

INSERT INTO `blood_bank` (`id`, `name`, `address`, `mobile`, `email`, `am`, `ap`, `bm`, `bp`, `om`,
`op`, `abm`, `abp`, `status`) VALUES
('1', 'Test', 'Test', '01876787213', 'kabbo4545@gmail.com', '3', '4', '3', '2', '8', '4', '2',
'4', '1');
-- --------------------------------------------------------
--
-- Table structure for table `message`
--
CREATE TABLE `message` (
  `id` varchar(20) NOT NULL,
  `name` varchar(50) NOT NULL,
  `email` varchar(50) NOT NULL,
  `mobile` varchar(50) NOT NULL,
  `message` varchar(500) NOT NULL,
  `date` varchar(200) NOT NULL DEFAULT current_timestamp(),
  `account` varchar(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
--
-- Dumping data for table `message`
--
INSERT INTO `message` (`id`, `name`, `email`, `mobile`, `message`, `date`, `account`) VALUES
('1', 'Test', 'test', '018', 'Test', 'current_timestamp()', 'admin');
-- --------------------------------------------------------
--
-- Table structure for table `users`
--
CREATE TABLE `users` (
  `id` int(100) NOT NULL,
  `name` varchar(255) NOT NULL,
  `mobile` int(20) NOT NULL,
  `email` varchar(255) NOT NULL,
  `age` int(10) NOT NULL,
  `password` varchar(255) NOT NULL,
  `division` varchar(20) NOT NULL,
  `district` varchar(20) NOT NULL,
  `address` varchar(255) NOT NULL,
  `gender` varchar(20) NOT NULL,
```

```
  `blood` varchar(10) NOT NULL,
  `date` datetime NOT NULL DEFAULT current_timestamp(),
  `code` mediumint(50) NOT NULL,
  `status` text NOT NULL,
  `admin_control` varchar(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;

--
-- Dumping data for table `users`
--

INSERT INTO `users` (`id`, `name`, `mobile`, `email`, `age`, `password`, `division`, `district`,
`address`, `gender`, `blood`, `date`, `code`, `status`, `admin_control`) VALUES
(6,      'Anirudha    Sayed    Arnob',    1615841433,    'anirudhasayed007@gmail.com',    24,
'$2y$10$bInAB8XrLLZlkQIO8OFvi.gJgHz/ACRbYWfjY548CnV24Z5g2HEsu', 'Dhaka', 'Tangail', 'Thanapara
tangail', 'Male', 'A-', '2024-11-15 17:15:49', 0, 'verified', '0'),
(8,        'Sagor       Saha',       1874892187,       'sagorsaha746@gmail.com',       12,
'$2y$10$5Bwsc3FeVhSs4wcPEiQFTOi1MOiO0csTmi09zowGHzYk4VhSsfIA2', 'Khulna', 'Magura', 'City Tower,
Magura', 'Female', 'A-', '2024-11-18 13:21:12', 0, 'verified', '0'),
(10,       'Zobayer      Hasan      Nayem',      1234567,      'zobayer.hp3@gmail.com',      22,
'$2y$10$xOix3areKmxjUKAPacF0oO2eiWCZQCxCgTO0lxwMOd3j6.bdS.n0q', 'Dhaka', 'Comilla', 'Tongi',
'male', 'O+', '2024-11-30 14:04:21', 0, 'verified', '0');

--
-- Indexes for dumped tables
--
--
-- Indexes for table `users`
--

ALTER TABLE `users`
  ADD PRIMARY KEY (`id`);

--
-- AUTO_INCREMENT for dumped tables
--
--
-- AUTO_INCREMENT for table `users`
--

ALTER TABLE `users`
  MODIFY `id` int(100) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=11;
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

3.3.1 ER Diagram

Figure 3.1: ER Diagram
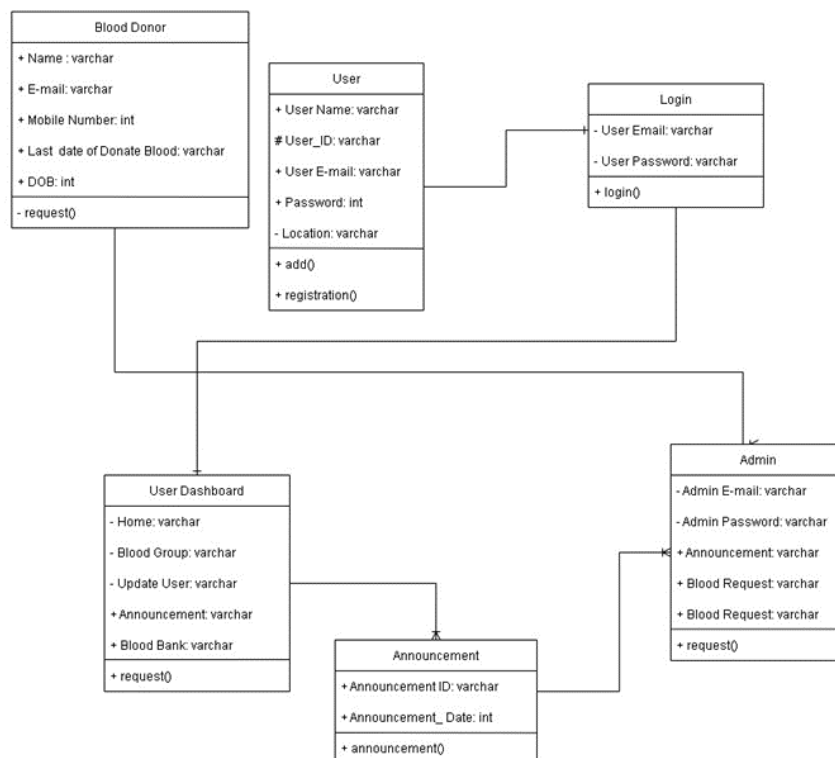
3.3.2 Schema Diagram

Figure 3.2: Schema Diagram

3.4 System Design

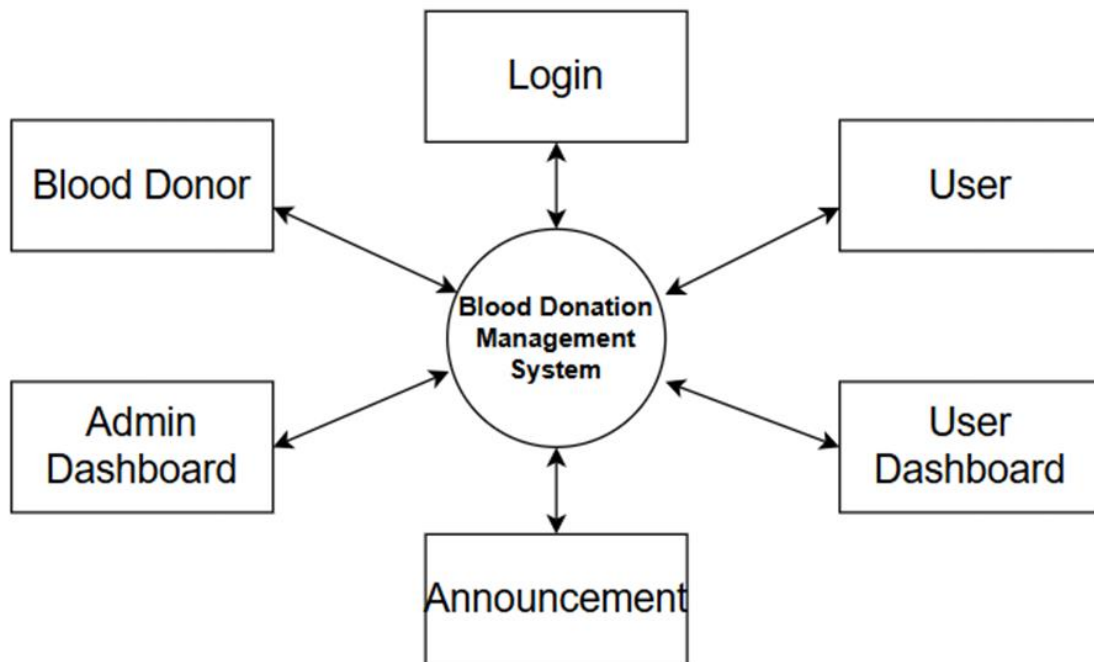### 3.4.1 Data Flow Diagram (DFD).

Figure 3.3: Data Flow Diagram

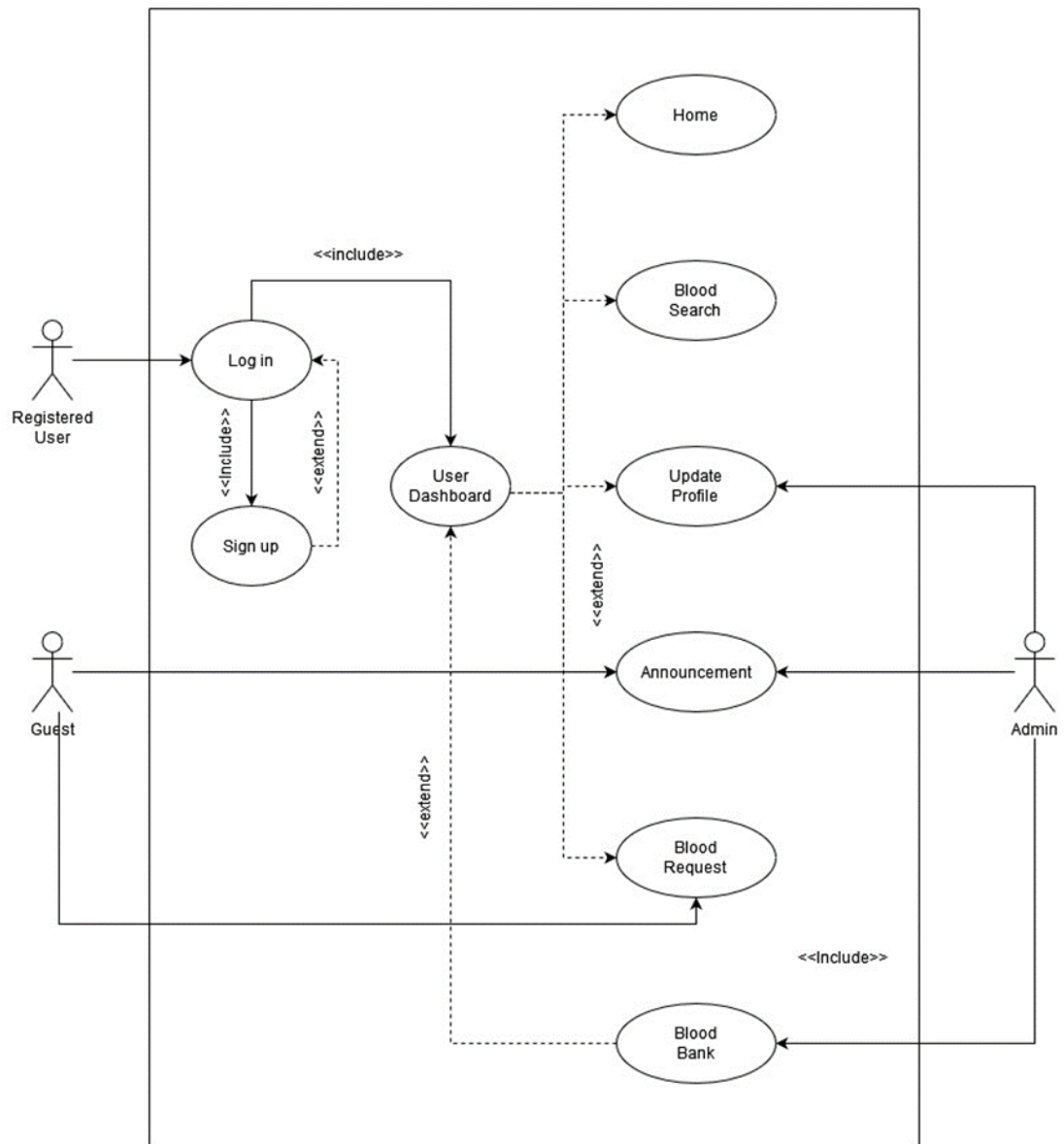### 3.4.2 Use Case Diagram

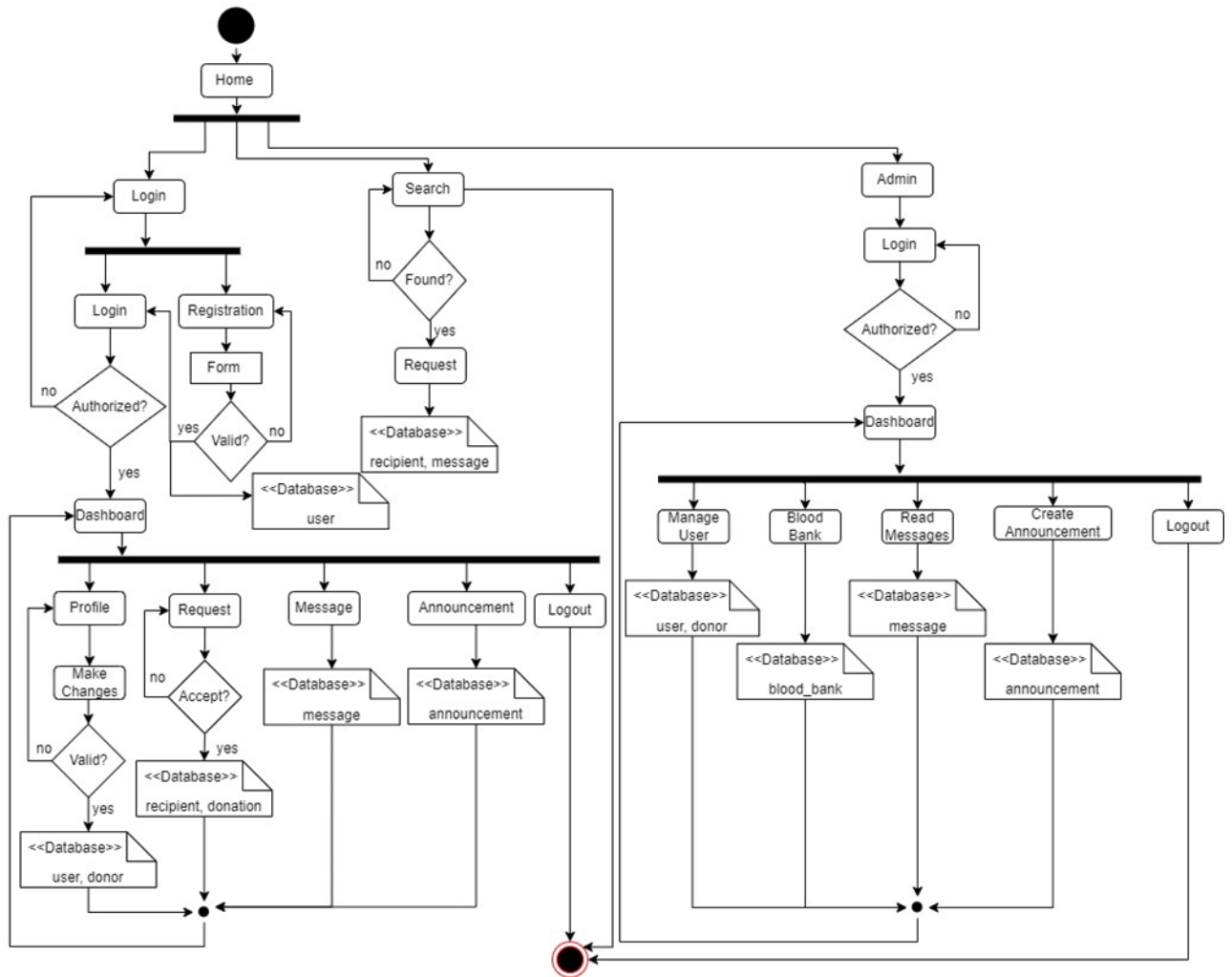Figure 3.4: Use Case Diagram

3.4.3 Activity Diagram

Figure 3.5: Activity Diagram

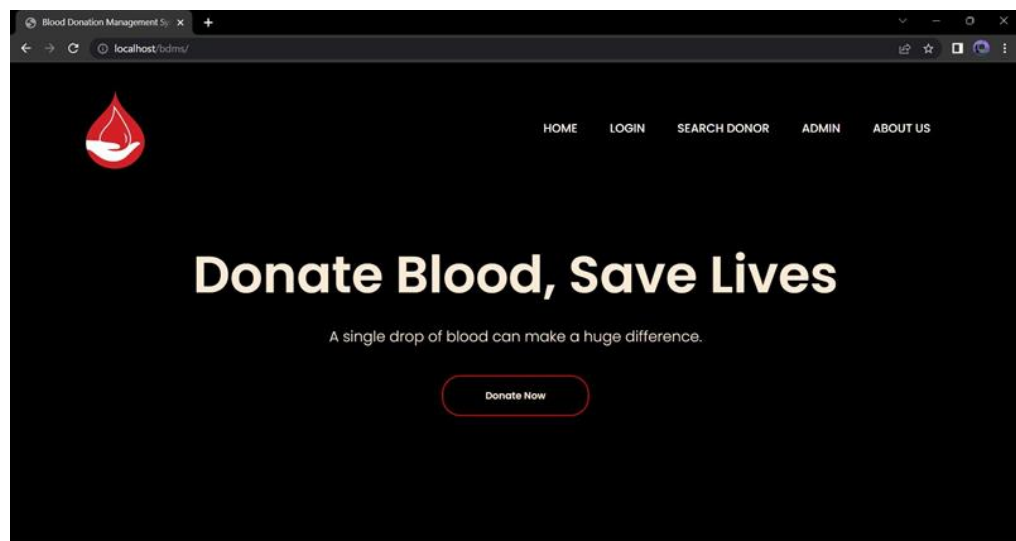## 3.5 UI Implementation

In our homepage,
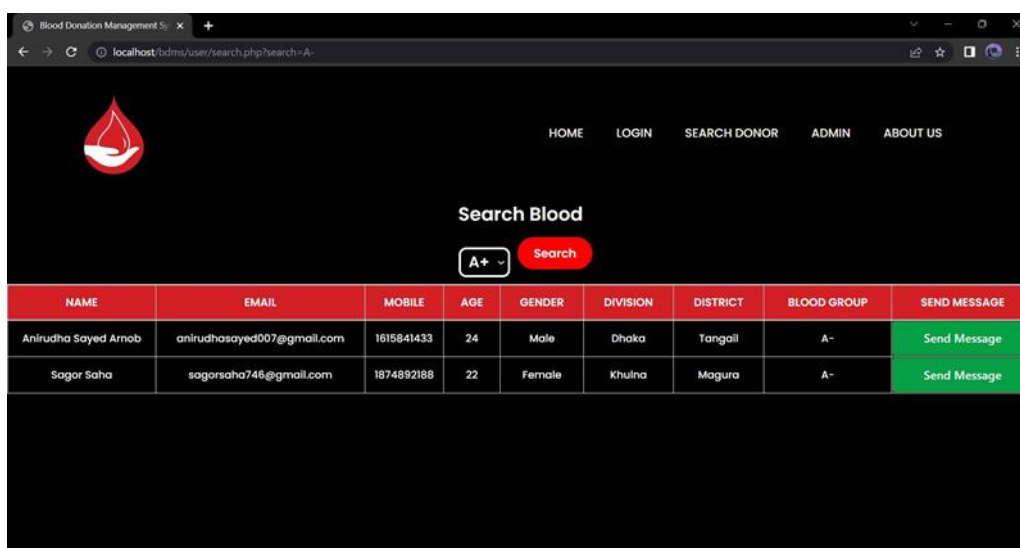

Figure 3.6: Homepage

In search blood,
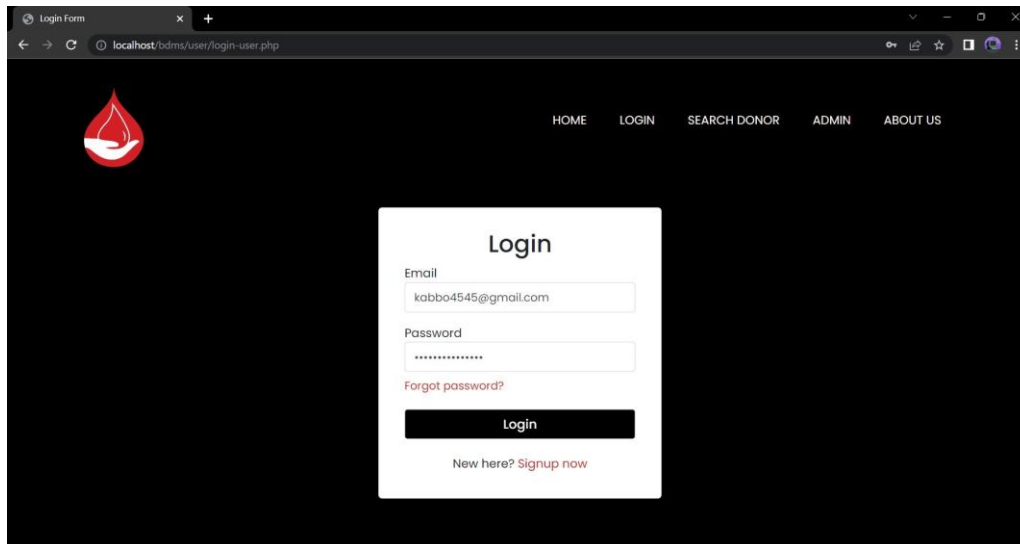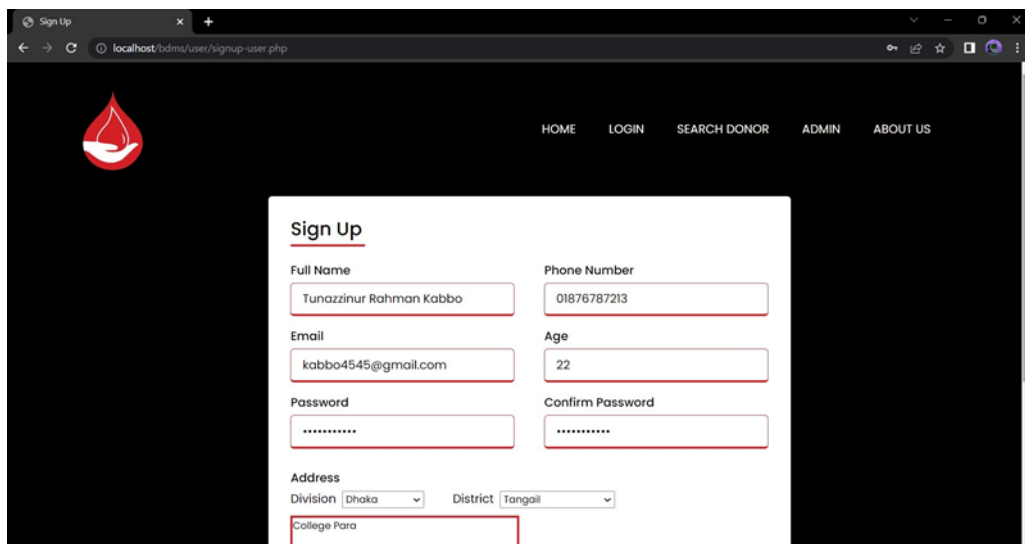

Figure 3.7: Search Blood

Donor Panel

In login page,

Figure 3.8: login page

In signup page,

Figure 3.9: Signup page

In user dashboard,

Figure 3.10: User dashboard

In user profile edit,

Figure 3.11: User profile edit

In about us,
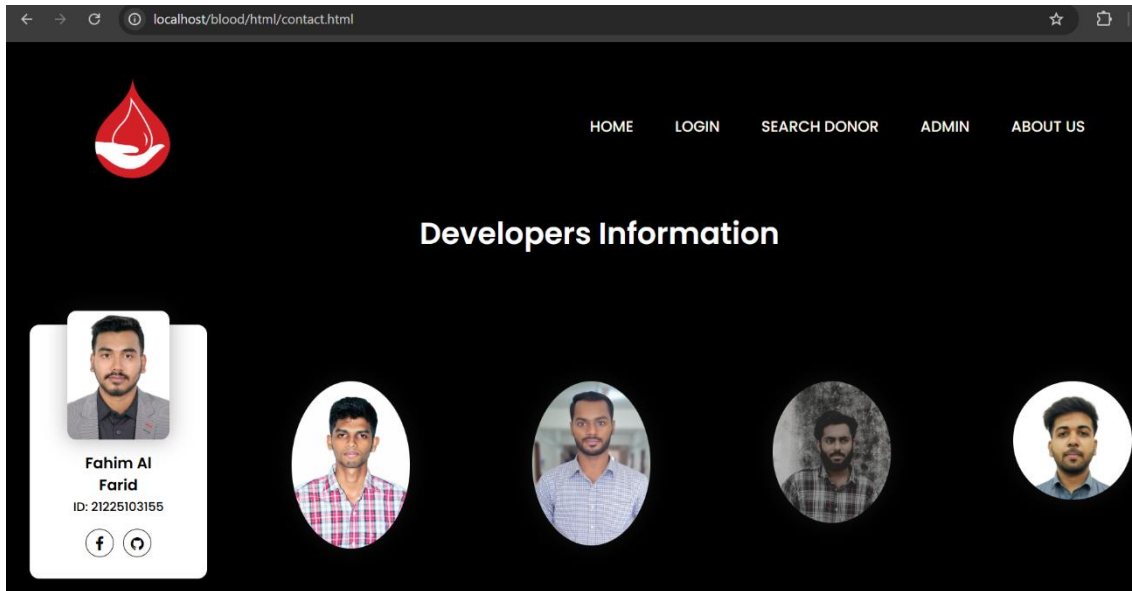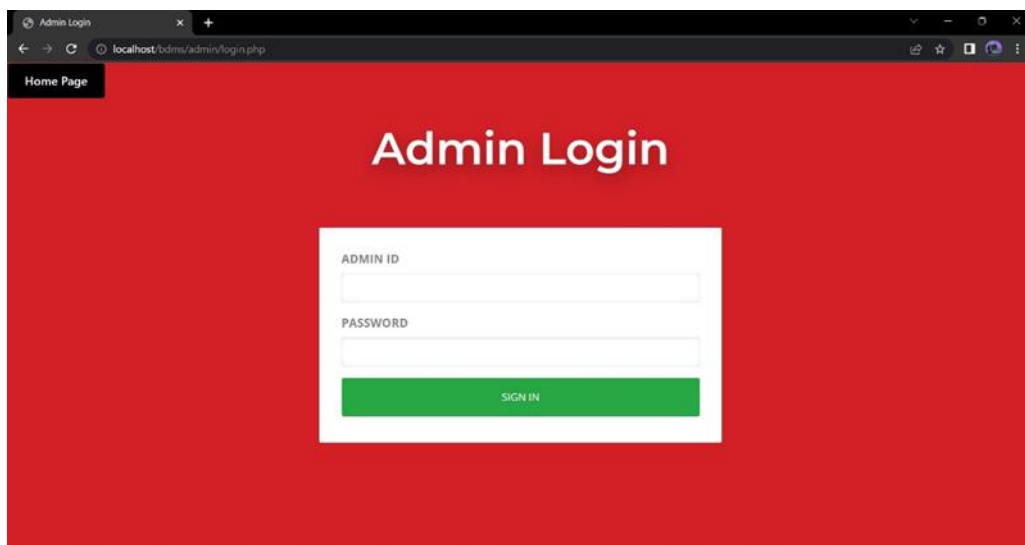

Figure 3.12: About Us

Admin Panel

In admin login page,

Figure 3.13: Admin login page
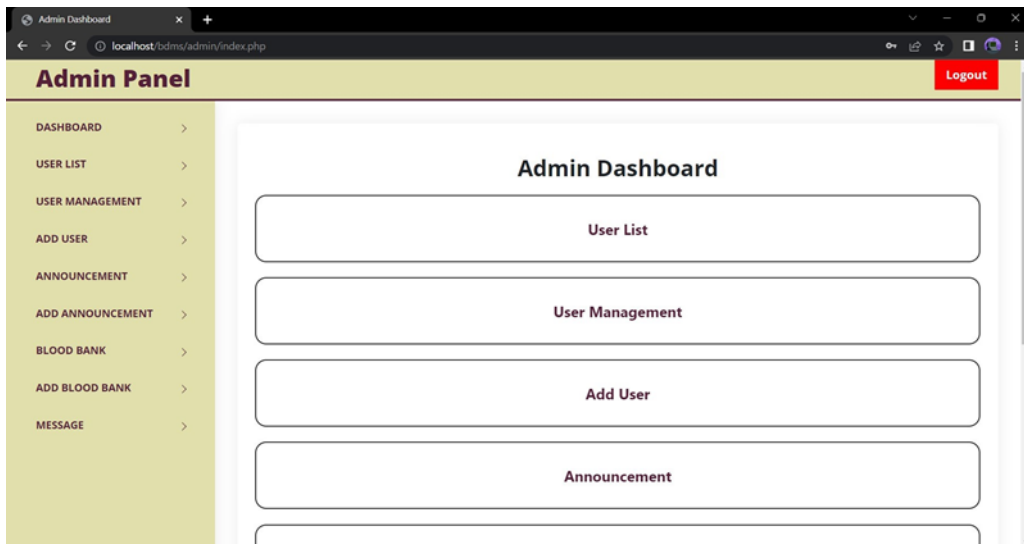
In admin dashboard,

Figure 3.14: Admin Dashboard
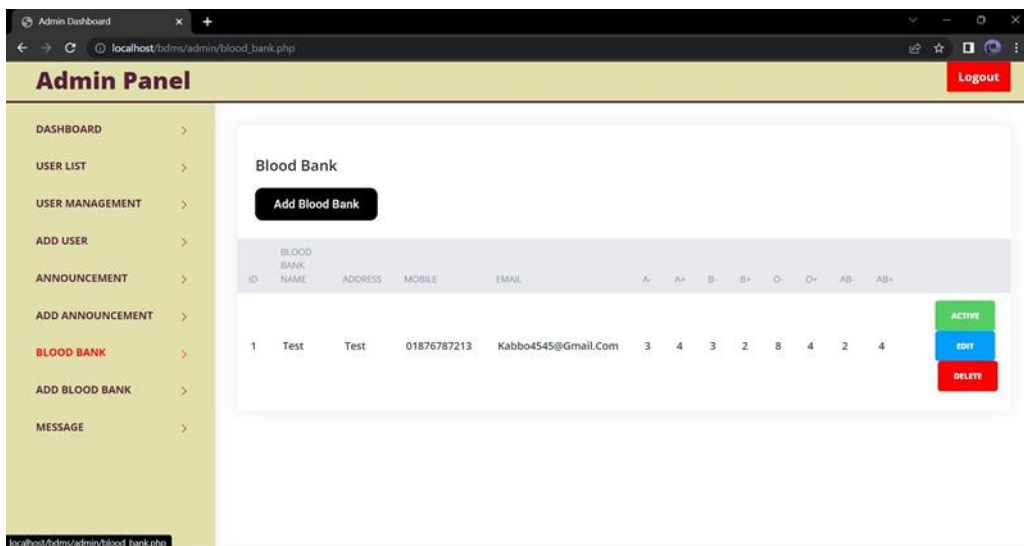
In view blood bank,

Figure 3.15: View blood bank

3.6   Special Feature

Announcement,

Mail sent from admin to donor.
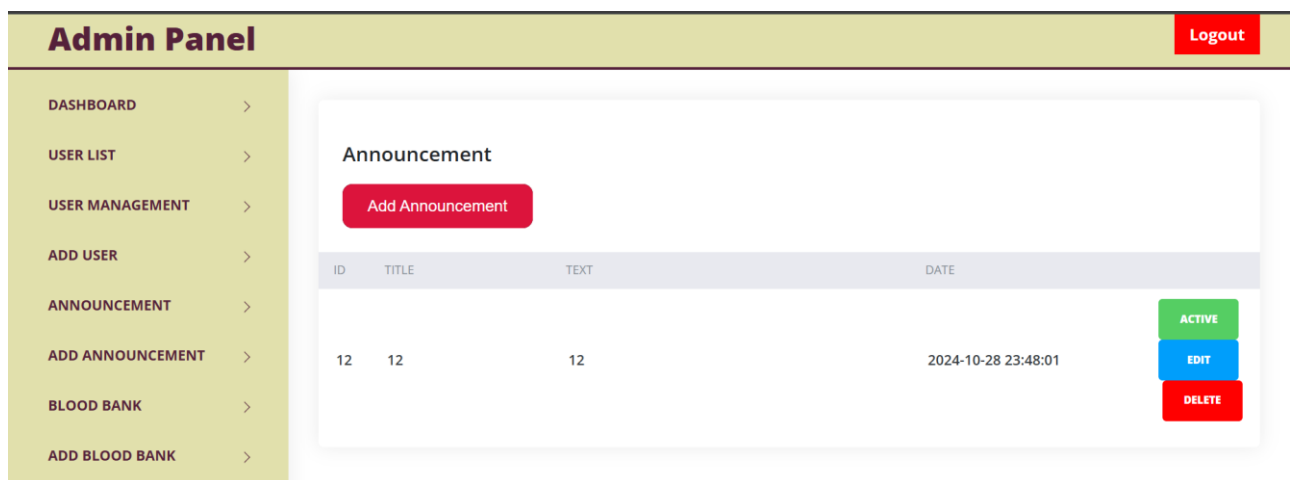
Figure 3.16: Announcement

In add announcement,
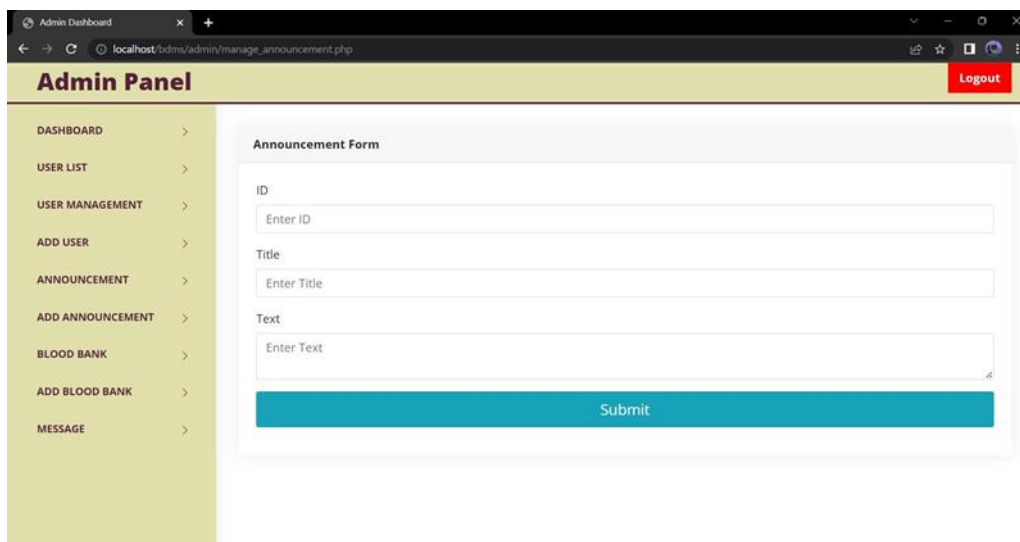
Figure 3.17: Add Announcement

3.7 Agile Development

Agile methodology is a method of project management that divides a project into phases. It is an iterative, time-boxed, people-oriented, and result focused method to software delivery in which software is built sequentially from the beginning of the project rather than together at once near the end.

Agile methodology is in accordance with the Agile Manifesto on Software Development's values and principles. The requirements, plans, and results are all examined on a regular basis, and teams are encouraged to make rapid changes based on this approach. Many new agile frameworks have emerged such as Scrum, Kanban, Lean, and Extreme Programming (XP) that combine practices from different frameworks followed by its uniqueness to the team.

Figure 3.18: Agile Development

The Extreme Programming is commonly used agile process model. This project is developed using this model.
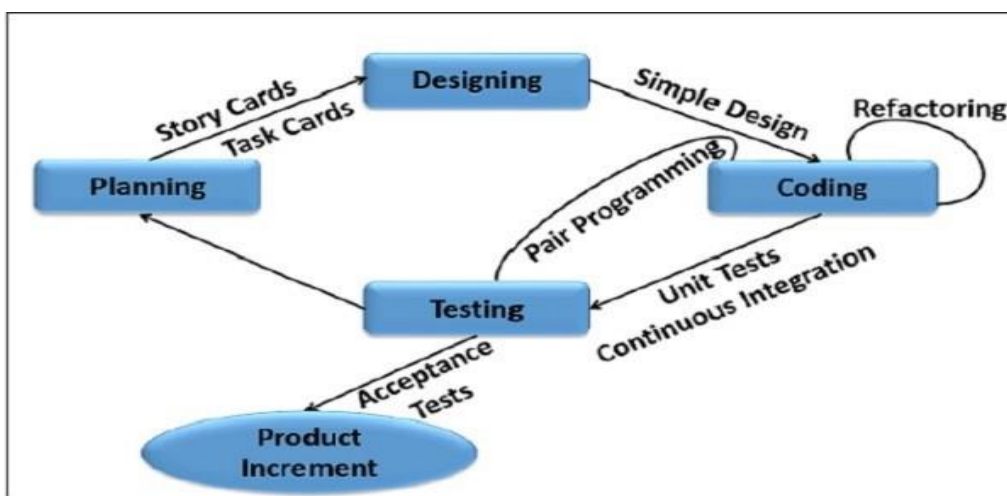
Figure 3.19: Extreme Programming Model

The XP process comprises four framework activities:

1.Planning
- Planning starts with the requirements gathering which enables XP team to understand the rules for the software.
- The customer and developer work together for the final requirements.

2.Design
- The XP design follows the 'keep it simple' principle.
- A simple design always prefers the more difficult representation.

3.Coding
- The coding is started after the initial design work is over.
- After the initial design work is done, the team creates a set of unit tests which can test each situation that should be a part of the release. Refactoring is the technique of improving code without changing functionality
- Two people are assigned to create the code which is called pair programming. It is an important concept in coding activity.

4.Testing
- Validation testing of the system occurs on a daily basis. It gives the XP team a regular indication of the progress.
- 'XP acceptance tests' are known as the customer test.

Chapter 4

Technologies

4.1 Software

4.1.1 Xampp

XAMPP is a popular cross-platform web server that allows programmers to write and test their code on a local web server. It was created by the Apache Friends, and the audience can amend or modify its native source code. It includes Apache HTTP Server, MariaDB, and interpreters for PHP and Perl, among other computer languages. It's available in 11 languages and runs on a variety of platforms, including Windows' IA-32 package, Mac OS X's x64 package, and Linux's x64 package. Before publishing a website or client to the main server, XAMPP allows a local host or server to test it on computers and laptops. It is a platform that

Figure 4.1: Xampp Web Server

provides a suitable environment for testing and verifying the functionality of projects based on Apache, Perl, MySQL, and PHP using the host's system.

4.1.2 Brackets

Brackets is a source code editor with a primary focus on web development. It is written in JavaScript, HTML and CSS. Brackets is cross-platform, available for macOS, Windows, and most Linux distributions. The main purpose of Brackets is its live HTML, CSS and JavaScript editing functionality. Brackets supports codes from multiple file types from C++, C, VBScript to Java, JavaScript, HTML, Python, Perl and Ruby. The complete list comprises more than 38 file types. This gives the user flexibility to work on various files of a project simultaneously.

Figure 4.2: Brackets (text editor)

4.2 Languages

4.2.1 Front-end

HTML, CSS, JavaScript

The Hyper Text Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

HTML is at the core of every web page, regardless the complexity of a site or number of technologies involved. CSS (Cascading Style Sheets) is used to style and layout web pages — for example, to alter the font, color, size, and spacing of your content, split it into multiple columns, or add animations and other decorative features. JavaScript is a logic-based programming language that can be used to modify website content and make it behave in different ways in response to a user's actions

Figure 4.3: HTML, CSS and JavaScript

25

Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. It is designed to enable responsive development of mobile first websites, Bootstrap provides a collection of syntax for template designs. As a framework, Bootstrap includes the basics for responsive web development, so developers only need to insert the code into a pre-defined grid system. Web developers using Bootstrap can build websites much faster without spending time worrying about basic commands and functions.

Figure 4.4: Bootstrap

4.3   Back-end

PHP

PHP (Hypertext Preprocessor) is an open-source, interpreted, and object-oriented scripting language that can be executed at the server-side and is embedded in HTML.

PHP is used for server-side programming which will interact with databases to retrieve information, storing, email sending, and provides content to HTML pages to display on the screen. When a web server receives a script, it will process the request and send output to a web browser in an HTML format. A web server database

Figure|:4.5

stores the information so Figure 3.5: PHP Language other users can´t access the data and source code.

26

4.4 Database

4.4.1 MySQL

MySQL is the most popular Open Source Relational SQL database management system. It is supported by Oracle Company. It is fast, scalable, and easy to use database management system in comparison with Microsoft SQL Server and Oracle Database. It is commonly used in conjunction with PHP scripts for creating powerful and dynamic server-side or web-based enterprise applications. It is developed, marketed, and supported by MySQL AB, a Swedish company, and

Figure|:4.6

written in C programming language and C++ programming language. MySQL supports many Operating Systems like Windows, Linux, MacOS, etc. with C, C++, and Java languages.

Chapter 5

Conclusion

5.1 Introduction

The Blood Donation Management System helps connect blood donors with people who need blood. It keeps a record of donors, their blood types, and donation history, making it easy to find matches quickly. This system encourages more people to donate blood and helps hospitals and clinics save lives. It simplifies the entire process and ensures that blood is available when needed. By promoting awareness, it makes blood donation easier and more organized.

5.2 Limitations

Limitations of the Blood Donation Management System,

1. **Internet Dependency:** The system requires an internet connection to access or update data, which may not be available in remote areas.
2. **Accuracy of Donor Data:** If donors provide incorrect or outdated information (like blood type or availability), it can cause delays.
3. **Limited Awareness:** The system depends on people signing up as donors, so its success relies on proper awareness campaigns.
4. **Technical Issues:** Bugs, server downtime, or technical failures could disrupt the system's functionality.
5. **Privacy Concerns**: Without proper security measures, personal information of donors and recipients could be misused.

5.3   Future Scope In This Sector

Our system can be manipulated in various important works and can be implemented easily if we can reach our goal. Although a lot of works are being done each and every day of this world. But use of blood donation management reviews from different websites and with the help of our work, this can be used for far better works which are not done yet with that much efficiency. We thought about our work to be used in future works. Some are given bellow:

1. **Blood Camp Management and Reporting :**

   • Keeps track of all aspects of the camp, from staffing assignments to the facilities provided at the camp site.

   • Assigns donors to specific camps and generates a camp organizer report.

   • Generation of an automated report of camp information for submission to the government.

2. **Collaborating with Blood Bank :**

   • Give an access to the blood bank stuffs to update data on a regular basis.

   • Let receivers know the exact location of the blood bank through map.

3. **Donor Test Results Management and Adverse Reaction Data Management :**

• Offers donor options that may be filtered.

• Download all reports in Excel

• The reports are extremely adjustable and may be customized to present data according to the needs of the institution

5.2   Conclusion

The "Blood Donation Management System" initiative seeks to play a critical role in saving human lives and reducing fear in emergency circumstances. Any blood receiver can collect and store their desired blood from this web application. Besides, this web application will act as a social service application. The system also supports hospitals and blood banks in emergencies. Overall, it makes saving lives easier and more effective.