A Database Mini Project Report

on

"Blood Bank Management System"

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CERTIFICATE



This is to certify that the mini project report entitled "Blood Bank Management System" being submitted by Nishant Pandey (33348), Manorama Patil (33353), Ritu Pawar (33355) and Rashmi Ranmale (33359) from TE11 is a record of bonafide work carried out by him/her under the supervision and guidance of Mrs.S.A.Jakhete in partial fulfillment of the requirement for TE (Information Technology Engineering) – 2015 course of Savitribai Phule Pune University, Pune in the academic year 2020-2021.

Date: 05/11/2020

Place: Pune

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Principal

This Project Based Seminar report has been examined by us as per the Savitribai Phule Pune University, Pune requirements at Pune Institute of Computer Technology, Pune – 411043 on 05/11/2020

Internal Examiner

External Examiner

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I would like to express my special thanks of gratitude to my teacher (Sumitra Jakhete) as well as our Head of department (Anant Bagade) who gave me the golden Opportunity to do this wonderful project on the topic

(Blood Bank Management System), which also helped me in doing a lot of research and I came to know about so many new things I am really thankful to them.

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I would like to appreciate my team members who individually worked a lot and successfully completed our mini-project.

Resources that we have used for completing our project stackoverflow, tutorialspoint, javapoint ,we are glad to get advice from seniors and lab teacher.

Thankyou.!

Student Name-

Nishant Pandey Manorama Patil Ritu Pawar Rashmi Ranamle

Abstract

This project is aimed to developing a Blood Bank Management System. Through this application any person who is interested in donating the blood can register himself in the same way if any organization wants to register itself with this site that can also register. Admin is the main authority person who can do addition, deletion, and modification if any required. The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the data has been planned. Using the constructs of Mysql server and all the user interfaces have been designed using the react technologies. The database connectivity is planned using the Mysql connection methodology. The standards of security and data protective mechanism have been given a big choice for proper usage. The application takes care of different modules which are produced as per the applicable strategies and standards that are put forwarded by the administrative staff. The entire project has been developed keeping in view of the distributed client server computing technology in mind. The specification has been normalized up to 3NF to eliminate all the anomalies that may arise due to the database transaction that are executed by the general users and the organizational administration.

INDEX

Sr.	Chapter		Page No	
1.		Introduction to Project	2	
	1.1	Purpose of Project	2	
	1.2	Scope of Project	2	
	1.3	Aim And Objective(s) of Project	2	
2.		Methodology	3	
	2.1	Product Function Perspective	3	
	2.2	User Characteristics	3	
	2.3	General Constraints	3	
	2.4	System Assumptions	4	
3.		Specific Requirement	5	
	3.1	Hardware Requirement	5	
	3.2	Software Requirement	5	
	3.3	Functional Requirement	5	
	3.4	Non-Functional Requirement	6	
4.	System Design And Implementation		7	
	4.1	ER Diagram	7	
	4.2	Schema Diagram	8	
	4.3	Table Description	9	
	4.4	Graphical User Interface	13	
5.		Conclusion	31	
6.		References	32	

CHAPTER 1

INTRODUCTION

1.1 Purpose

In day to day life, everything is available to us on our fingertip. Technology has help us to achieve that. Being so advance in technology, we still face the issues because of which people are losing their lives. Blood shortage is one of the main cause in Medical fatality rate. To avoid this as much as its possible we intended to create a platform where people can help each other whenever its possible to them and also to maintain the records of blood donors, recipients, blood donation programs and blood stocks so that the data can be retrieve easily. The person who is need for blood will place the request for blood and the available donors on out platform will volunteer for it. This is our humble try to use the wide spread network for the betterment of the society.

1.2 Scope

Our Project covers blood bank where the management of donors, blood, donor's current address, hospital records and blood stock records according to their groups are done manually. Usage of our website will increase efficiency in almost all areas of Blood Bank Management System.

1.3 Aim and Objective(s) of the Project

The project's aim is to develop an application system to minimize the manual work for Blood Bank, Donor, Blood Group management. It monitors all of the Blood Group information, Blood cells, Blood supply and Donor list.

Objective of Project-

- To provide a means for the blood bank to publicize and advertise blood donation programs.
- To provide an efficient donor and blood stock management functions to the blood bank by recording the donor and blood details.
- To provide synchronized and centralized donor and blood stock database.
- To provide immediate storage and retrieval of data and information.

CHAPTER 2

Project Methodology

2.1 Product Function Perspective

The product is web based system where mechanism of checking availability of blood, transfer of blood with other. Functionalities is implemented-

- Proposed system will provide all requirements stated by stakeholders.
- Checking availability of blood stock
- Register as Donor and donate blood.
- Make blood request
- Transfer blood when required with specified quantity.
- Arrange blood campaigns
- Make announcements for employees

2.2 User Characteristics

There are mainly two users interacting in the system Donor, Nurse. Donors register themselves as donor by filling registration form provided on donor's page. Nurses handling all blood request, making announcement and handle blood campaigns and update details of campaigns.

2.3 General constraints

The project constraints are-

- Any person with age above 18
- Without any chronic disease
- And haven't donated from last three months
- Applicable for people living in Maharashtra
- As a web based system donors will receive notification about critical blood demand when online.
- The system allows the blood campaigns in pune city only.

2.4 System Assumptions

A Blood Bank stores blood of various blood groups. The system has six main entities:

- O **Donor:** Many donors donate blood, each of different blood types. Also, a donor may donate blood more than once and he is identified by a donor id, name, gender, age, address and phone number.
- o **Blood:** The blood donated by the donor is characterized by blood type and component
- o **Hospitals:** The Blood Bank receives orders for blood from many hospitals for emergency purposes and other surgical requirements and each blood bank issues the same of required blood type. The hospitals are identified by id, name, address, email and phone number.
- o **Nurse:** The Blood Bank is managed by the blood bank main who is identified by id, name, email and phone number. He is responsible for the proper management of the blood bank.
- **Donation:** It will create track of all donations taken place with all information like donation id, amount, blood address, date.
- Transfer: It will keep track of all transfers of blood taken place with status as pass and fail
- Camps: To store all blood campaign related information by storing camp_id ,name ,location and date.
- O **Storage:** To store all blood events related information by storing name and location.

CHAPTER 3

Specific Requirement

3.1 Hardware Requirement

• Processor :- 1.6GHz

• RAM: 1 GB

• Hard Disk: 4 GB Space Requirement

3.2. Software Requirements

• Text Editor:-Vs Code

• Browser:- Mozilla firefox, Internet Explorer, Chrome

• Frontend:-React

• BackEnd:-Nodejs

• Database:-Mysql

3.3 Functional requirements

• Employee Login -

- The system provides security features through username-password matching where only authorized users can access the system with different authorization level.
- Input Username, password
- Output Invalid or update blood details, logout

Donor profile Registration –

- This allows healthy public to register as volunteer donor.
- Input Adhhar no, name, gender, mob no, address, blood group, email, age.
- Output Successfully register

• Blood stock management –

Blood bank staff can manage the blood stock starting from collecting the blood, storage, transference through the system. Each process or work flow can be traced from database. The record of donations and transfers kept recorded in database.

Arranging campaigns –

- Arranging different blood campaigns in order to collect blood for different blood types.
- Input camp id, name, location, date
- Output successful.

3.4 Non functional requirements

• Availability -

The system is available 24 x 7. In case of hardware failure the replacement page will be shown or database corruption, backups of the database should be retrieved from the application data folder and saved by blood bank employees.

• Security –

- The system uses credentials like password and username for employee login.
- Donors are automatically log out after a period of inactivity.

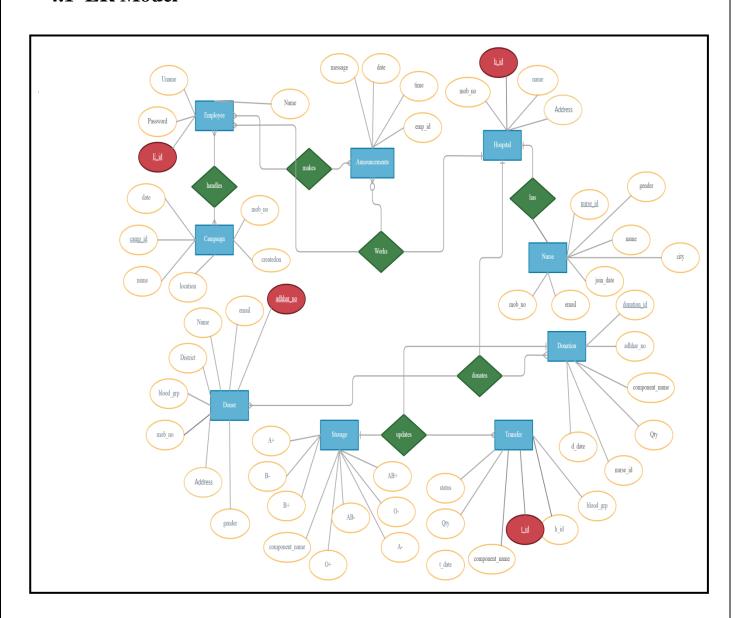
• Reliability -

 The system is reliable in its operations and reliable for securing the sensitive details.

CHAPTER 4

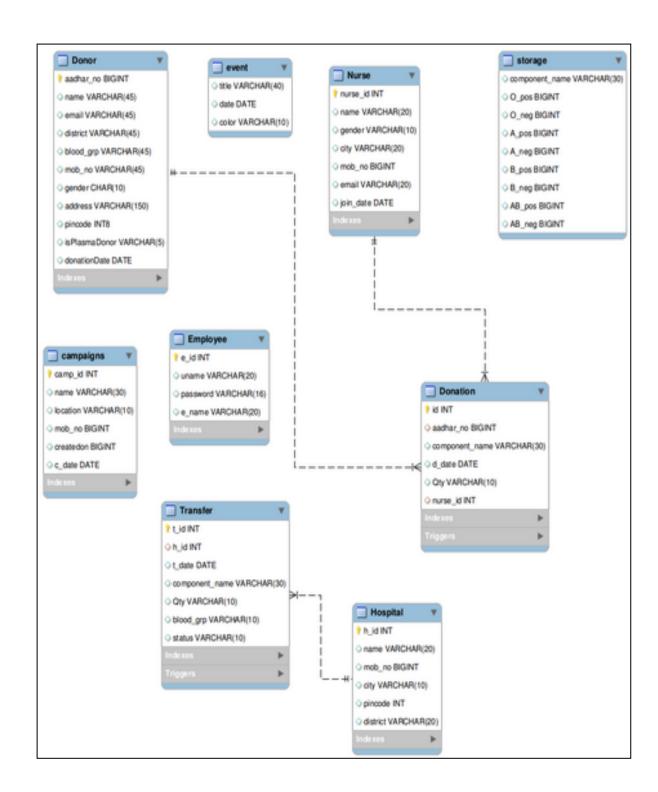
System Design And Implementation

4.1 ER Model



ER Diagram of Blood Bank Management System

4.2 Schema Description



Schema Diagram of Blood Bank Management System

4.3 Tables Description

1.All Tables in DataBase-

2.Donation Table-

3.Donor Table-

```
mysql> desc Donor;
aadhar_no | bigint
                            NO PRI NULL
              varchar(20)
varchar(30)
varchar(30)
varchar(7)
                             YES |
 name
                                         NULL
 email
                            YES
                                         NULL
 district
                             YES
                                         NULL
 blood_grp
                             YES
                                         NULL
 mob no
              | bigint
                             YES
                                         NULL
              | char(10)
 gender
                             YES
                                         NULL
               varchar(150)
 address
                             YES
                                         NULL
                             YES |
 pinCode
              | int
                                         NULL
 isPlasmaDonor | varchar(5)
                             YES
                                         NULL
 donationDate | date
                                         (curdate() - interval 6 month) | DEFAULT_GENERATED
                             YES |
11 rows in set (0.12 sec)
```

4. Employee Table-

```
mysql> desc Employee;
 Field
          Type
                        | Null | Key | Default | Extra
           | int
                                                auto increment
 e id
                        l NO
                                 PRI | NULL
           varchar(20)
 uname
                          YES
                                       NULL
 password | varchar(16)
                                       NULL
                        YES
          | varchar(20) | YES
 e name
                                      NULL
 rows in set (0.10 sec)
```

5. Hospital Table-

Field	Туре	Null	Key	Default	Extra
h_id	int	NO	PRI	NULL	auto_increment
name	varchar(20)	YES		NULL	
mob_no	bigint	YES	i i	NULL	
city	varchar(10)	YES	i i	NULL	
pincode	int	YES	i i	NULL	
district	varchar(20)	YES	i i	NULL	

6. Nurse Table-

```
mysql> desc Nurse;
 Field
                          | Null | Key | Default | Extra
            Type
 nurse_id
             int
                                 | PRI |
                           NO
                                         NULL
                                                   auto_increment
             varchar(20)
                            YES
                                         NULL
 name
             varchar(10)
                           YES
 gender
                                         NULL
 city
             varchar(20)
                           YES
                                         NULL
             bigint
                            YES
 mob no
                                         NULL
                           YES
 email
             varchar(20)
                                         NULL
 join_date | date
                           YES
                                         NULL
 rows in set (0.11 sec)
```

7. Transfer Table-

Field				Default	Extra
t id				NULL	auto increment
h_id	int	YES	MUL	NULL	_
t_date	date	YES	j i	NULL	
component_name	varchar(30)	YES	İ	NULL	
Qty	varchar(10)	YES	j i	NULL	
blood_grp	varchar(10)	YES		NULL	
	varchar(10)	YES	i I	NULL	ĺ

8. Campaigns Table-

```
mysql> desc campaigns;
| Field
            | Type
                          | Null | Key | Default | Extra
 camp_id
            int
                           NO
                                   PRI | NULL
                                                   auto_increment
            | varchar(30)
 name
                           YES
                                         NULL
 location | varchar(10)
                           YES
                                        NULL
            | bigint
                           YES
 mob no
                                         NULL
 createdon | bigint
                           YES
                                        NULL
 c date
            | date
                           YES
                                        NULL
6 rows in set (0.06 sec)
```

9. Event Table-

10.Storage Table-

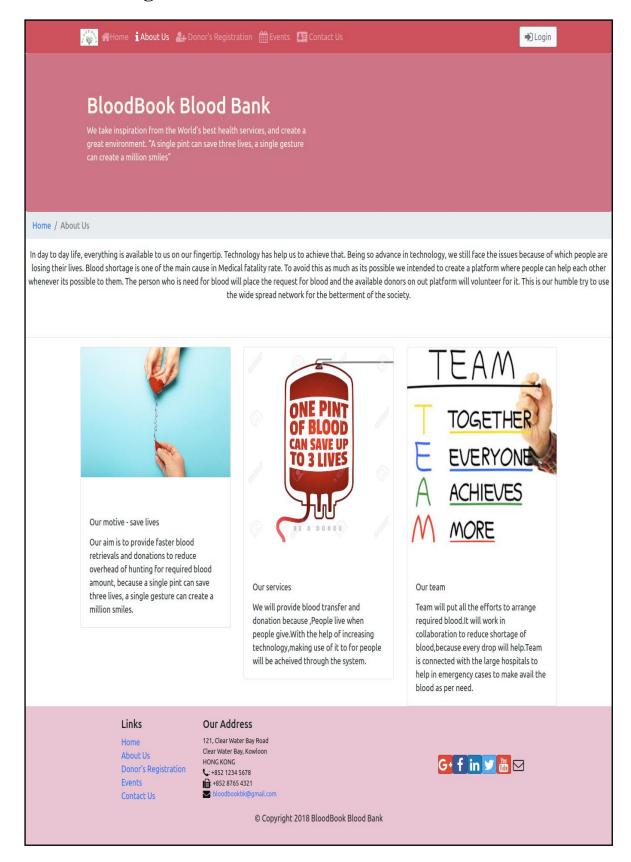
Field	Туре	Null	Key	Default	Extra
component name	varchar(30)	YES		NULL	
0 pos	bigint	YES	i i	NULL	İ
0_neg	bigint	YES	i i	NULL	İ
A_pos	bigint	YES	i i	NULL	İ
A_neg	bigint	YES	i i	NULL	İ
B_pos	bigint	YES	i i	NULL	ĺ
B_neg	bigint	YES	i i	NULL	İ
AB_pos	bigint	YES	i i	NULL	İ
AB neg	bigint	YES	i i	NULL	ĺ

4.4 Graphical User Interface-

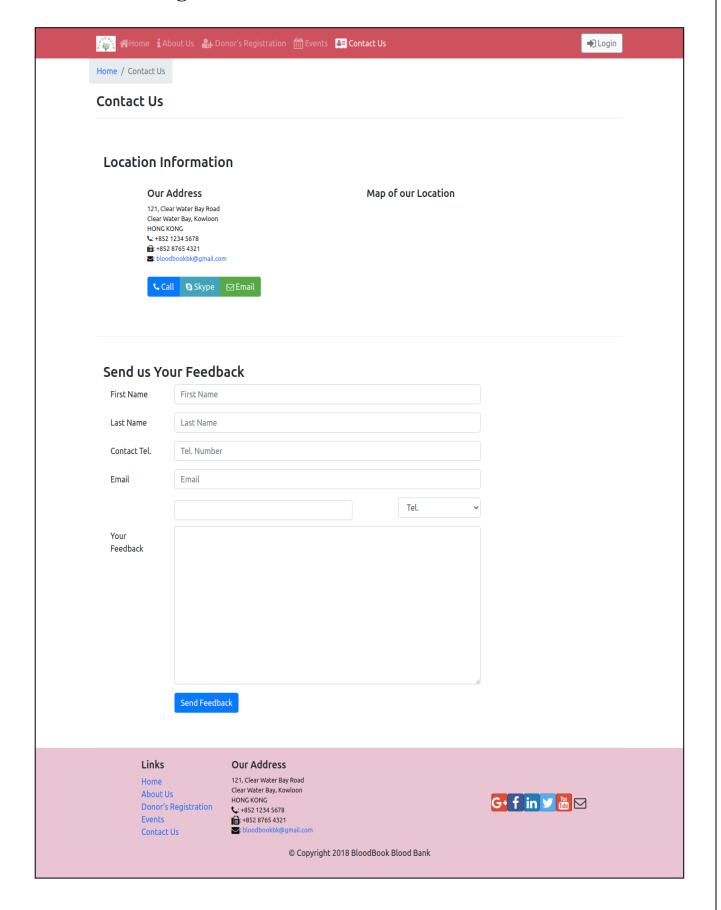
1. Home Page-



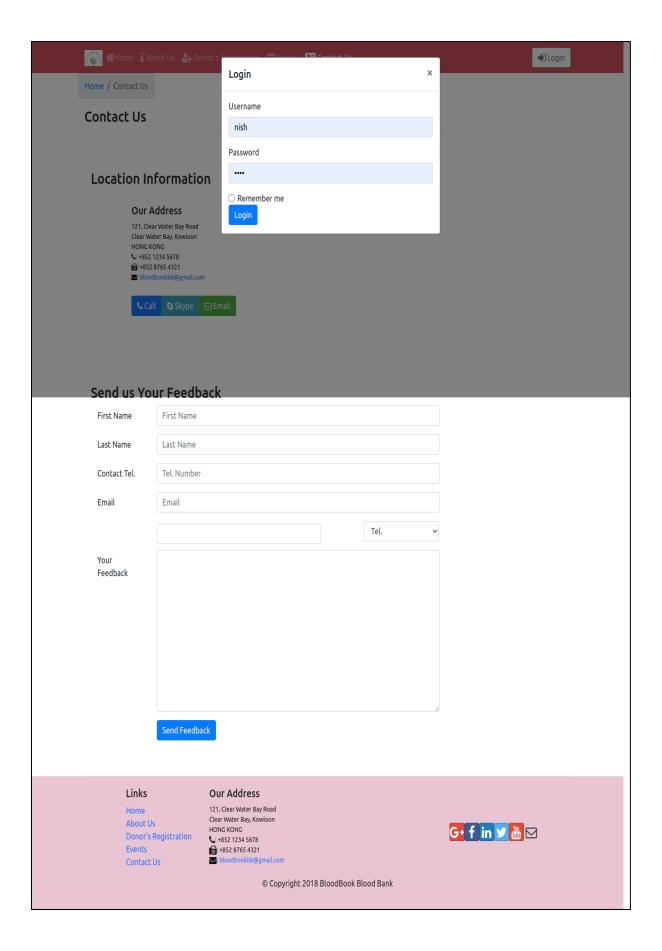
2. About us Page-



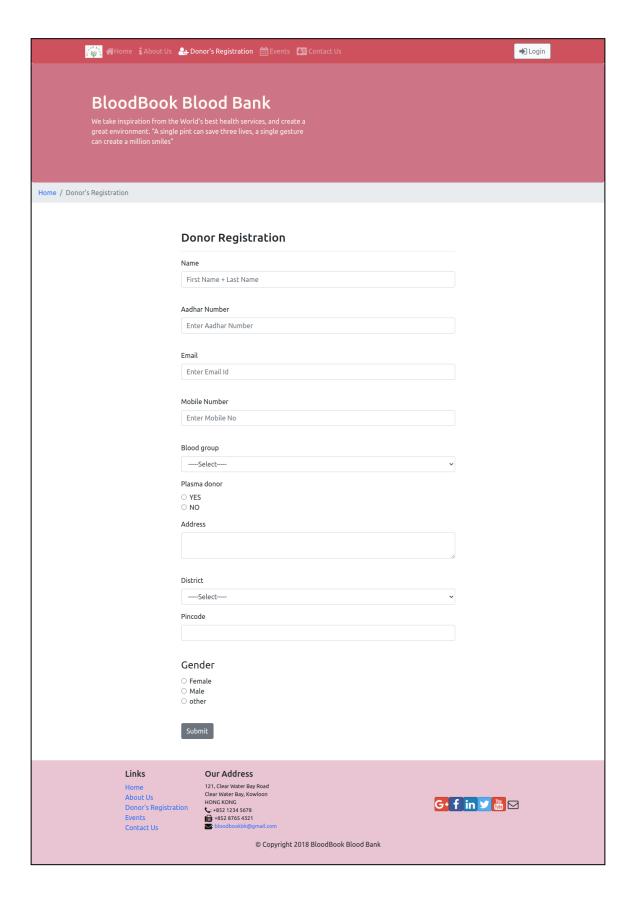
3. Contact us Page-



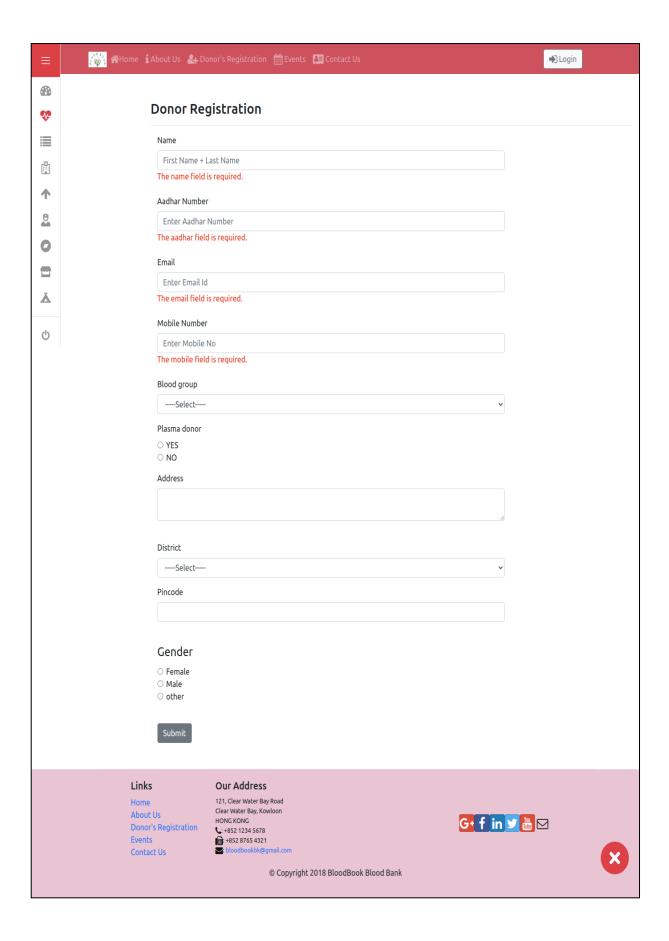
4.Login Page



5.Donor Registration Page-



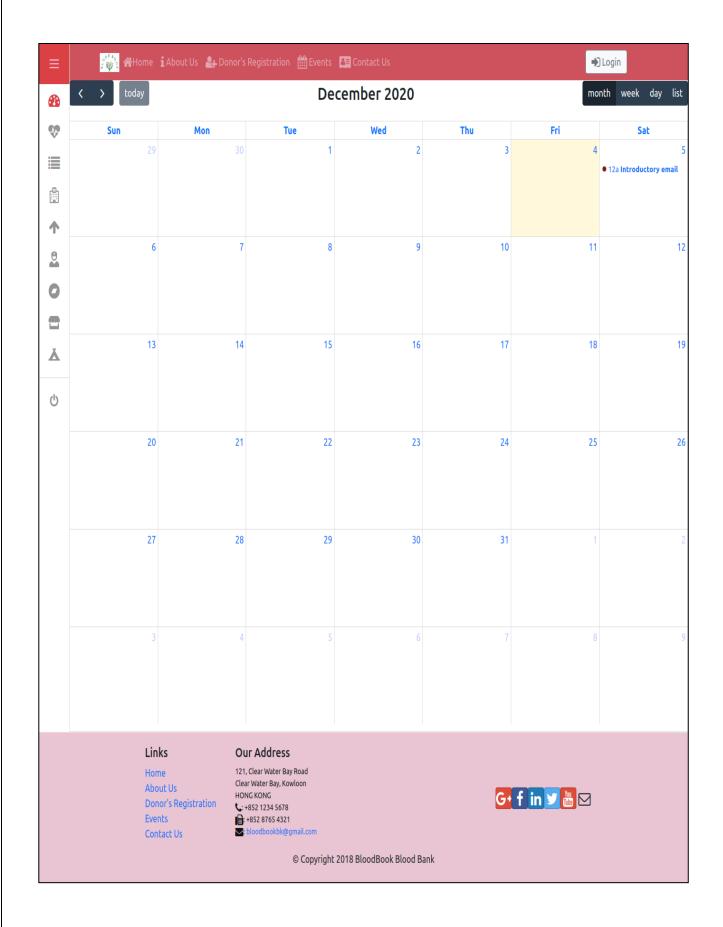
6.Donor Registration Form Validation-



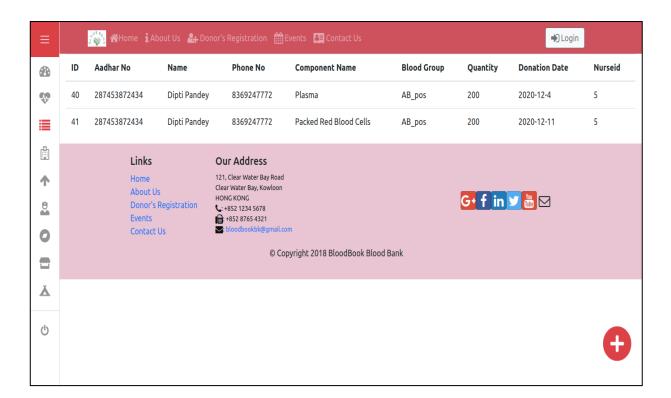
7.Dashboard-



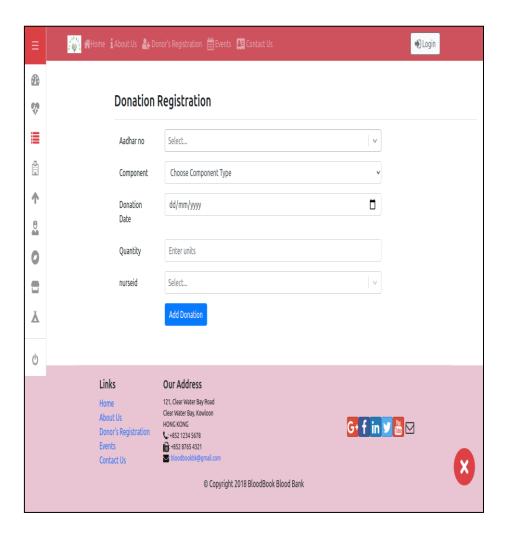
8.Side Navigation Edit



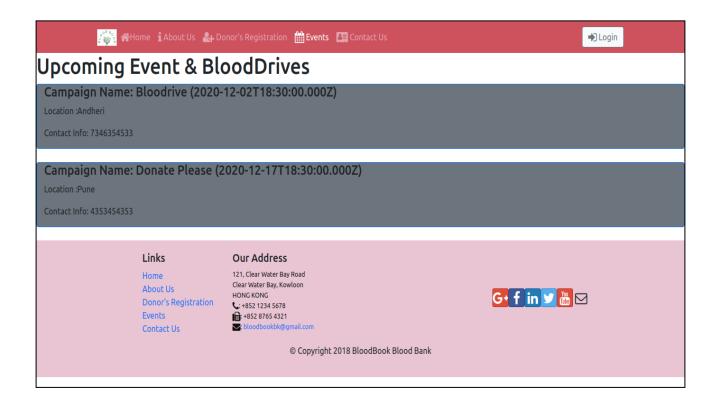
9.List of Donor Donated Blood-



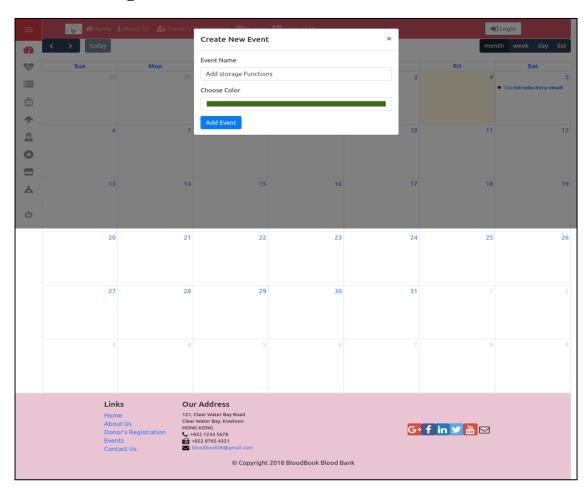
10.To add the Donor who donated blood-



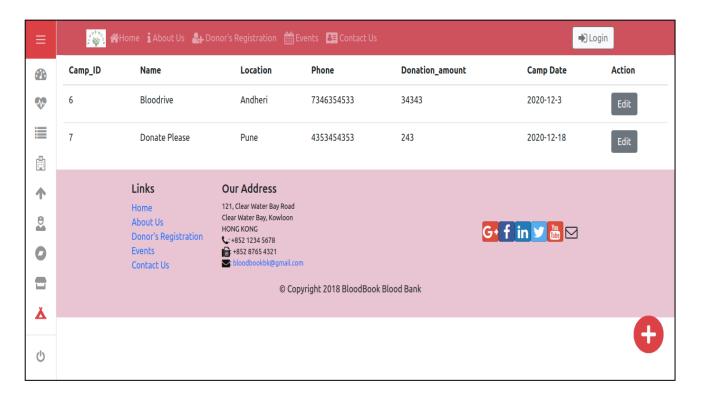
11.Events



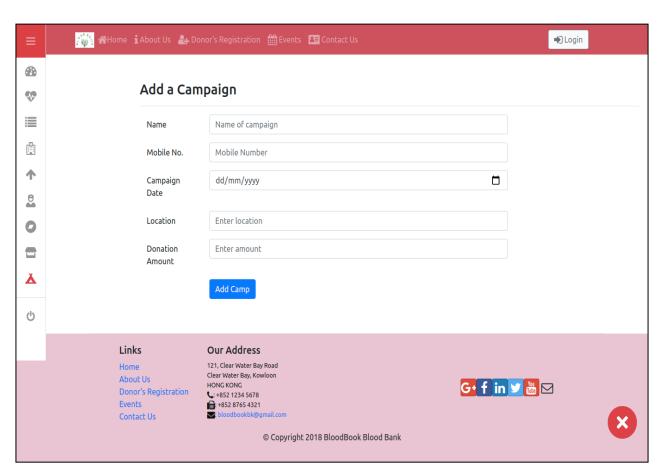
12.Edit Event Registration



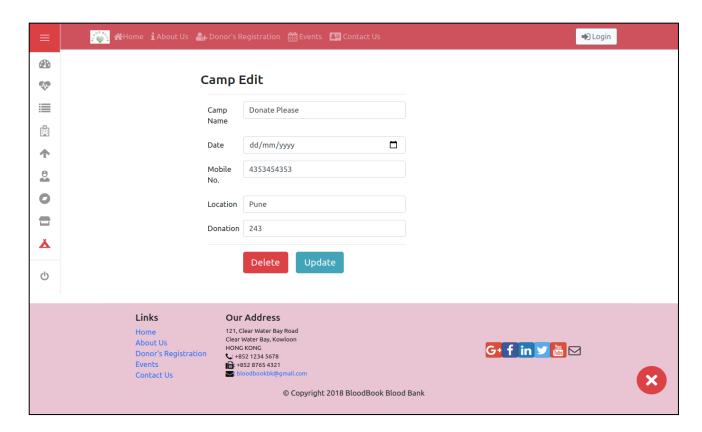
13.List of Campaign



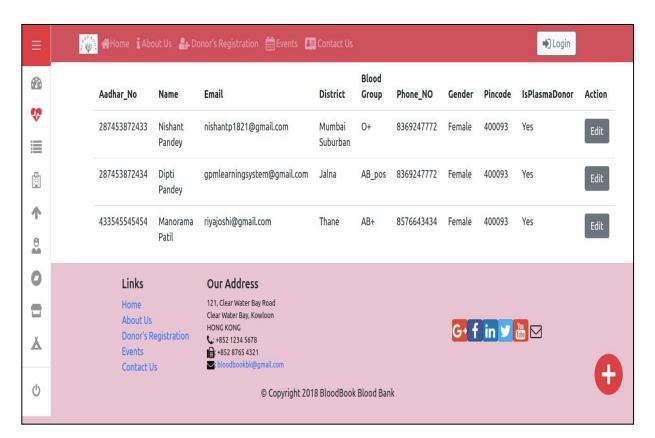
14.Add a Campaign



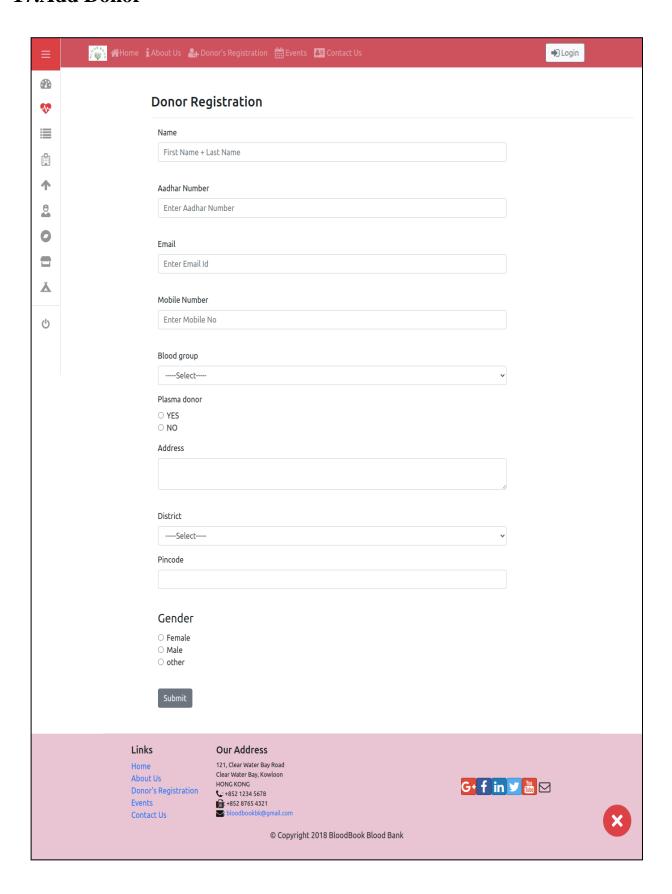
15. Campaign Edit



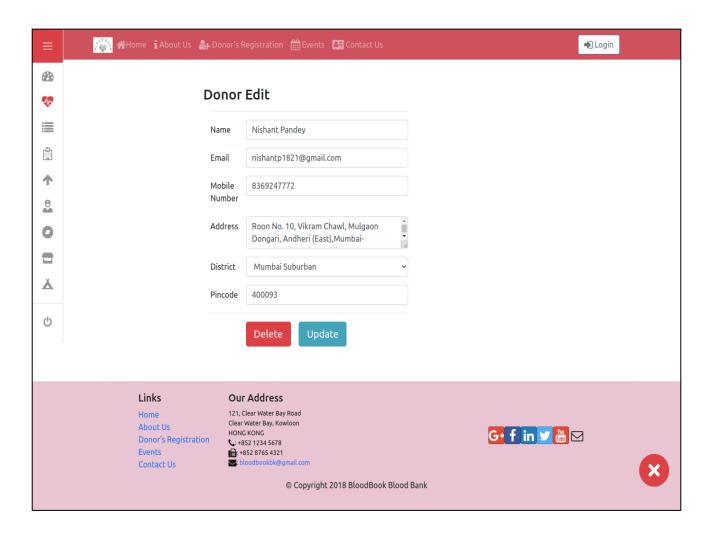
16.List of Donor



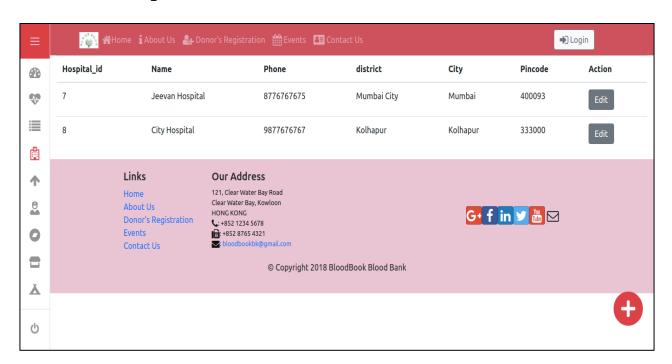
17.Add Donor



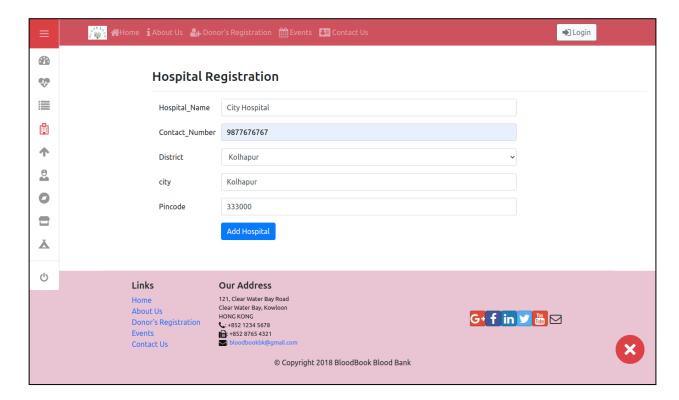
18.Edit Donor



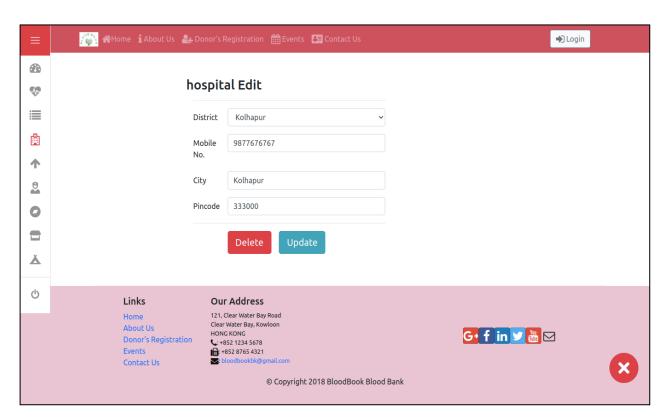
19. List of Hospital



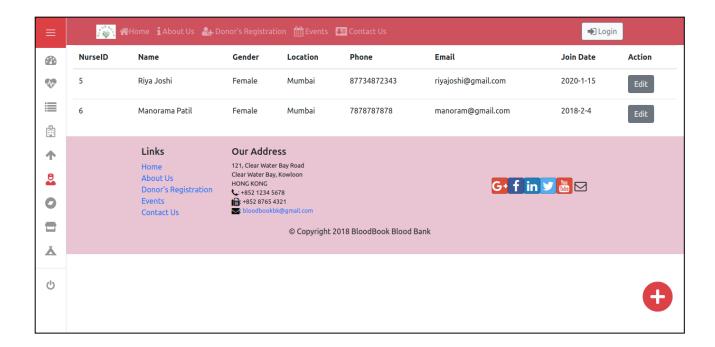
20. Add Hospital



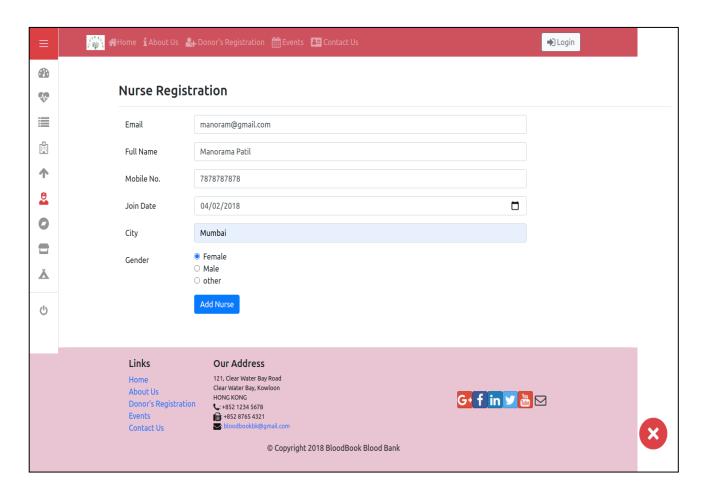
21. Edit Hospital Details



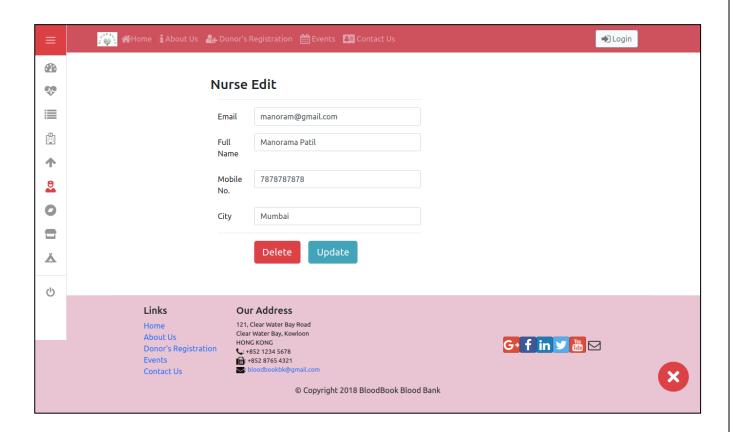
22. List of Nurse



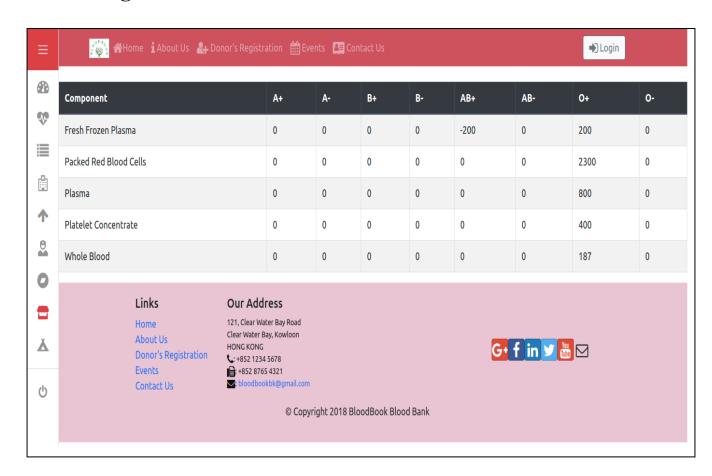
23. Add Nurse



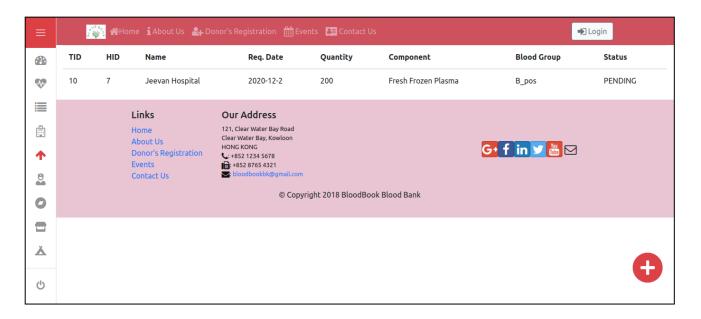
24. Edit Nurse Details



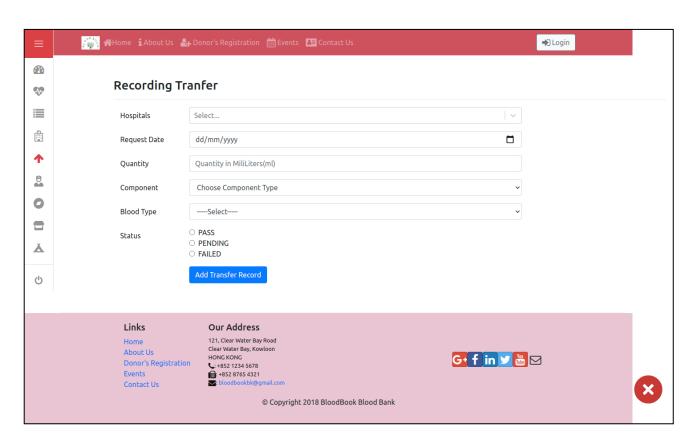
25. Storage



26. List of Blood Storage



27. Add Transfer of Blood Donated



CHAPTER 5

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 web application provides a way of communication and synchronization between the hospitals and the blood bank. 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.

CHAPTER 6

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- http://nbtc.naco.gov.in/
- https://www.researchgate.net/publication/339032343 Blood bank and Donor Management system