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Online Blood bank Management System

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Abstract - *The Online Blood Bank website is a sincere effort of easing all processes revolving around receiving and donating blood. The website enables the user to easily access information regarding the availability of blood types in different blood banks across the state, along with the date of donation of blood and an option to schedule a voluntary blood donation. Blood is essential in almost every surgical process that is carried out. The number of patients who need blood is increasing day by day due to advancements in medicine and technology, but there still exist problems like shortage and non-availability of blood. Motivating the people for blood donations alone won't be beneficial until a proper blood management system is developed. The goal of this project is to provide the people with a single solution to all the blood donating and receiving problems all at one place in a single click. The website will include everything from registering an individual online to donate blood to searching nearby blood banks for checking the availability of blood all of this online thus being a time saver and a great helper.*

Key Words:- Blood, donation, management, website, timesaver.

1.INTRODUCTION

Blood is a very intrinsic part of the healthcare system. Blood as a whole is donated voluntarily which later can be used for patients or the preparation of therapeutic products. Various components of blood can be separated and used later as per the need. The requirement of blood in hospitals may arise at any moment and thus it is required to ensure the availability of blood in blood banks all the time. Blood banks are designated spaces equipped with professionals and types of machinery that help collect, store and preserve blood.

The requirement of blood in India is almost 13 crore units per year. But there is a total mismatch in the blood collected and the blood required. Haphazard management of blood leads to various issues like non-availability of blood, shortage of blood, and last-minute panic situations among the people who require blood. The online blood bank management system can help regulate the process of blood flow and abolish the loopholes of the system.

The primary goal of this project is to create a hassle-free experience for the donors and receivers in the blood donation process. Since the website also collects data of users consensually, who wish to donate blood in the future, a database of voluntary potential donors is created and can be used for emergency purposes thus saving lives.

1.1 Proposed Project

The main purpose of this project is to connect various ends of the blood donation process and automate it. While easing the efforts taken for the blood searching/donating process the website is also is expected to make the process faster, easier, and reliable than normal traditional methods. The website provides a very easy user interface with various features that are need of the hour. Some of which include locating blood banks near your location, sharing the obtained location with a dedicated share button, providing you with directions to the desired blood bank with an integrated google map button, a direct hyperlink to the contact details of that particular blood bank, availability along with the number of units of every blood group. Real-time updating of units of blood available in the selected blood bank is one of the most prime features.

2. Methodologies

2.1 Blood bank Web Application

This Module Consist of detail information of how application works. The blood bank management system is the web-based online application with SMS as well as Email alert function various sharing options via social media applications and Blood bank locator. that implemented using HTML CSS PHP JavaScript and SQL for database.

In this Module the requests from receptors for the required blood group are served.

The Blood donor can register on the system and it will provide a donor id on the completion of registration via Email service .if the false request sent to the blood bank the admin as well as blood bank have full rights to delete the request. In case If the request is sent to blood bank for specific blood group by user and his registration id also generated but unfortunately user won't come, the system automatically cancel his registration id and update blood bank data by using real time updating The system will inform to all the relevant donors with the request. Blood bank can add or remove a donor from the system. Also he can add blood stock to the relevant blood bank. Blood Bank Management system has separate Admin panel.

Admin has entire rights to add various blood banks and terminate. Admin can also check whether the blood bank is active or not. The system is having separate blood bank panel in which blood banks can have there user friendly dashboard in which they can manage blood, manage request, and manage blood issued.

2.2 Database

In this system, database is used to record and manage the transactions of blood donations and blood issued. The main purpose of this system is to keep an organize records management of blood. Information such as Donor Details, Blood Collection, Screening, Component preparation, Blood storage, Blood request, Compatibility, Blood issue, Monthly statistics records are stored using database. It provides great help in the properly monitoring of blood available in the blood bank and for easy processing of blood request.

3. Actor's and Modeling of System

3.1 DONOR

The website is useful not only for the receiver end but also for the donor end.

unlike the traditional way where one has to physically go to the blood bank register himself and carry out the formalities there, the donor can register himself with the online portal to the nearest blood bank available and schedule a date for donating blood voluntarily, this not only will save his/her time in case of emergency but will also provide the user with peace of mind.

Since the donor is registered to the blood bank the donor could be directly reached by the blood bank in case of absolute emergency.

The personal data of the donor will not be made public and cannot be accessed by the receiver directly but will be stored in that particular blood bank database thereby not violating his/her privacy. the personal data of the donor will not be made public and cannot be accessed by the receiver directly but will be stored in that particular blood bank database thereby not violating his/her privacy.

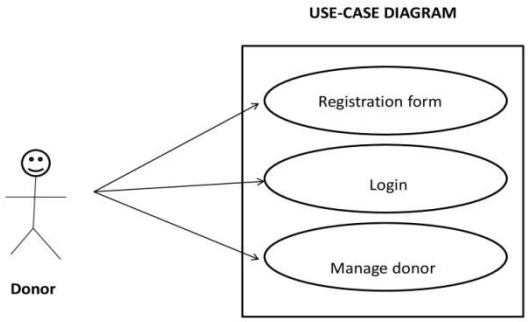

Figure 1- Use case diagram of admin

3.2 ADMIN

The Admin section contains all edits like manage blood bank, manage donor, manage request. He can also change donor details, delete donor or change password. There is also one additional feature of admin panel and that is status button. The Status button is used to hide or delete the status of blood bank. If blood bank is facing some technical issue so admin can hide the blood bank from database for some time. So that user don't get confused. After the problem solved the admin can easily enable the status button.

- Manage blood request
- Manage blood donor
- Manage blood bank
- Delete donor details
- Admin maintains security of the system
- Logout

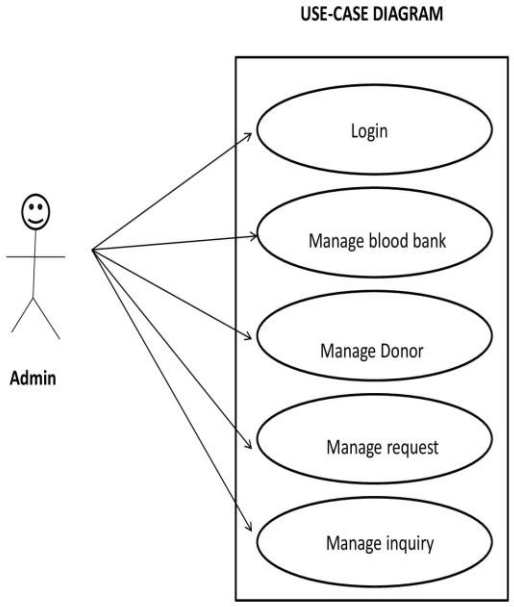

Figure 2- Use case diagram of Admin

3.3 Receiver

The receiver module helps user to find blood group. When user (receiver) click on find a blood group system ask him to enter blood group he want to search. After entering the blood group, system search for the availability of the blood group and give him the list of the blood banks where the blood is available. The user will select a suitable blood bank and will issue blood.

- Find a donor
- Refer a friend via social media app
- Find a blood group
- Logout

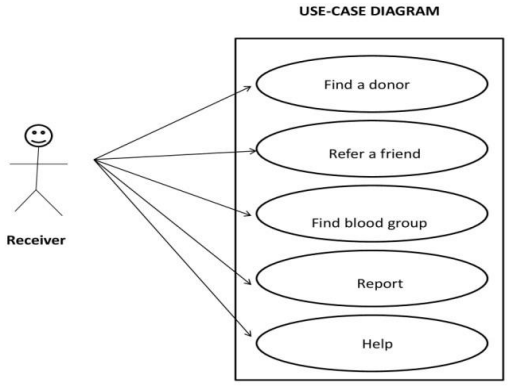

Figure 3- Use case diagram of Receiver

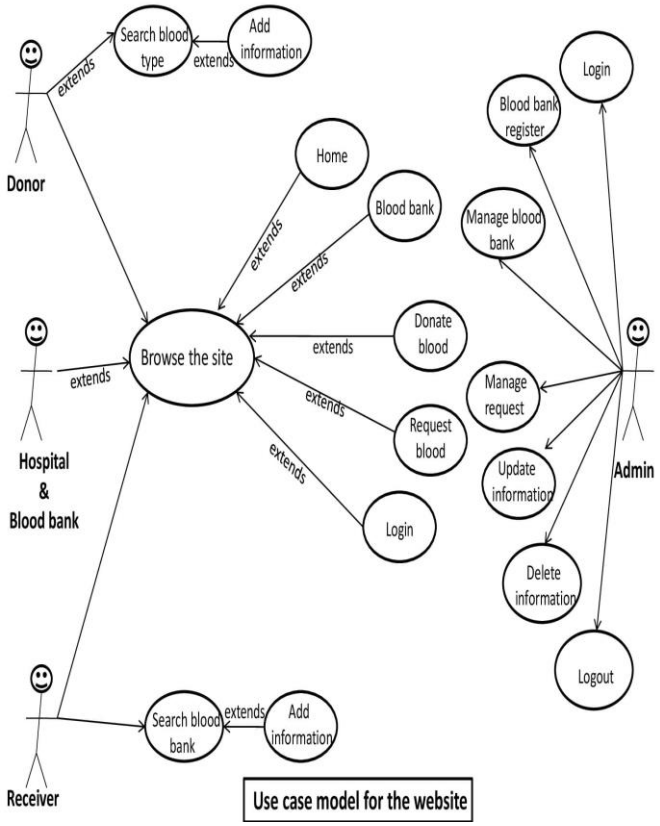

Figure 4- Use case model of website

Outputs-

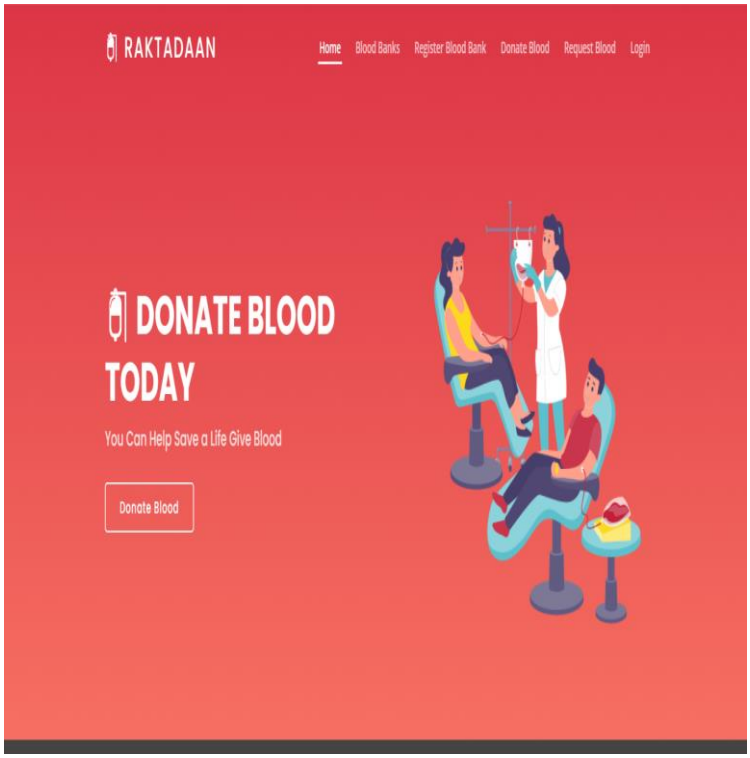

Figure 5- Home Page UI

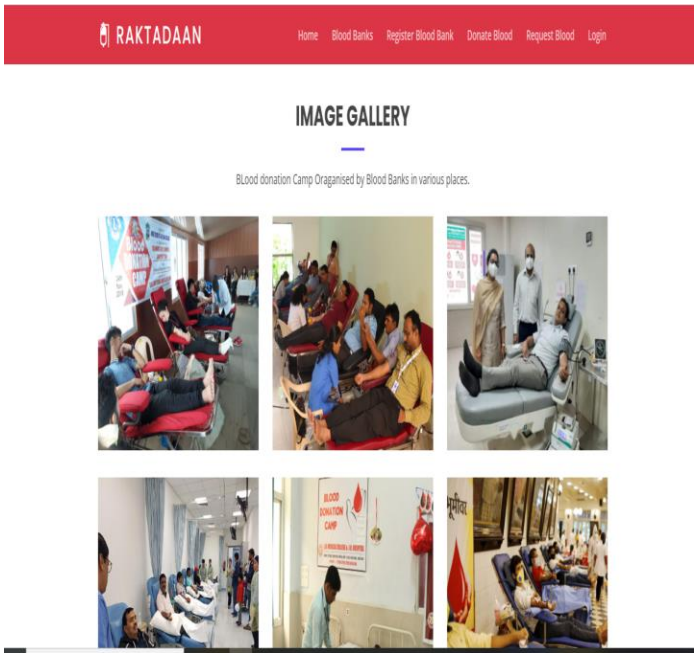

Figure 6- Blood donation gallery

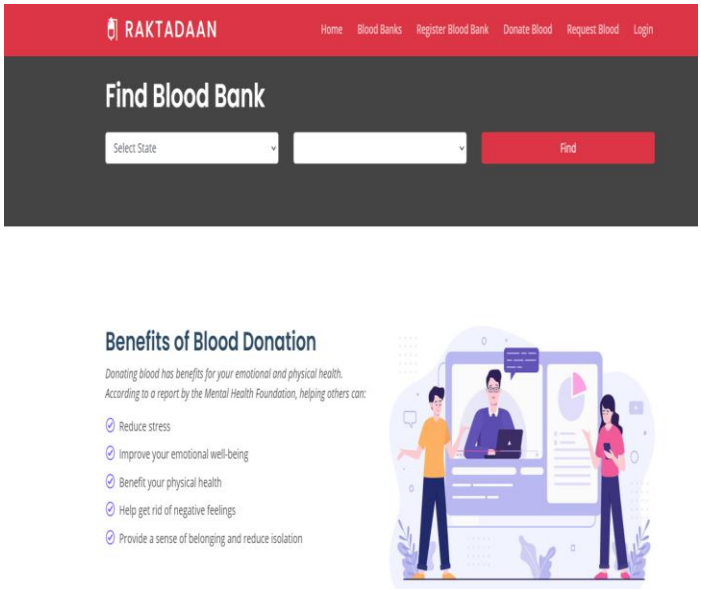

Figure 7- Find blood availability

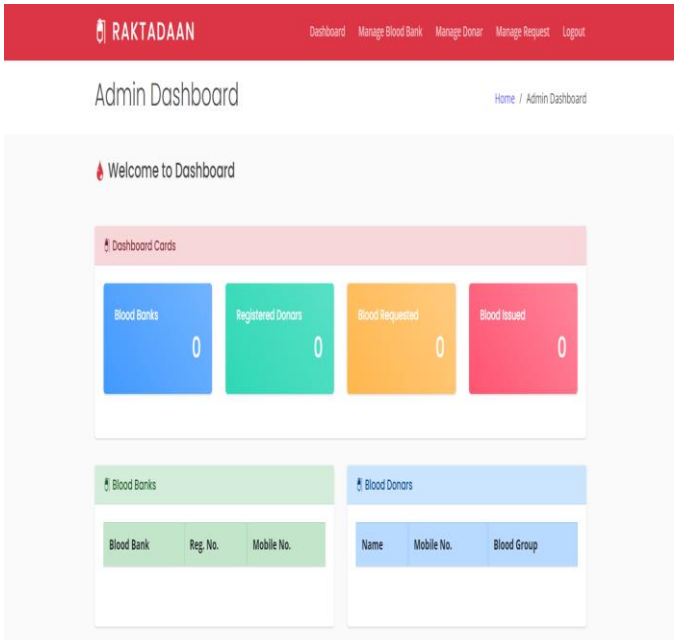

Figure 8- Admin Dashboard

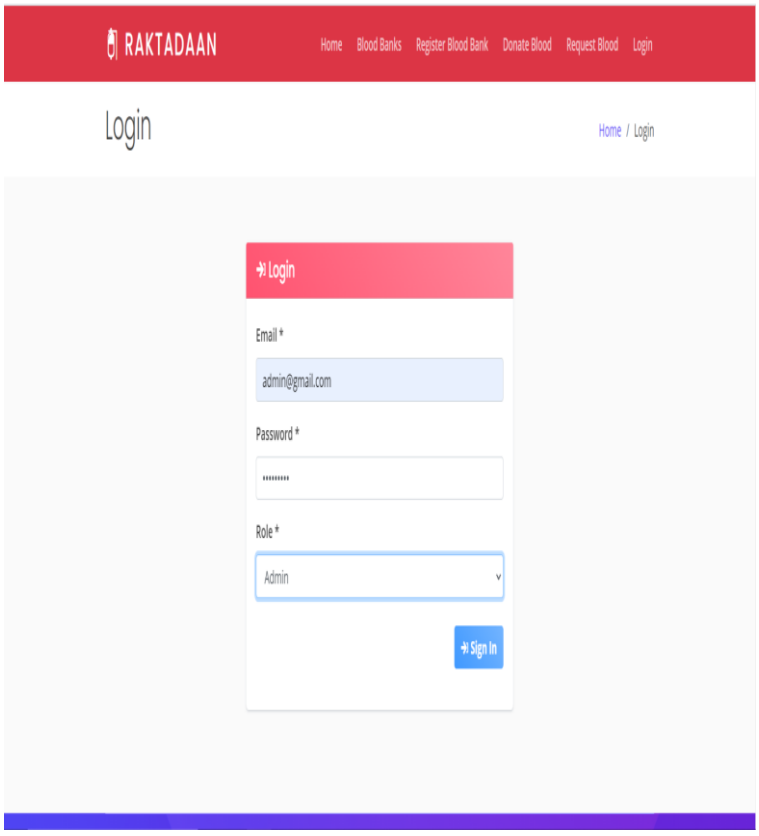

Figure 9- Admin Login

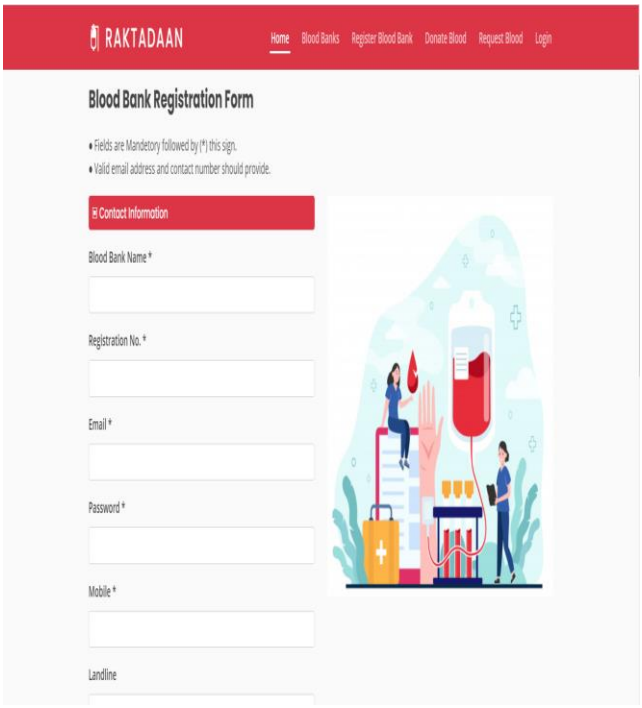

Figure 10- Blood bank registration form

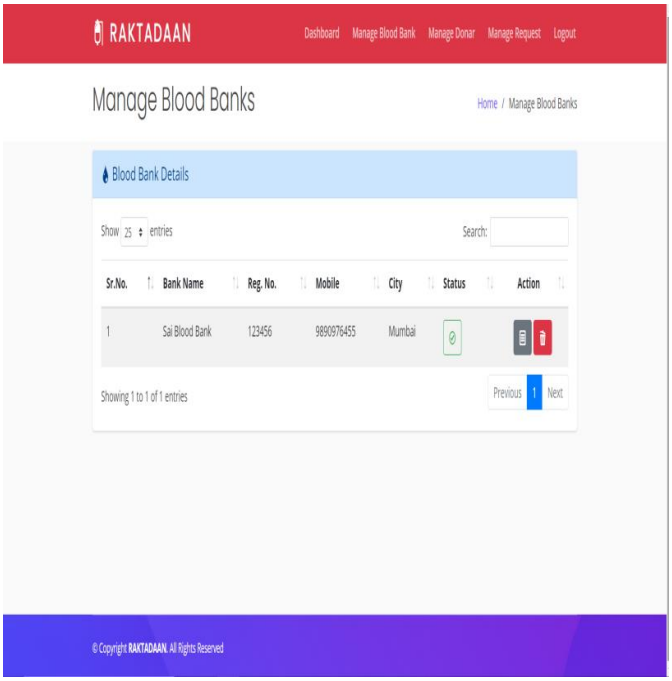

Figure 12- Manage blood ank with status button

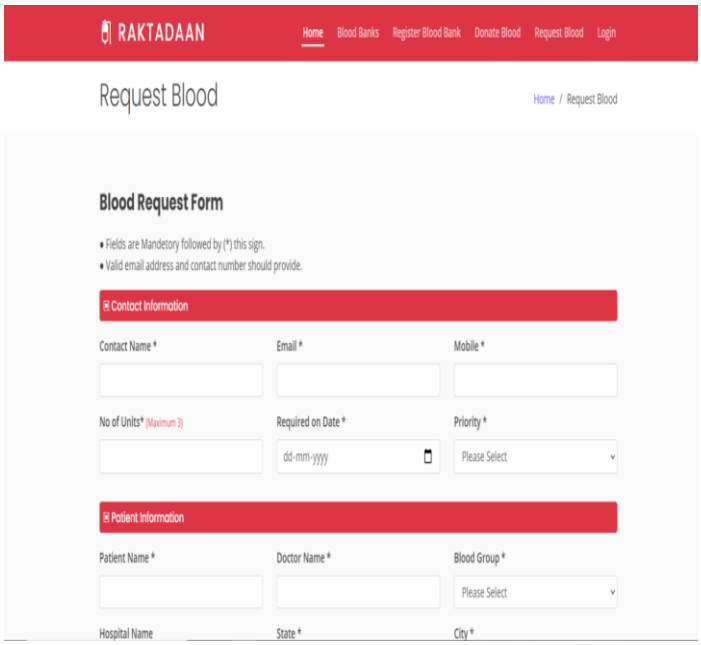

Figure 11- Request Blood

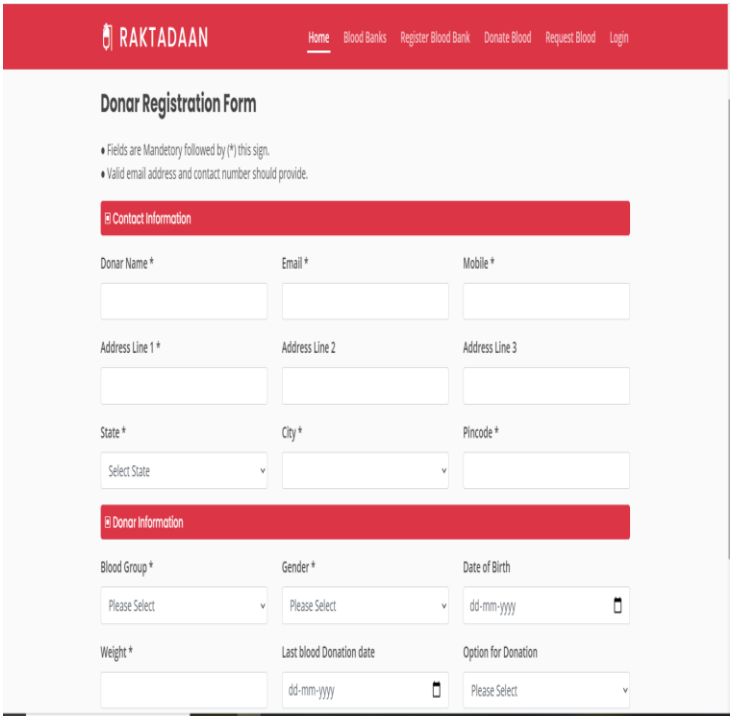

Figure 13- Donor registration

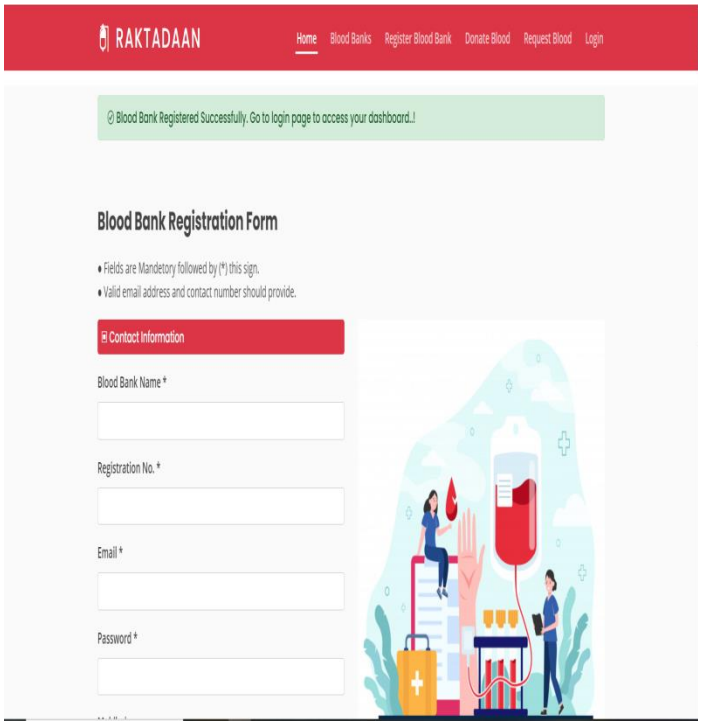

Figure 14- Blood bank registered notification

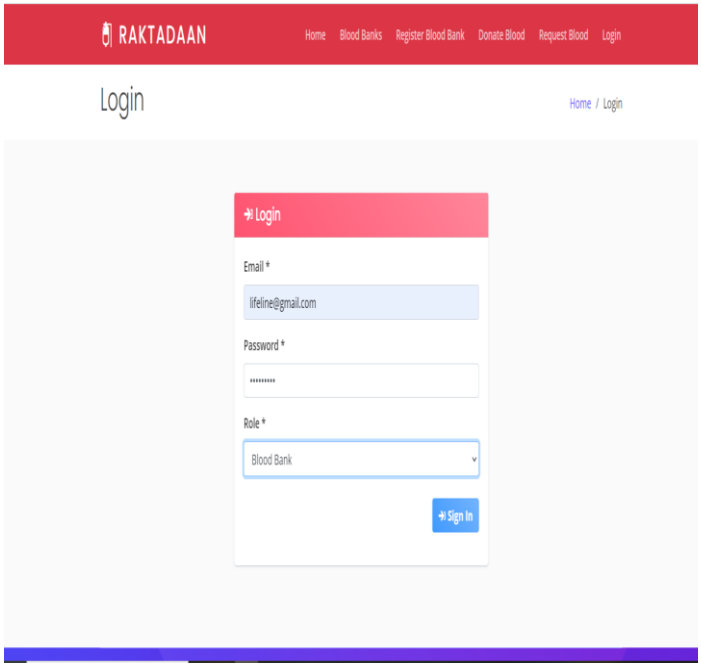

Figure 15- Blood bank login

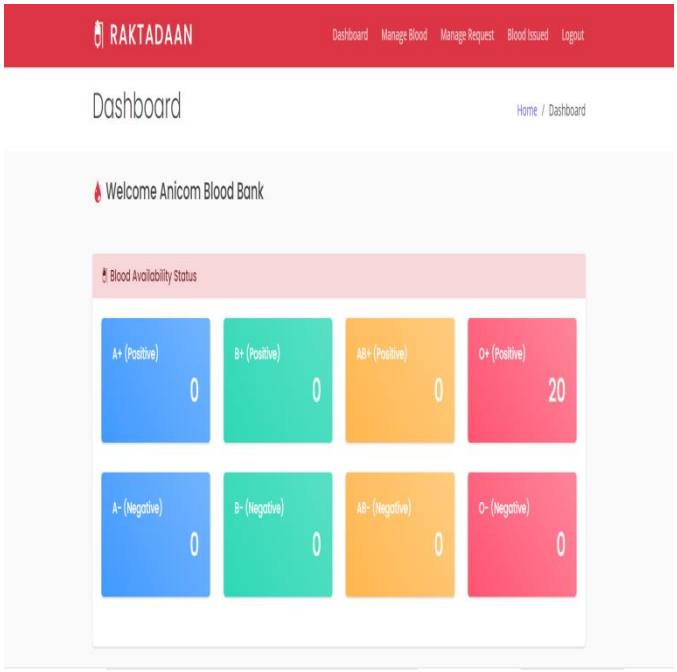

Figure 16- Blood bank dashboard

4. CONCLUSIONS

Advancement in technology is the prime reason that most of the facilities are available easily and quickly in generally all the sectors of life. Similarly, our proposed system is a major advancement in the management of blood which is intended to increase efficiency in the collecting and procuring blood. Automating the process of blood management provides a better and quick response in emergency cases. A proper management system that solves the existing issues is the concerned sector will help restoring the value of life that is currently deteriorating because of blood non- availability. The website provides a very organized medium of communication between the blood blanks and hospitals. In conclusion online blood management system is a simplified solution to the problems in the current blood flow process that tries to remove the hurdles in the path of having top notch as well as smooth transfer of blood.

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