Life Saviour
(Online Blood Bank Portal)

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ABSTRACT

Donating and transfusing blood has been a major problem since years, which has caused several deaths. The primary cause for these deaths is the absence of a coordinated mechanism for blood donation. The traditional ways of collecting blood are still the only acceptable ones in this age of internet and digital operations. We need an automated system. To overcome this problem, we have completed a Project "Life Saviour" that will resolve every problem associated with donating and receiving blood. For keeping the record of the donated blood and to process it we need a compact database, so to keep our data safe, implementation of the database is done using SQLite. The suggested project would give individuals relaxation in moving here and there in search of blood at needed time.

I.   Introduction

Blood is a fluid in the human circulatory system and an essential functional factor for survival. Its various constituent completes different needs of a patient. The term "Blood Bank" refers to a place where blood is collected, tested and stored. In other words, we can say that Blood Bank is a place to fulfill the arising needs of blood in people. It is very important to store blood for future use. And this cannot be achieved by small traces or single person. It requires a combined method and projected strategy to implement the solution. And the solution is online management of blood bank. It is basically a software which will hold the records of the blood bags available at the time of emergency. It is a structured approach for maintaining blood records for avoiding hassle at the time of emergency. This software will keep all the records about donators, donations, receiver, time and date, nearby hospitals, closest blood banks providing ease to both the receivers and donors.

The goal of this software is to keep all the records preserved to avoid any difficulty at the time of requirement because for blood need, we can say that it is not a deal to delay or not a need that can be ignored. As a result, we can save life of the people by donating blood in a short span of time. We have enlightened the project according to WHO recommendations strategy for blood safety and handlings as to develop a productive application that solves the problem faced by both the parties. Nearly every surgical procedure requires blood. The demand for blood is increasing every day, as more and more people require it. Technology has advanced a lot, but there are still problems with insufficient blood supply and demand. Encouraging individuals to donate blood is useless until a suitable blood management system is established. The aim of this project is to provide the public with a single clicking answer to every problem related to giving and receiving blood. This website will allow users to search nearby blood banks to verify the availability of blood and register for blood donations online, all of which may be done online to save time.

By using Life Savior Software, we can easily learn about the blood groups that are currently accessible and how to contact the donors who have the

matched blood group and reside in the same city. For saving a life, the user might request a matching donor if his blood type is absent in the blood bank. By using a location-tracking device like GPS, our website displays the addresses of the closest blood banks and donors in the user's area.
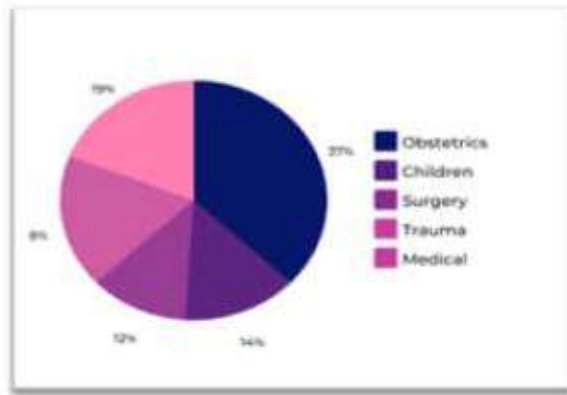

Figure1: State-wise demand analysis

According to Ministry of Health and Family Welfare, total of 3840 licensed blood banks are reported for India in 2022. And they have also reported that 12.7 million units were donated in 2020 which is lesser than projected due to the COVID-19 pandemic and a study envisioned the eligible donor population of India in 2022 at 402 million. In almost every country the requirement is much more than the supply. Reasons for such deficiencies are social ignorance, family disruption and some false notations between society.

2. Literature Review
The blood bank's current administration system focuses on files. By doing this, it is made sure that the data and information about blood, the donor, and the recipient are saved in records and charters. In turn, this makes processing data and archives difficult and time-consuming. Physical papers are also used to document every record of blood donation, receipt, and transmission.

Advantages of Management System in Life Saviour by VikasKulshreshtha and Dr.SharadMaheshwari [3] details the advantages of the management of data framework in blood banks. The data structure for Life Saviour administration is the main focus of the article. It looks at the Life Saviour administration data framework's recipients. The Optimization of Blood Donor Information and Management System by Technopedia by P. Priya and V. Saranya [4] has provided a capable and trustworthy blood donor data and management system based on GIS coordinates in a portable Android application. The benefits provided by the suggested method are valuable to and profitable for the human population. The audit is presented in "Blood Bank Management Information System in India" by Dr. SharadMaheshwari and VikasKulshreshtha [5].

The system indicated above stated that hunting for donors in each location was a curb. Except for rural and agricultural areas, major cities did not experience a significant shortage of blood. Poor people cannot afford data connections. When urgent situations develop, hospitals, patients, and administration may not always be able to reach registered donors since they might not always be available to respond. For the registered donors, there is no proper integrated database. All the data is digitally operated and stored in an organized database. Donors and receivers have to take appointments for the process, and thus have their proper entity in the database. In case of emergency when the receiver is not able to create the profile and take the appointment, hospitals will complete the process of his entry in the database. The system will make sure to provide the details of the nearest hospitals and nearest blood banks, additionally, it will also give information related to the availability of blood in the fetched blood bank details.

3. Method
In today's time, when the technology is emergency rapidly in every field, from IT sector to medical line, using the traditional way of storing blood bank details is not feasible. There is an urgent need of automated blood bank management system.

Life Saviour not only helps in maintaining the database on an online platform but also helps in booking appointments online.
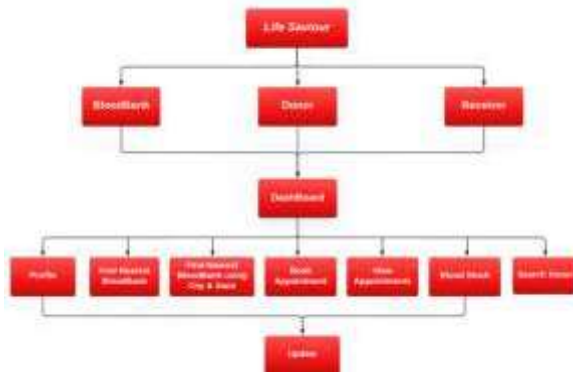2.1 Modules wise structure

Figure 2: modules wise structure diagram

2.2 E-R diagram of Database:

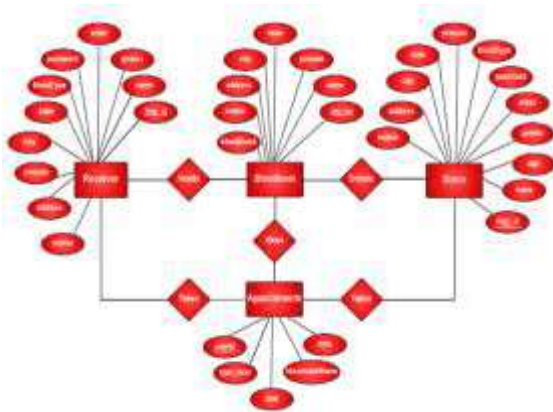We can understand the working of Life Saviour by looking at the following ER diagram.

Figure 2: E-R diagram

2.3: Software & Hardware Requirements

Operating System	Windows, Android, Linus & Mac
RAM	128MB
Browser	Any of Chrome, Mozilla, Edge etc.

4. Working of the Project

Life Saviour is a platform that will ease the processes of donating and receiving blood. There are three main components of Life Saviour- Donor, Receiver and Hospital. Donors can login (or sign up) and book appointments online in their nearby hospitals. He can also download the appointment PDF. Receiver can search for the required blood group in his nearby locations at the time of emergency. Hospitals can register themselves and can add and update the blood bank's status.

This online blood bank management system will be prove as an efficient tool for improving blood donation and distribution processes which is very beneficial for health service providers to access blood instantly ensuring that then patients receive the care they need.

5. Module Description
There are three modules in our project:

4.1 Blood Bank Module:

Blood banks will register itself on our websites. By using the Blood Bank Dashboard, it can create and update its profile. It can manage the following operations:
• Profile
• Update Profile
• Blood Stock
• Update Blood Stock
• View Donor Appointments
• View Receiver Appointments

4.2 Donor Module:

Donor will also register itself using the login (or sign up) options on the website. Donor can perform the following actions:
• Profile
• Update Profile
• Find nearest Blood Bank with pincode
• Find nearest Blood Bank with City and state
• Book an appointment
• View all appointments

4.3 Receiver Module

After registering itself on the website, Receiver can perform the following operations:
• Profile
• Update Profile
• Find nearest Blood Bank with pincode

- Find nearest Blood Bank with City and state
- Book an appointment
- View all appointments
- Search Donor

6. Results

This is an highly effective web based application for emergency services. Providing donors' information that has been sorted by region and blood type, it will be highly helpful in emergency situations To keep track of all the registered records, the system uses a well-maintained database. It will improve the communication between the receiver and the donor. It will help the blood donors to connect to the people who need blood which will make the procedure of finding blood donors and recipients quicker and more accessible.

Figure 3: Home Page, Login & Signup, Add Blood Stock & Update, Book Appointments and Find Bloodbank

7. Conclusion

Technology advancement has played a major role in making facilities easily accessible. Like this, our suggested approach is a significant improvement in blood management that aims to boost the effectiveness of blood procurement and collection. Services provided by this website include profile management, donor login, blood collection status, searching of nearby blood banks and hospital page.

For better and quicker response in emergency situations, thanks to the automation of the blood management process. The worth of life, which is currently declining due to blood scarcity, can be restored with the aid of an effective management system that addresses the sector's current problems.

8. References

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