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RAKT SHODHAK - THE LAST CHANCE TO ENSURE BLOOD BANK AND BLOOD AVAILABILITY

[1]Kajal Kumbhar, [2]Vedant Gangadhar, [3]Vivek Jadhav, [4]Pushkar Bhoite

[1]Student , [2]Student, [3]Student, [4]Student

[1]Department of Computer Engineering,

[1]TSSM's BSCOER Poly, Pune, India

Abstract: In times of emergencies or scheduled medical procedures, timely access to blood is critical for patient care. However, the process of determining blood availability often involves numerous phone calls, paperwork, and delays. This abstract proposes a digital solution to streamline the blood availability checking process. It is a user-friendly web-based application that connects hospitals, blood banks, and donors within a given region. Hospitals and healthcare providers can input blood type requirements and quantities needed, while blood banks can update their inventory in real-time. Donors can register and recipients can contact these donors.

Keywords - **Blood Bank, Frequent Blood, Thalassemia, Online Blood Management, Blood**.

I. INTRODUCTION

We are introducing our innovative online blood bank platform, where the power to save lives is just a click away. This user-friendly interface connects donors with critical needs, ensuring a swift and efficient response to emergencies. Together, we are the heartbeat of hope. A digital haven of hope and compassion. In this interconnected space, donors and recipients converge with a shared mission: to bridge the gap between life and lifesaving.

In a world where medical emergencies and surgeries demand an uninterrupted supply of blood, a robust Blood Bank System emerges as a critical lifeline. This system serves as the backbone of healthcare institutions, ensuring timely access to safe and compatible blood for needy patients. This introduction will delve into the key components and functionalities of a modern Blood Bank System, highlighting its significance in healthcare delivery and life-saving operations.

In modern healthcare systems, the availability of blood-checking services plays a crucial role in patient diagnosis, treatment, and overall healthcare management. This introduction aims to explore the significance of ensuring accessible blood-checking facilities and the implications it holds for healthcare providers and patients alike.

Blood availability is a fundamental aspect of healthcare infrastructure, pivotal in saving lives and improving patient outcomes. This introduction aims to underscore the importance of blood availability and its implications for healthcare systems worldwide.

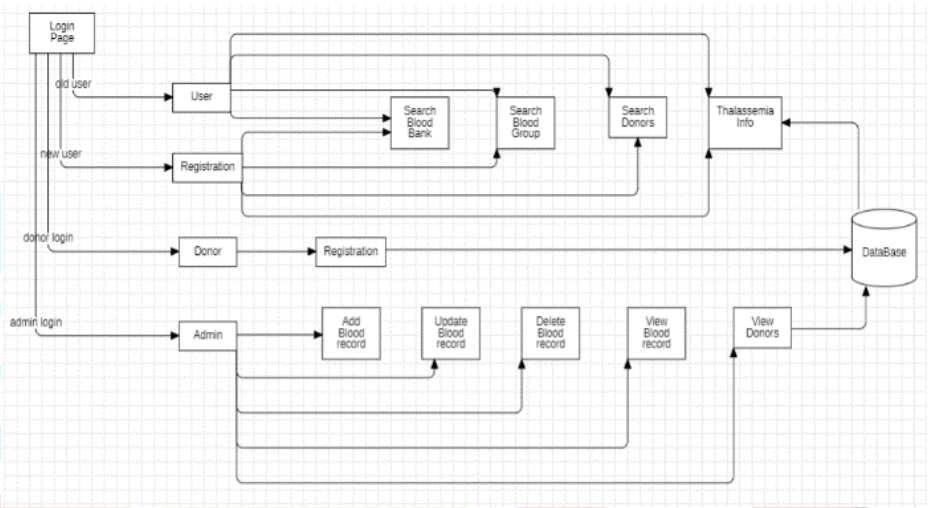
II. PROPOSED SYSTEM

Site which will allow users to know where a particular group is available as well as the stock. Users can also contact the donor who has registered on our site. Immediate Data Availability of the information of patients during accidents, etc.

For such a problem, we are developing a website, where the patient can search hospitals and blood banks, which will also show the available blood group and the amount of stock available. In case, no hospital or blood bank doesn't have blood available. Then they can also contact the registered people on our site, which means they might also help.

Our site also provides the facility of a QR Code, when the user sign in to the site, a QR Code will be generated of the user's information. Users can access that QR Code whenever required. It is designed to help the patients meet the demands of blood by which type of blood or available stock, for patients easy to access in an emergency not only patients it can be hospitals. The proposed system gives the proposed approach to how to bridge the gap between the Donor, Blood Bank, and Recipient.

III. ARCHITECTURE



a: The home page will be the first one, containing links to login/register to this site.

b: Also links to redirect to those pages containing information about blood banks, blood groups, availability, etc.

c: A QR code will be generated from the registered information of users so that it will also help them.

d: During times of accidents, surrounding people can scan the QR code and then the complete information, guide in one place.

e: A thalassemia section is added so that people will be aware of this condition and help its patient.

IV. LITERATURE SURVEY

As per visiting multiple number of times, e- rakhtkosh it is not up to the mark. In panic situations, the website should do its best to provide the checking the availability of blood. He/she should slightly should be provided with all the details that which blood bank is available, and where the blood bank is available.

As in our project, we implemented a unique function of QR Code, which is slightly helpful for more lives. It is the need to save a multiple number of lives.

Users' data are already stored in the desired database. With the help of a QR CODE, an individual can get access to the sign-in page. After the sign-in, an individual can access to user's data.

As visiting or browse and explore the website, we get to know that relevant pages regarding to topic " checking the availability of blood " are not available to go through.

Any other options that are resolving this problem statement are not currently available. Mostly, one website is available in this field.

V. IMPLEMENTATION

a: Front-end -

HTML, CSS, Javascript, BootStrap

HTML pages which are designed using CSS and Bootstrap will accept data from users like donor details, and user details by verifying it using JavaScript.

Users will search blood banks, blood groups, and donors through this front-end.

b: Database –

MySQL

The blood group, blood bank search by user, data from a form of donor, and user will be stored in this database.

When the user will search for a particular thing, the information will be retrieved from the database.

c: Back-end –

Java

The data entered by the user from the front end will be stored in the database, this is done by using Java language.

JSP will take the data from the front end and store it in the database.

While retrieving also, java will help.

VI. METHODOLOGY

➢LOGIC –

The system verifies if blood banks in the specified location have the required blood type in stock.

➢OBSERVATION –

With real-time data on blood supplies, locations, and compatibility, a platform is an invaluable tool for patients, healthcare professionals, and blood banks alike.

➢INTUITION –

Very easy to understand and attractive to users because of the beautiful UI (user interface).

VII. ALGORITHM USED

a: This website uses a variety of algorithms.

Linear Search Algorithm

b: The user can Request information by the search button and the Website responds through Output.

c: They play a vital role in healthcare systems by facilitating blood transfusions and saving lives.

d: Provides availability of blood in blood Banks and hospitals.

e: The user can request information by the search button and the website responds through output.

VIII. THALASSEMIA

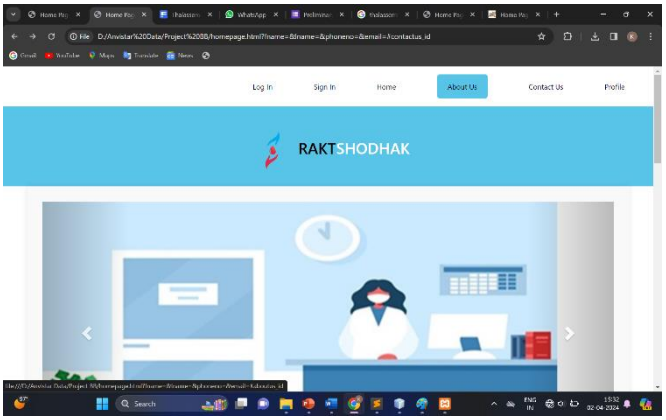
If both the parents are β-Thalassemia carriers then there is a 25% chance that each child will have β-Thalassemia intermediate or β-Thalassemia major, which in most cases leads to death.

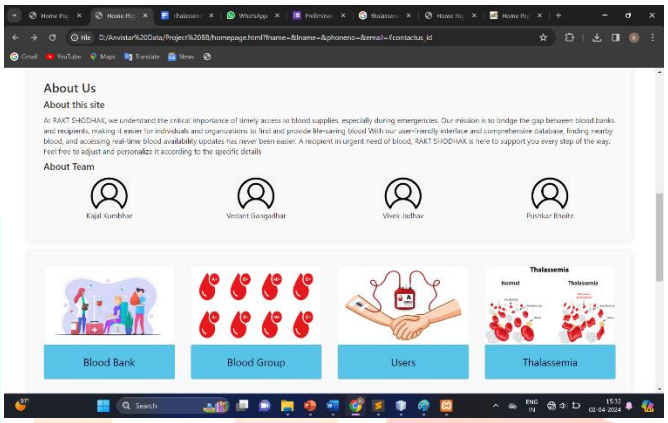
In Thalassemia, hemoglobin level decreases from the normal limit which causes a reduction in the count of productive red blood cells, which may lead to severe anemia.

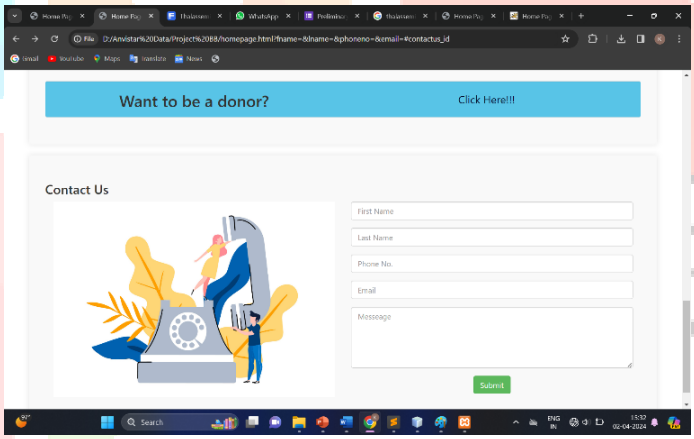
Haemoglobin normally consists of four protein chains, 2-alpha globin and 2-beta globin.

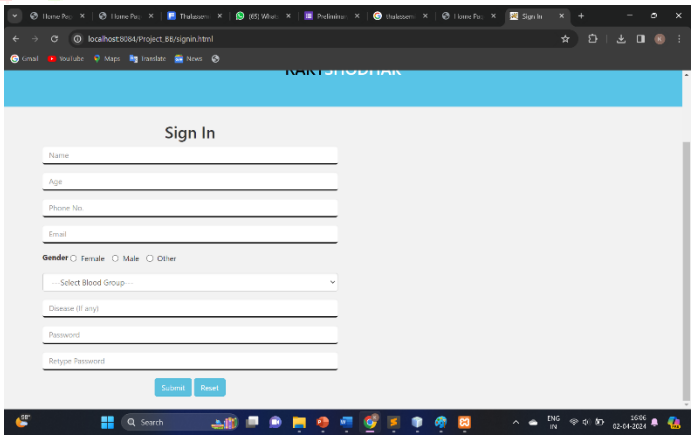
In the late twentieth century first case of Thalassemia was reported and not surprisingly in the Mediterranean region. Major symptoms owned by such patients were a huge spleen, defects in bones, and severe anemia.

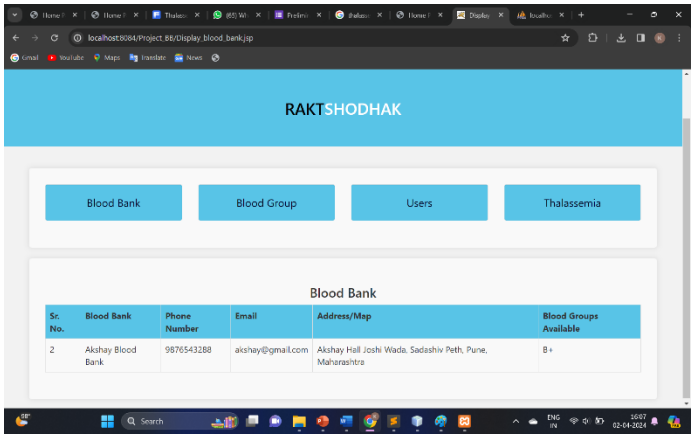
IX. OUTPUT

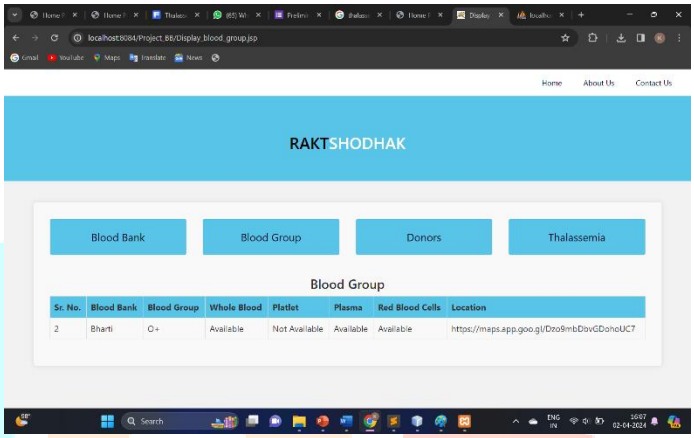

Log In
Sign In
Home
About Us
Contact Us
Profile
RAKTSHODHAK

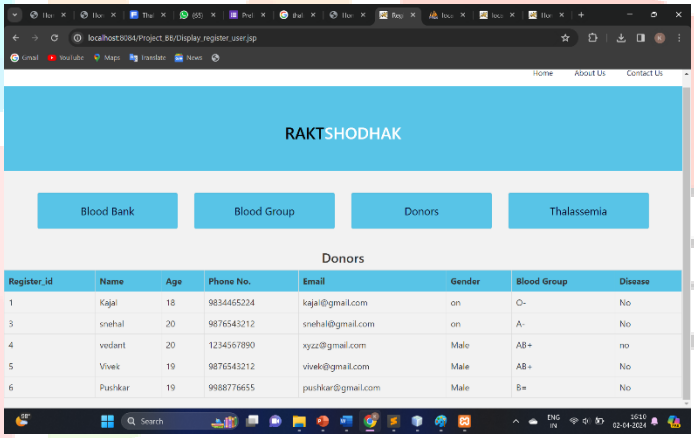

About Us
About this site
About Team
Blood Bank
Blood Group
Users
Thalassemia


Want to be a donor?
Click Here!!!
Contact Us
First Name
Last Name
Phone No.
Email
Message
Submit


Sign In
Name
Age
Phone No.
Email
Gender
Female
Male
Other
Select Blood Group
Disease (If any)
Password
Retype Password
Submit
Reset


localhost:8084/Project_88/Display_blood_bank.jsp
RAKTSHODHAK
Blood Bank
Blood Group
Users
Thalassemia
Blood Bank
Sr. No.
Blood Bank
Phone Number
Email
Address/Map
Blood Groups Available
2
Akshay Blood Bank
9876543288
akshay@gmail.com
Akshay Hall Joshi Wada, Sadashiv Peth, Pune, Maharashtra
B+


localhost:8084/Project_88/Display_blood_group.jsp
Home
About Us
Contact Us
RAKTSHODHAK
Blood Bank
Blood Group
Donors
Thalassemia
Blood Group
Sr. No.
Blood Bank
Blood Group
Whole Blood
Platlet
Plasma
Red Blood Cells
Location
2
Bharti
O+
Available
Not Available
Available
Available
https://maps.app.goo.gl/Dzo9mbDbvGDohoUC7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Home
About Us
Contact Us
RAKTSHODHAK
Blood Bank
Blood Group
Donors
Thalassemia
Donors
Register_id
Name
Age
Phone No.
Email
Gender
Blood Group
Disease
1
Kajal
18
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on
O-
No
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snehal
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on
A-
No
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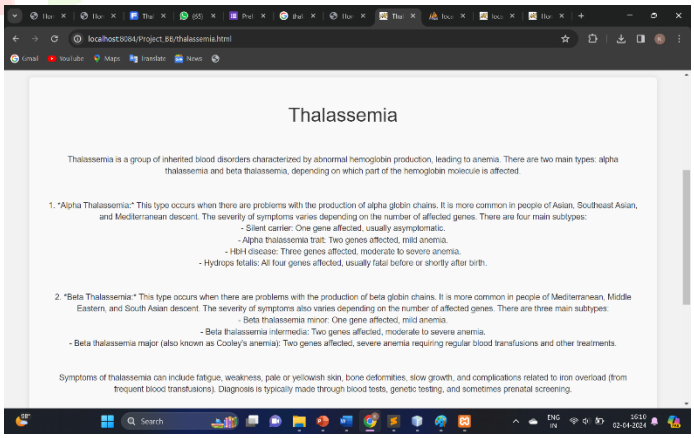
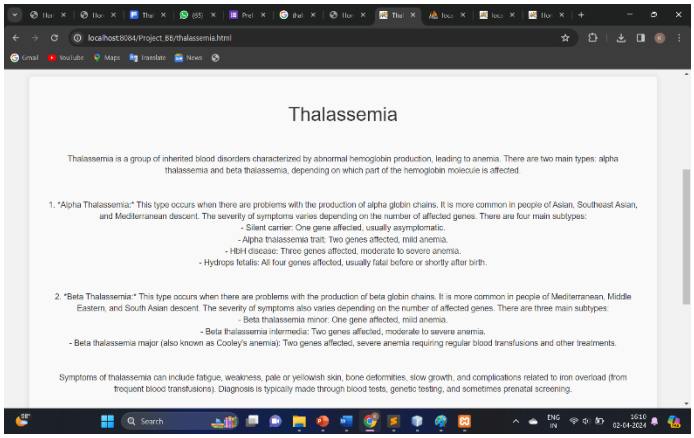
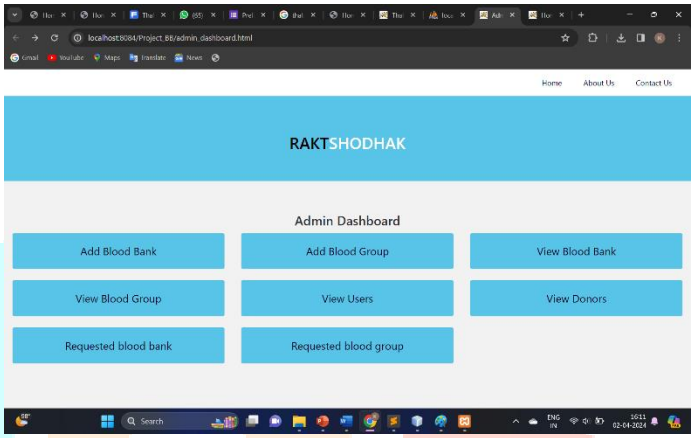
No


localhost:8084/Project_88/thalassemia.html
Thalassemia
Thalassemia is a group of inherited blood disorders characterized by abnormal hemoglobin production, leading to anemia. There are two main types: alpha thalassemia and beta thalassemia, depending on which part of the hemoglobin molecule is affected.
1. *Alpha Thalassemia:* This type occurs when there are problems with the production of alpha globin chains. It is more common in people of Asian, Southeast Asian, and Mediterranean descent. The severity of symptoms varies depending on the number of affected genes. There are four main subtypes:
- Silent carrier: One gene affected, usually asymptomatic.
- Alpha thalassemia trait: Two genes affected, mild anemia.
- HbH disease: Three genes affected, moderate to severe anemia.
- Hydrops fetalis: All four genes affected, usually fatal before or shortly after birth.
2. *Beta Thalassemia:* This type occurs when there are problems with the production of beta globin chains. It is more common in people of Mediterranean, Middle Eastern, and South Asian descent. The severity of symptoms also varies depending on the number of affected genes. There are three main subtypes:
- Beta thalassemia minor: One gene affected, mild anemia.
- Beta thalassemia intermedia: Two genes affected, moderate to severe anemia.
- Beta thalassemia major (also known as Cooley's anemia): Two genes affected, severe anemia requiring regular blood transfusions and other treatments.
Symptoms of thalassemia can include fatigue, weakness, pale or yellowish skin, bone deformities, slow growth, and complications related to iron overload (from frequent blood transfusions). Diagnosis is typically made through blood tests, genetic testing, and sometimes prenatal screening.





X. Conclusion

A platform serves as a crucial resource for patients, healthcare providers, and blood banks alike, offering real-time information on blood stocks, locations, and compatibility.

It ultimately saves lives by ensuring that vital blood supplies are efficiently managed and accessible to those who need them most.

By providing a centralized and easily accessible resource, such a platform enables efficient coordination between donors, recipients, and blood banks.

XI. Acknowledgment

I have great pleasure in presenting this Project Report on " RAKT SHODHAK " and expressing my deep regards towards those who have offered valuable time and guidance in our hour of need. I would like to express our sincere and wholehearted thanks to my project guide & Head of the department Prof. Shete S.S. for contributing valuable time, knowledge, and experience and providing valuable guidance in making this project a success.

I am also glad to express my gratitude and thanks to our Principal Dr. N.B.Kardekar Sir for their constant inspiration and encouragement. Finally, before ending I would like to express once again my gratitude and thanks to all my friends who are involved directly and indirectly in making our project a success.

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