PROBLEM STATEMENT

Problem Title:
A Transparent Blood Donation Ecosystem for Timely Patient Care
Problem Description:
Accessing timely blood availability information is crucial for patient care. A transparent platform connecting blood banks and seekers is needed to provide real-time data on blood types and quantities. This solution ensures seamless communication between blood banks and hospitals, prioritizing data integrity and leveraging technologies like blockchain for trust and transparency.

BLOOD BRIDGE

Blood Bridge is a unique platform designed to bridge the gap between blood donors and those in need, offering several compelling advanced algorithms to facilitate real-time matching between blood donors and recipients, ensuring timely access to life-saving blood transfusions.

Key features and functionalities of the proposed solution include:

- Blood Donation Rewards Program: Implement a rewards program where donors earn points or virtual badges for each donation. These points can be redeemed for discounts at partner stores, exclusive access to events, or even charitable donations to causes of their choice.

- Donor Community Engagement: Create an interactive online community where donors can connect with each other, share their donation experiences, and provide support and encouragement to fellow donors. This platform could include forums, chat rooms, and social media integration to facilitate communication and camaraderie among donors.

- Integration with Health Wearables: Partner with health wearable device manufacturers to integrate blood donation tracking features into their products. Donors could track their vital signs, hydration levels, and recovery progress before and after donations, ensuring they are in optimal condition to donate safely.

- Blood Drive Coordination Tools: Develop tools and resources to help organizations and individuals organize and promote blood drives more effectively.

- Transparency and Accountability: Blood Bridge operates with transparency and accountability, providing transparent information about blood donation needs, utilization, and impact, ensuring trust and credibility among users.

TECH-STACK

- Frontend Web Development
    1. HTML
    2. CSS
    3. JAVASCRIPT
- BACKEND: FIREBASE
- API (Application Programming Interface)
- We plan to use **JAVA** and **MongoDB** in the future as our backend and database solution providing flexibility for storing data of the users.

PROGRESS

For the progress of our blood donation platform, we,

- Created the design and layout of our website
- Using technologies like HTML, CSS, JAVASCRIPT, we created a user-friendly platform
- Started building webpages for better user experience
- Allowed users to create their accounts on our website by signing up

- Stored these details using FIREBASE backend service by Google
- Created a CHATBOT for efficient user experience
- Provided information about various blood safety and transfusions through blood compatibility chart

CHALLENGES FACED:

Creating a blood donation website came with various challenges, including technical, logistical, and regulatory obstacles:

- Generating and handling high traffic on the website
- Storing a large amount of users' details in the database
- Figuring out an optimal layout for users to interact with the website efficiently
- Getting an automated response from the chatbot using API
- Adapting to evolving technologies, user needs and implementing them