

MERN Stack Blood Bank Website

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Abstract: *This paper is focused on Blood bank and donor management system using modern engineering which is a modern React application named Rudhiram. Rudhiram is a web-based application which creates a link between donor and patients who needs blood. Rudhiram is built on using modern java-script front-end framework React.js, with modern state management tools like Redux and uses Node (Express.js) for back-end with new-age database like MongoDB. Rudhiram provides donors a list of nearby blood camps from its database where a person can schedule a visit and donate blood easily with no paperwork. Rudhiram also provides a list of nearby hospitals and users from its database who can provide and donate blood respectively, when a patient needs the blood of a particular type with an advanced searching algorithm it also checks for compatible blood type in hospitals and registered user too. Rudhiram provides an easy registration process for hospitals, blood banks, and blood camps with self-created API. Users can register on Rudhiram using the sign-up form, google using OAuth and can update their profile and also check their schedules and history of donated blood if, donated to get help in future. Rudhiram also provides email, message, and location services using Google-API or third-party applications for all registered hospitals, blood camps, and users so that they can be contacted when needed. It also provides a search option for users in the same state and an article page where blood information is displayed. Rudhiram can also provide the data in a categorized and standard form for further data mining which can be useful for blood camps awareness etc. The goal of this paper and web application is to reduce the latency in the process of blood donation by reducing the complexity of the management system and making blood donation and finding blood donors a smooth process.*

Keywords: Online blood donation, React.js, Redux, Restful API, Node, Mailing, Express.js, OAuth, Google, Web application, Cloud Computing, Data Analysis, JSX

REFERENCES

- [1]. React JS framework available at <https://reactjs.org/>.
- [2]. Redux State management tool available at <https://redux.js.org/>.
- [3]. Node (Express.js) for back-end available at <https://nodejs.org/en/>.
- [4]. MongoDBNoSQL database available at <https://www.mongodb.com/>.
- [5]. A Survey on Blood Bank Management System by Prof. AnimeshTayal, HarshadGahare, Akshay Patel, Sagar Jog, Pratik Jain Dhawale Department of Computer Science & Engineering S. B. Jain Institute of Technology, Management and Research, Nagpur. IJRTER ISSN: 2455-1457 available at [<https://www.ijrter.com/papers/volume3/issue1/blood-bank-managementsystem.pdf>].
- [6]. "CBBR Centralised Blood Bank Repository" by Ibrahim FawzeAkar, TukurAnas Mohammad, Mohammad Ismail Z. IJISE Vol. 3 (No.1), April, 2015 available at [<https://www.ftms.edu.my/journals/pdf/IJISE/ Apr2015/85-97.pdf>].
- [7]. Blood Donation Management System" by KM Akkas Ali, IsratJahan, Md. Ariful Islam, Md. Shafa-at pravez. AJER Volume-4, Issue6, pp-123-136 available at [[http://www.ajer.org/papers/v4\(06\)/O0460123](http://www.ajer.org/papers/v4(06)/O0460123)]