

# Blood Donation Management System

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<https://doi.org/10.55041/ijstmt.v2i5.443>

**Cite this Article:** Rai, D., Dhurvey, B., Dhurvey, I. & Swetakriplani, (2026). Blood Donation Management System. International Journal of Science, Strategic Management and Technology, 02(05). <https://doi.org/10.55041/ijstmt.v2i5.443>

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## Abstract-

The Blood Donation Management System is a web-based application designed to manage blood donors, blood availability, and emergency blood requests efficiently. The main purpose of this project is to provide a fast and reliable platform for connecting blood donors with patients and hospitals. The system helps reduce delays in finding suitable blood groups during emergency situations.

This project is developed using HTML, CSS, JavaScript, PHP, and MySQL database technologies. Donors can register their details, and users can search for required blood groups easily. The admin manages donor records, blood requests, and blood stock information through the system.

The proposed system reduces manual work, improves data management, and increases communication between donors and receivers. It is user-friendly, secure, and efficient for real-time blood donation management. The system can be further improved with mobile applications, GPS tracking, and notification features for better performance and accessibility.

## I. INTRODUCTION

Blood Donation Management System is a web-based application used to manage blood donors, blood requests, and blood availability efficiently. The system helps hospitals and patients quickly find required blood groups during emergencies. It reduces manual work and improves communication between donors and receivers.

This system maintains donor information such as blood group, contact details, and location in a centralized database. It also improves transparency and saves valuable time in emergency situations. The project is designed to provide fast, reliable, and secure blood management services through an online platform.

## II. LITERATURE REVIEW

Many existing blood bank systems use online databases and web applications for donor management. Previous studies show that digital blood donation systems help in fast blood searching, donor tracking, and emergency response. Technologies like PHP, MySQL, and cloud databases are commonly used for developing such systems.

Researchers have focused on improving blood availability and reducing delays during emergencies. Some systems also provide SMS and email notifications to donors. The literature study shows that online blood bank systems are more efficient compared to traditional manual methods.

## METHODOLOGY

The system is developed using HTML, CSS, JavaScript, PHP, and MySQL. Main steps:

1. Donor Registration
2. Login Authentication
3. Blood Search
4. Blood Request Management
5. Database Storage
6. Admin Monitoring

The system stores donor details and displays matching blood groups when searched. The admin can manage donor records, blood requests, and available stock. Data is securely stored in the database for easy access and management. The website interface is designed to be simple, responsive, and user-friendly.

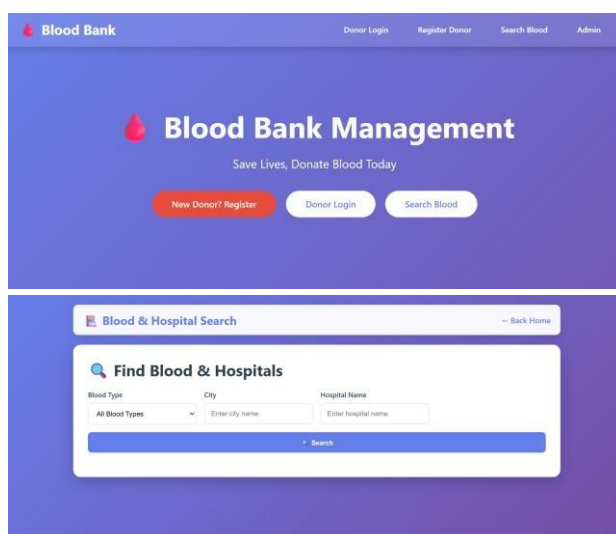
## III. RESULTS AND DISCUSSION

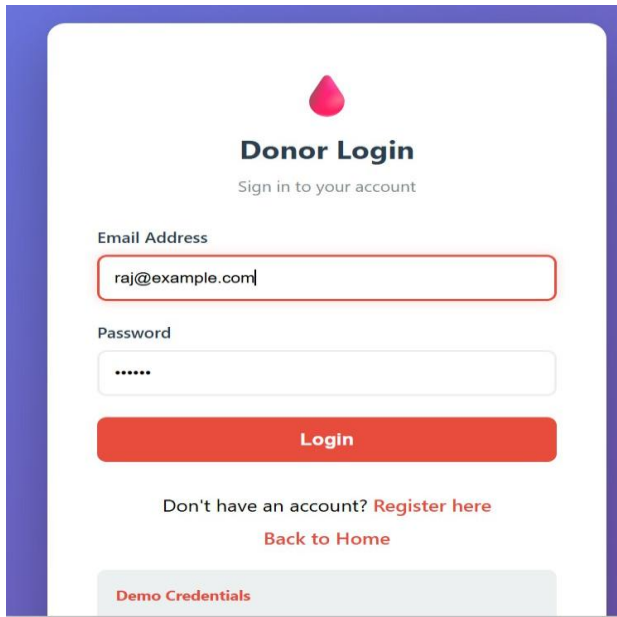
The developed system successfully manages donor records and blood requests. Users can easily search available blood groups and contact donors quickly. The project reduces time consumption and improves emergency blood management. The website is user-friendly and efficient for hospitals and patients. Testing results show that the system performs accurately in storing and retrieving donor data. It minimizes paperwork and improves data organization. The discussion concludes that the online system is faster and more reliable than manual blood bank management systems.

blood donation and encourages voluntary donors to participate. The system improves efficiency, data management, and emergency response. Future improvements may include AI-based donor recommendations and real-time notifications.

## ACKNOWLEDGMENT

We would like to express our sincere gratitude to the faculty members of the Department of Computer Science & Engineering, Shri Ram Institute of Technology, Jabalpur, for their valuable guidance and support throughout the completion of this minor project. We are especially thankful to the Faculty In-Charge for providing us with the opportunity to work on this project and for motivating us to explore practical aspects of web development. We also extend our thanks to our friends and family members for their constant encouragement and cooperation





#### IV. CONCLUSION

The Blood Donation Management System provides a simple and effective solution for blood management. It helps save time during emergencies and improves communication between blood donors and receivers. The system can be further enhanced with mobile applications and GPS tracking features. This project also increases awareness about

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