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Blood Bank Management System Using Software Logistics

Dr. Ashmi Chakraborty[1], Intekhab Hussain[2], Lipika Mandal[3], Sumanta Karmakar[4]
Ankita Mondal[5], Ishita Sharma[6]
Assistant Professor[1, 2, 3, 4], Student[5,6]
Asansol Engineering College
Corresponding Author's E-mail: *sumantakarmakar799@gmail.com*

Abstract

The purpose of this study was to develop a Blood Bank Management system to assist in the management of blood donor records and ease/or control the distribution of blood in various parts of the country basing on the medical demands or needs. Without quick and timely access to donor records, creating market strategies for blood donation, lobbying and sensitization of blood donors becomes very difficult. The Blood Bank Management system offers functionalities to quick access to donor records collected from various parts of the country. It enables monitoring of the results and performance of the blood donation activity such that relevant and measurable objectives of the organization can be checked. It provides to management timely, confidential and secure. The reports generated by the system give answers to most of the challenges management faces as far as blood donor and patient records are concerned.

The proposed of Blood Bank Management website helps the people who are in need of a blood by giving them all details of blood group availability or regarding the donors with the same blood group. They don't need to hassle every wherein search of the blood in need. They just need to use this website then all the result will appear within the couple of second. Our life is so busy, and during a medical emergency it would very risky to waste even a minute, so we definitely won't have time to hassling here and there, we can use this technical way to search the desired blood by using the Blood Bank Management we can find thousands of people who are donating the blood and

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also get the detail the of that person that in which city he belongs to and what is their Blood group of that person along with the unit of blood available. So in such time where world is already dealing with the pandemic, this website can be useful to settle down the risks of deaths due to unavailability or late arrival of blood.

Keywords: - *Blood Bank Management System,* Software Logistics, Donating the blood, Blood Group

INTRODUCTION

The software system is an online Blood Bank Management website that helps in managing various blood bank operations effectively. The project consists of a central repository containing various blood deposits available along with associated details. These details include detail of donor and patient, blood group type, storage area (unit of blood available in particular blood group type), the current medical status of donor as well. These details help in maintaining and monitoring the blood deposits.

The project is an online system that allows to check weather required blood deposits of a particular group are available in the blood bank system or not. Moreover, the system also has added features such as patient name, donor name and contacts information such as contact number and city concerned, Patient can request blood in case of an emergency and if there is enough blood as required by the donor is there, also if the cause of need of blood is justified then the admin can approve their request.

In today's time where world is dealing with pandemic already, and death is becoming very time dependent, this system can help in a lot more ways in the process to save a life.

FEASIBILITY

1. Feasibility Study

A feasibility study is a high-level capsule version of the entire System analysis and Design Process. The study begins by classifying the problem definition. Feasibility is to determine if it's worth doing. Once an acceptance problem definition has been generated, the analyst develops a logical model of the system. A search for alternatives is analysed carefully.

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There are 3 parts in feasibility study.

a) Operational Feasibility
b) Technical Feasibility
c) Economical Feasibility

Operational Feasibility

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to development schedule, delivery date, corporate culture and existing business processes. To ensure success, desired operational outcomes must be imparted during design and development. These include such design-dependent parameters as reliability, maintainability, supportability, usability, producibility, disposability, sustainability, affordability and others. These parameters are required to be considered at the early stages of design if desired operational behaviours are to be realised. A system design and development require appropriate and timely application of engineering and management efforts to meet the previously mentioned parameters. A system may serve its intended purpose most effectively when its technical and operating characteristics are engineered into the design. Therefore, operational feasibility is a critical aspect of systems engineering that needs to be an integral part of the early design phases.

Technical Feasibility

This involves questions such as whether the technology needed for the system exists, how difficult it will be to build, and whether the firm has enough experience using that technology. The assessment is based on outline design of system requirements in terms of input, processes, output, fields, programs and procedures. This can be qualified in terms of volume of data, trends, frequency of updating in order to give an introduction to the technical system. The application is the fact that it has been developed on windows XP platform and a high configuration of 1GB RAM on Intel Pentium Dual core processor. This is technically feasible. The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of the hardware and software and how it meets the need of the proposed system.

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Economical Feasibility

Establishing the cost-effectiveness of the proposed system i.e. if the benefits do not outweigh the costs then it is not worth going ahead. In the fast paced world today there is a great need of online social networking facilities. Thus the benefits of this project in the current scenario make it economically feasible.

The purpose of the economic feasibility assessment is to determine the positive economic benefits to the organization that the proposed system will provide. It includes quantification and identification of all the benefits expected. This assessment typically involves a cost/benefits analysis.

2. Functionality

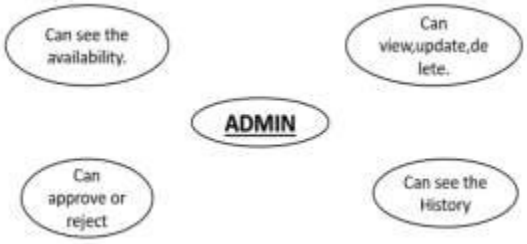


Figure1: Functions of Admin.

Admin

- After Login, can see Unit of blood of each blood group available, Number of Donor, Number of blood request, Number of approved request, Total Unit of blood on Dashboard.
- Can View, Update and Delete Donor.
- Can View, Update and Delete Patient.
- Can View Donation Request made by donor and can approve or reject that request based on disease of donor.
- If Donation Request approved by admin then that unit of blood added to blood stock of that blood group.
- If Donation Request rejected by admin then 0 unit of blood added to stock.
- Can View Blood Request made by donor / patient and can approve or reject that request.
- If Blood Request approved by admin then that unit of blood reduced from blood stock of that blood group.
- If Blood Request rejected by admin then 0 unit of blood reduced from stock.
- Can see history of blood request.
- Can Update Unit of Particular Blood Group.

Donor

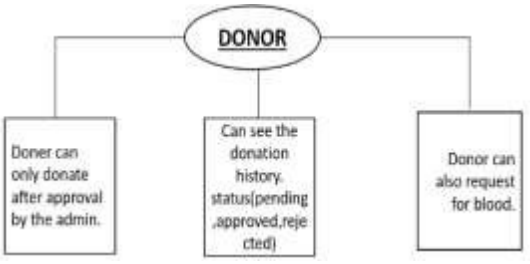


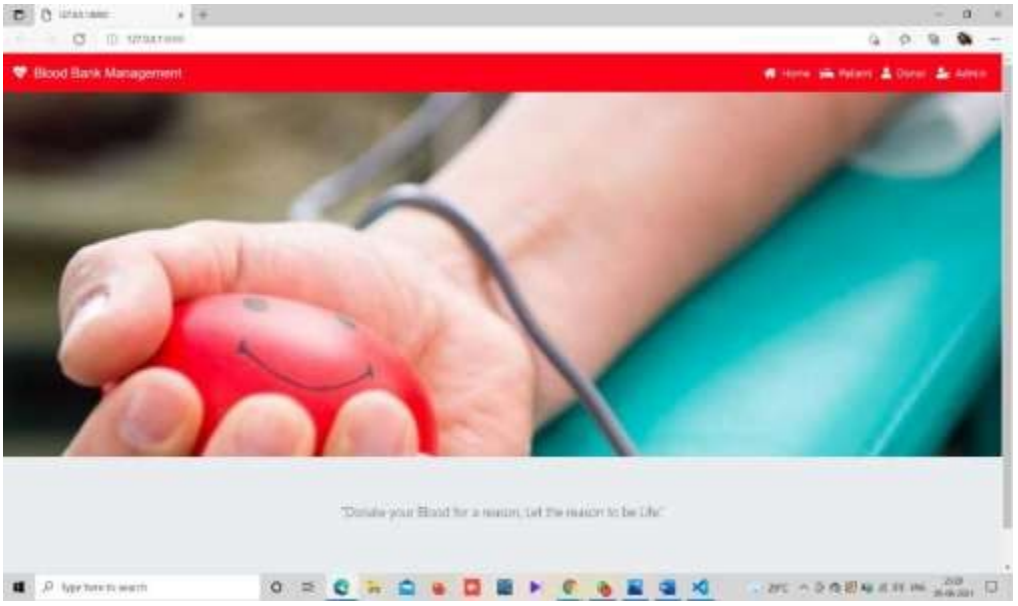
Figure 2: Function of Donor

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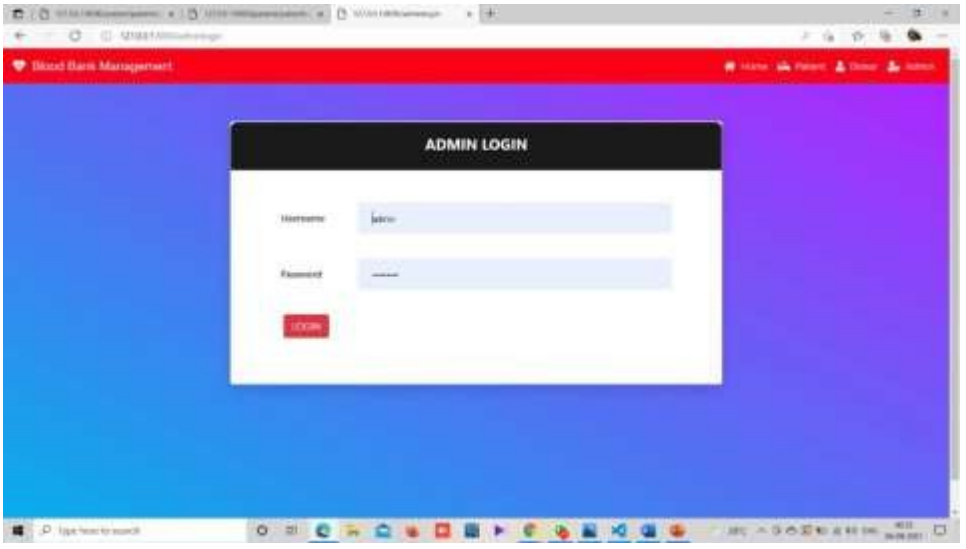
- Create account (No Approval Required by the Admin, Can Login After Signup)
- After Login, can see number of blood request Made, Approved, Pending, Rejected by Admin on their dashboard.
- Patient can request for blood of specific blood group and unit from blood stock.
- Patient can see their blood request history with status (Pending, Approved, Rejected).

IMPLEMENTATION

Homepage

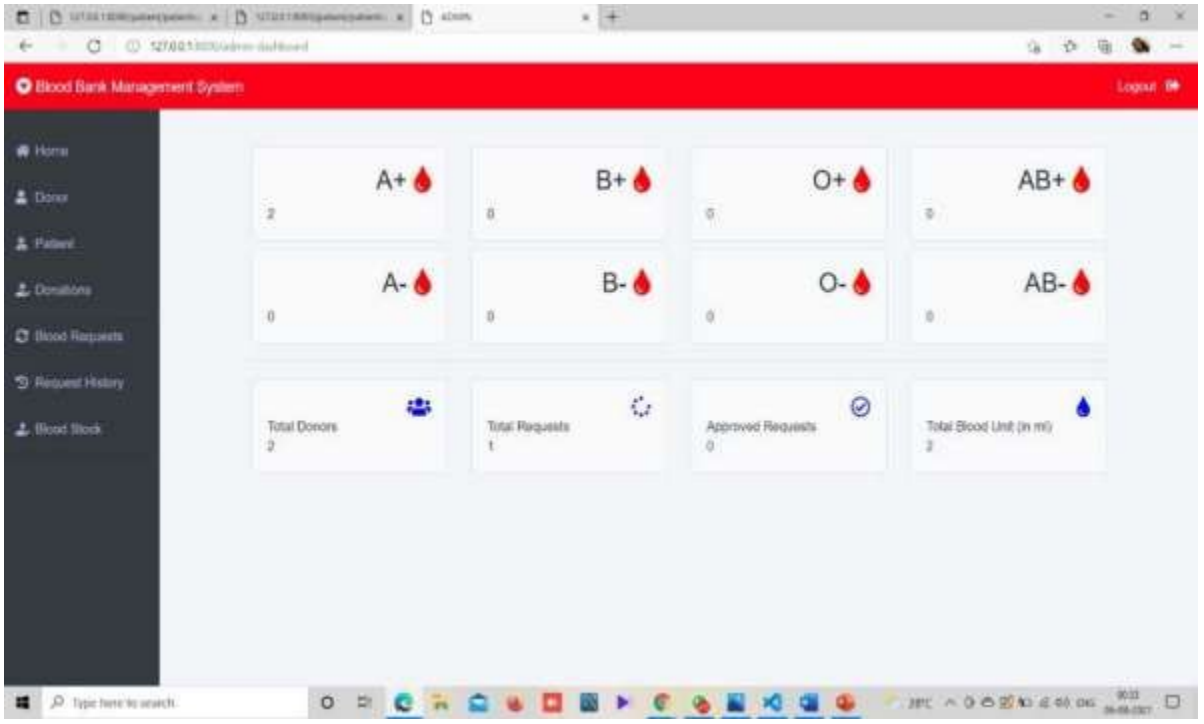


Admin Login



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Dashboard

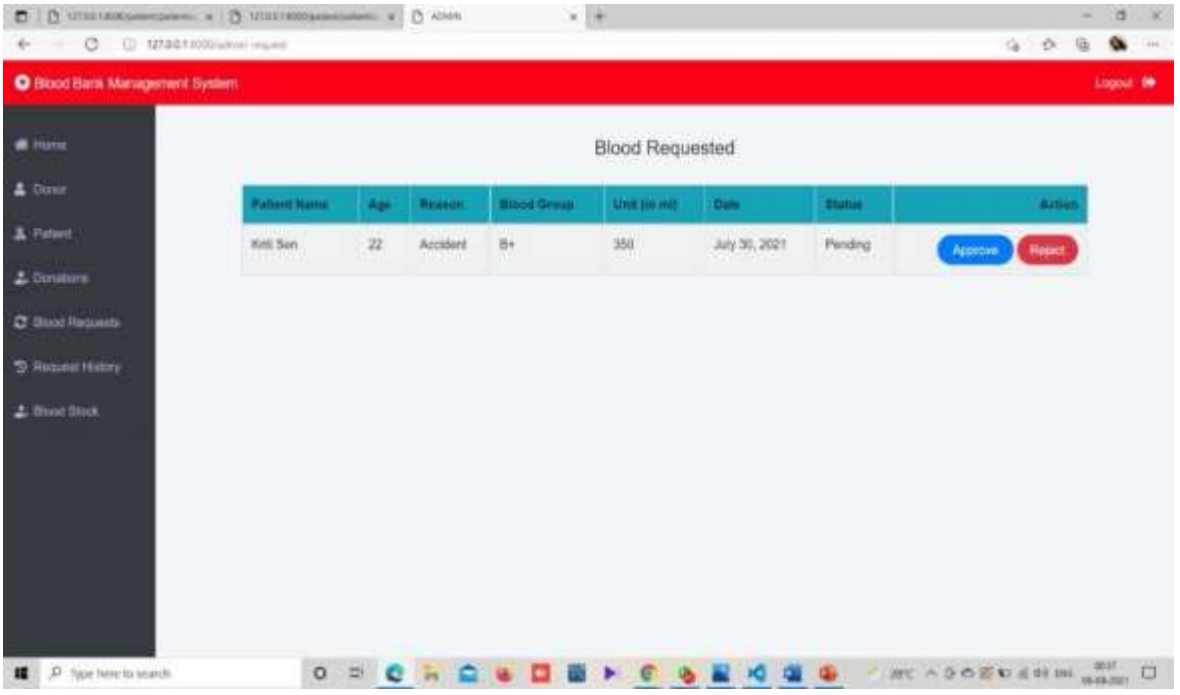


Blood Donation Details

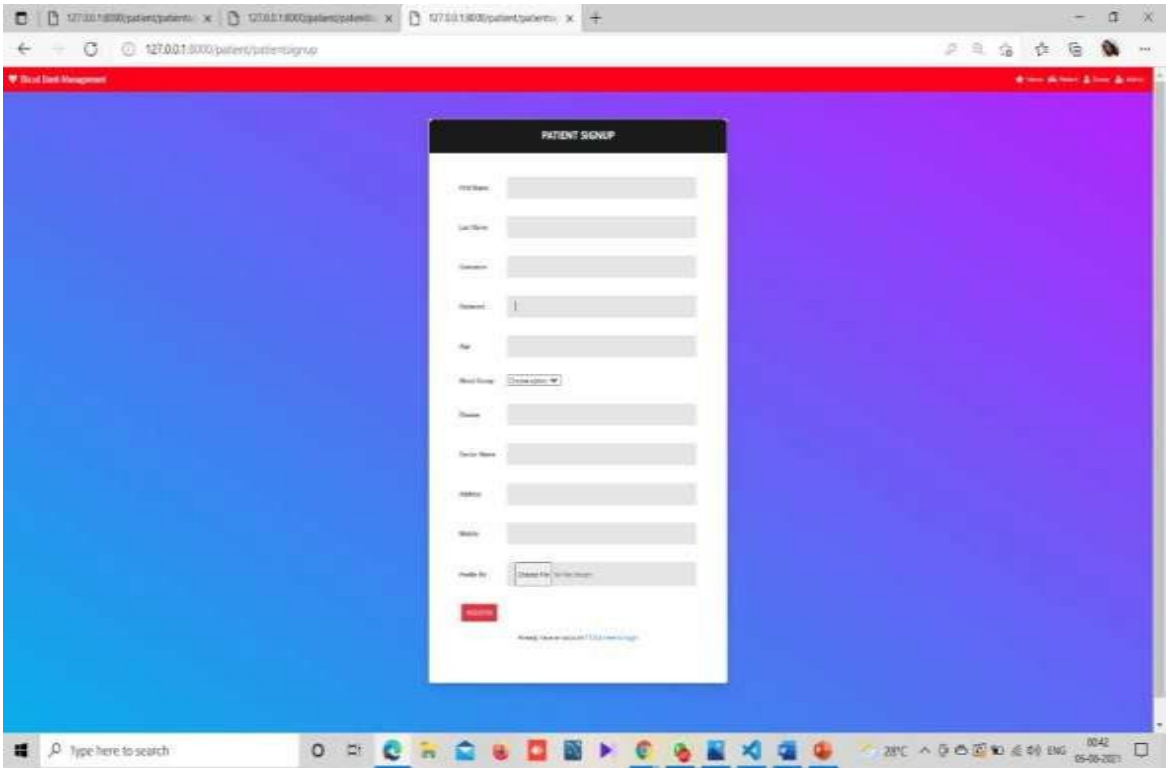


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Blood Requested

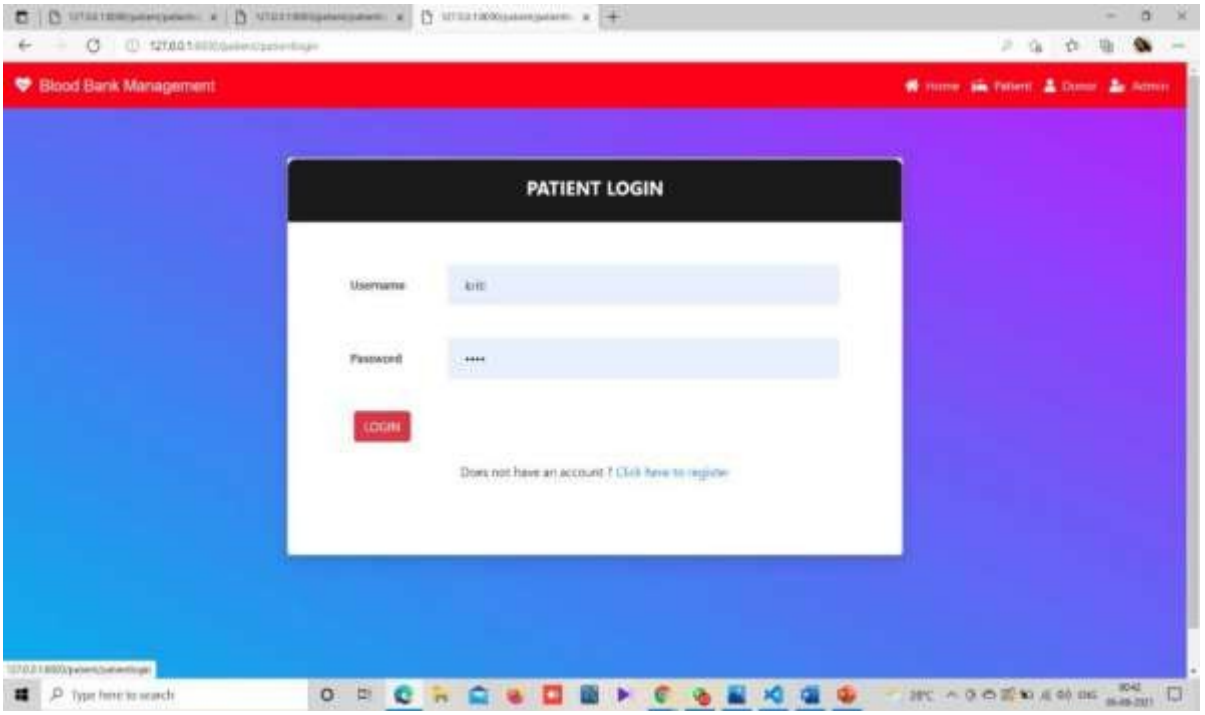


Patient Sign Up

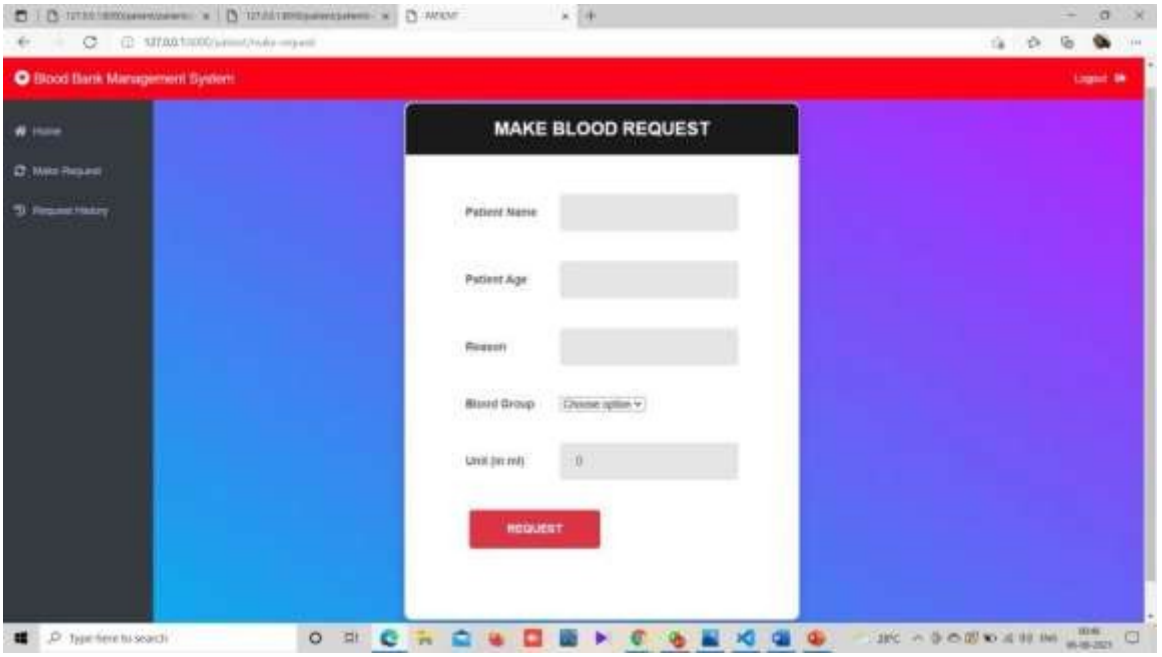


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Patient Login

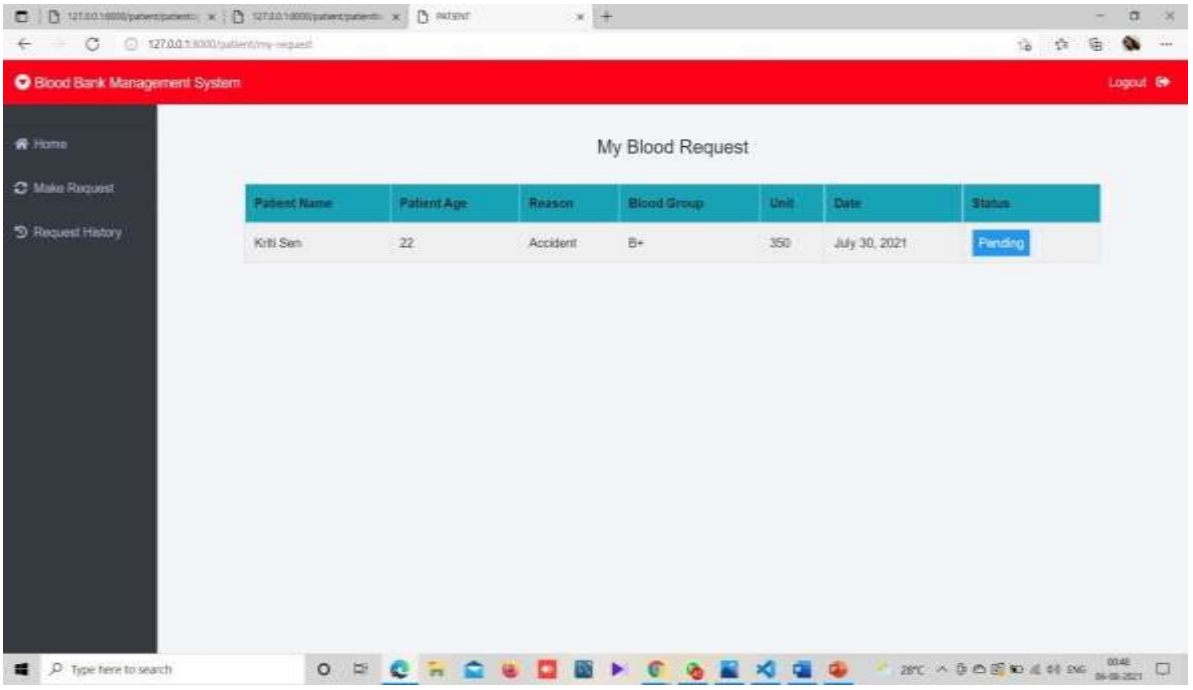


BLOOD REQUEST PAGE FOR THE PATIENT

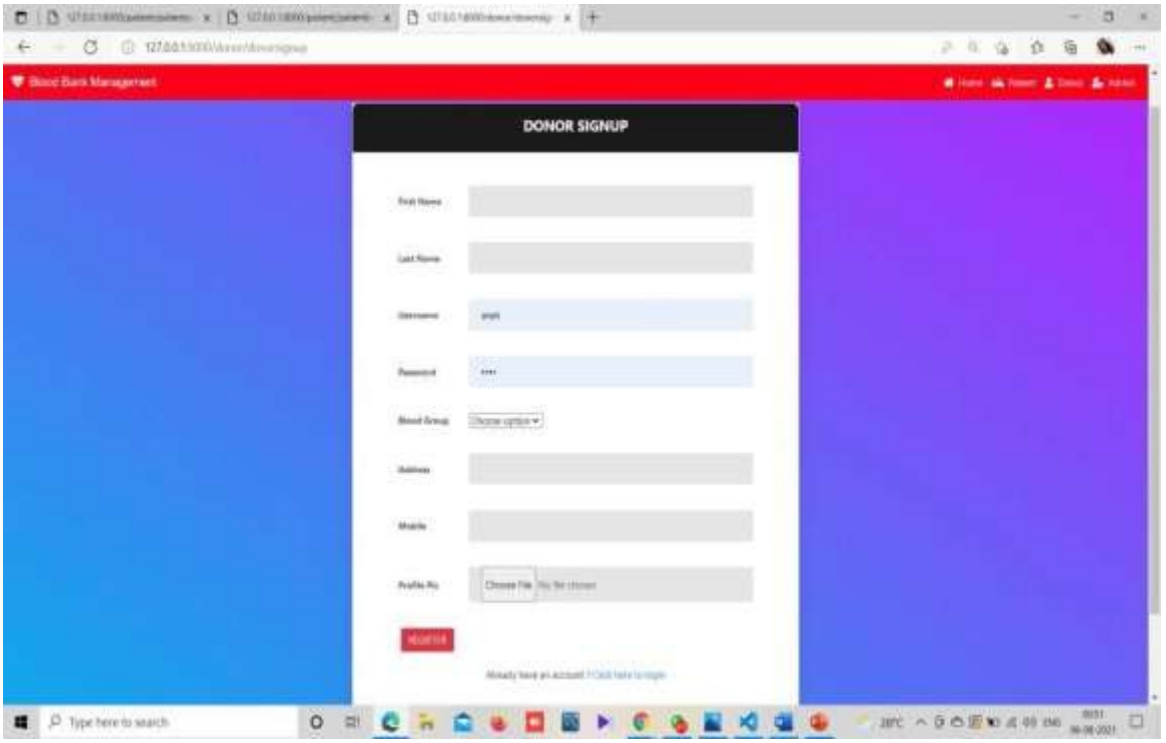


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Blood Request History of the Patient



Donor Signup



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LIMITATION

There should be a medical document upload by which the authenticity of the donor and patient can be verified.

CONCLUSION

The purpose of these literature reviews was to collect information on how an information system helped the management of blood banks. Based on the reviews, it was found out that web-based blood bank systems provide convenience, efficiency and security to the system users and hospitals compared to the manual systems. It was found out that manual system has many disadvantages that disappoint and dissatisfy users. Indeed, online blood bank applications make work easy, and ensure fast retrieval of data when needed.

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