SMART BLOOD BANK

[Blood Bank & Laboratory Management System]

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ABSTRACT

Online Blood Bank & Laboratory Management System Website is a comprehensive and sophisticated platform designed to revolutionize the way blood banks and medical laboratories operate and collaborate. This cutting-edge website serves as a centralized hub for efficient blood inventory management, streamlined blood donation processes, and seamless laboratory operations, ultimately enhancing healthcare services and saving lives.

The project encompasses essential functionalities for donors, sample submiters, staffs, admin and hospitals.

Donors play a crucial role in the Blood Bank Management System. They can register on the website, providing their personal information such as name, contact details, blood group, and other relevant medical history. Donors can also schedule appointments for blood donation, view their donation history, etc.

Sample-submitters in a Laboratory Management System, are the key stakeholders responsible for submitting samples to the laboratory for testing and analysis. They are tasked with entering essential information about the samples to be tested into the system. This includes details about the sample type, patient information (if applicable), and specific testing requirements.

Admin is responsible for managing the overall functioning of the blood bank and laboratory. They have access to administrative privileges and can oversee donor registrations, validate and verify donor information, and approve appointments for blood donations. Admins can also manage staff members' accounts and their roles within the system.

Staff members work at the blood bank and laboratory, and they perform various operational tasks. Their roles can include collecting blood from donors, performing laboratory tests on blood samples, updating blood inventory, and maintaining records of blood bags and laboratory results. Staff members have restricted access compared to the admin and may only access features relevant to their responsibilities.

MINI PROJECT OVERVIEW

Mainly focuses in managing blood bank. Modules and functionalities covering under mini project are:

- Admin
- Staff
- Donor
- Hospital

Admin

- ✓ Donor management
    - o View donor profiles
    - o Approve or reject donors based on their questionnaire and test report
    - o Search donor based on blood type, location etc.
- ✓ Blood donor eligibility screening
    - o Collecting basic details (name, age, gender, blood group, phone)
    - o Eligibility Questionnaire
    - o Upload lab test result
- ✓ Blood inventory management
    - o Update blood stock
    - o View blood stock
    - o Add new blood group type
    - o Delete blood group type
- ✓ Blood request processing
    - o View blood requests
    - o Accept/reject request
    - o Send confirmation/rejection mail
- ✓ Send notifications and alerts
    - o Communication with donor and blood bank staff
- ✓ Blood bank staff management
    - o View staff list and their details
    - o Add new staff
    - o Delete staff
- ✓ Website content management
    - o Upload contents that will create awareness among website visitors
- ✓ Maintaining donation history
    - o View donated date(s) of each donors
    - o Update donation details

Donor

- ✓ Registration as donors
- ✓ Upload lab result for confirming donor eligibility
    - o Able to upload test result
- ✓ Select nearest camp for donation

- o Able to select nearest blood donation camp of donation
- ✓ View donation history
- ✓ Set availability for donation as on or off
- ✓ View blood request from admin, blood bank staff
- ✓ Profile management
  - o View profile
  - o Edit their own profiles

Blood bank Staff

- ✓ Registration
- ✓ Profile management
- ✓ Label blood units collected from donors with unique identification3

Hospital

- ✓ Registration
- ✓ View blood availability in blood banks
- ✓ Send Blood request
- ✓ Payment for blood
- ✓ Give feedback to blood bank

MAIN PROJECT OVERVIEW

Mainly focuses on managing laboratory and remaining functions of blood bank. Modules and functionalities covering under main project are:

- Admin
- Blood Bank Staff
- Donor
- Hospital
- Lab Staff
- Sample Submitter

Admin

- ✓ Lab staff management
- ✓ Manage refreshment items
- ✓ View registered sample submitters
- ✓ Test management

Donor

- ✓ Give feedback and ratings
- ✓ Pick refreshment item

Blood bank Staff

- ✓ Inventory management
- ✓ Receive notifications

Hospital

- ✓ Payment for blood
- ✓ Give feedback to blood bank

Lab staff

- ✓ Registration
- ✓ Login
- ✓ Profile management
- ✓ Sample handling and labelling uniquely
- ✓ Test result recording into the system
- ✓ Sample submitter management

Sample Submitter

- ✓ Registration
- ✓ Login
- ✓ View test result with their test number id