Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
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(Religious Jain Minority)

Department of Computer Science & Engineering (AI & ML)

Blood Bank Management System

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Project Guide
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Outline

- Introduction
- Literature Survey of the Existing Systems
- Limitations of the Existing Systems
- Problem Statement
- System Design
- Technologies and Methodologies
- Implementation Screenshots(Partial)
- Conclusion
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INTRODUCTION

- Blood transfusion safety is a critical public health concern, requiring efficient management of blood supply and demand.
- Existing manual blood bank operations are error-prone, time-consuming, and space-intensive.
- The lack of automation and digitalization hinders blood availability, accessibility, and donor engagement.
- A web-based Blood Bank Management System (BBMS) is essential to address these challenges.
- BBMS aims to streamline blood donation, inventory management, and distribution, ensuring safe and timely blood transfusions.

OBJECTIVE:

- Automate blood bank operations.
- Maintain accurate and up-to-date records.
- Enhance coordination between blood supply and demand.

  remote voluntary blood donation.
- Ensure safe and quality blood distribution.
- Improve donor engagement and retention.
- Provide real-time reporting and analytics.

Literature Survey of the Existing Systems

- Survey of Existing Solutions: Current blood bank systems are largely manual and involve extensive paperwork. These systems are prone to errors, time-consuming, and inefficient in managing blood inventory, records, and distribution logistics.

- Issues in Existing Systems: Existing solutions suffer from technical issues and hardware failures. Data security risks, User errors due to inadequate training and manual data entry also affect the efficiency and reliability of these systems. Integration challenges and scalability limitations

- Technologies and Methodologies in Existing Systems: Existing solutions primarily use basic database management systems, web-based interfaces, and manual data entry techniques.

- Categorized Listing:

  - Advantages: Basic data management, digital storage, and retrieval.

  - Limitations: Lack of advanced data analytics, limited accessibility, and minimal automation.

- Observations: There is a need for a web-based, automated blood bank management system that addresses current issues and improves efficiency, security, and usability. Modern technologies like cloud computing, secure databases, and user-friendly interfaces are essential to developing a more effective solution.

Limitations of the Existing Systems

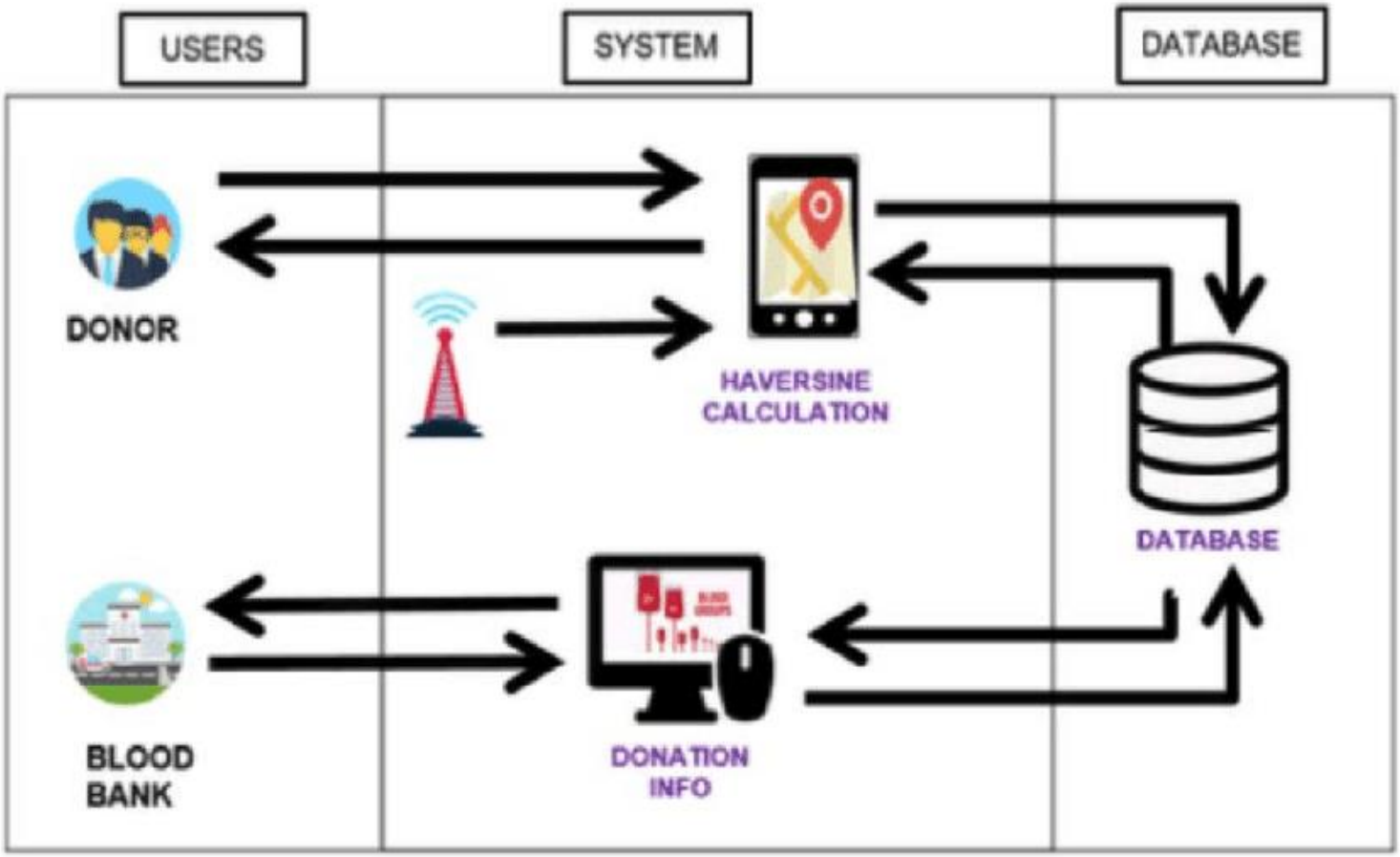
- Technical Issues: Software glitches, hardware failures, or network connectivity problems.
- Data Security Risks: Unauthorized access, data breaches, or cyber attacks.
- User Error: Inaccurate data entry, incorrect usage, or inadequate training.
- Integration Challenges: Difficulty integrating with existing systems, equipment, or software
- Scalability Limitations: Inability to handle increased traffic, users, or data volume.
- Internet connection necessary.

Problem statement:

Despite advances in technology, nowadays, most blood bank systems are running in manual system. Some problems that a Blood Bank Management Sytem app can address:

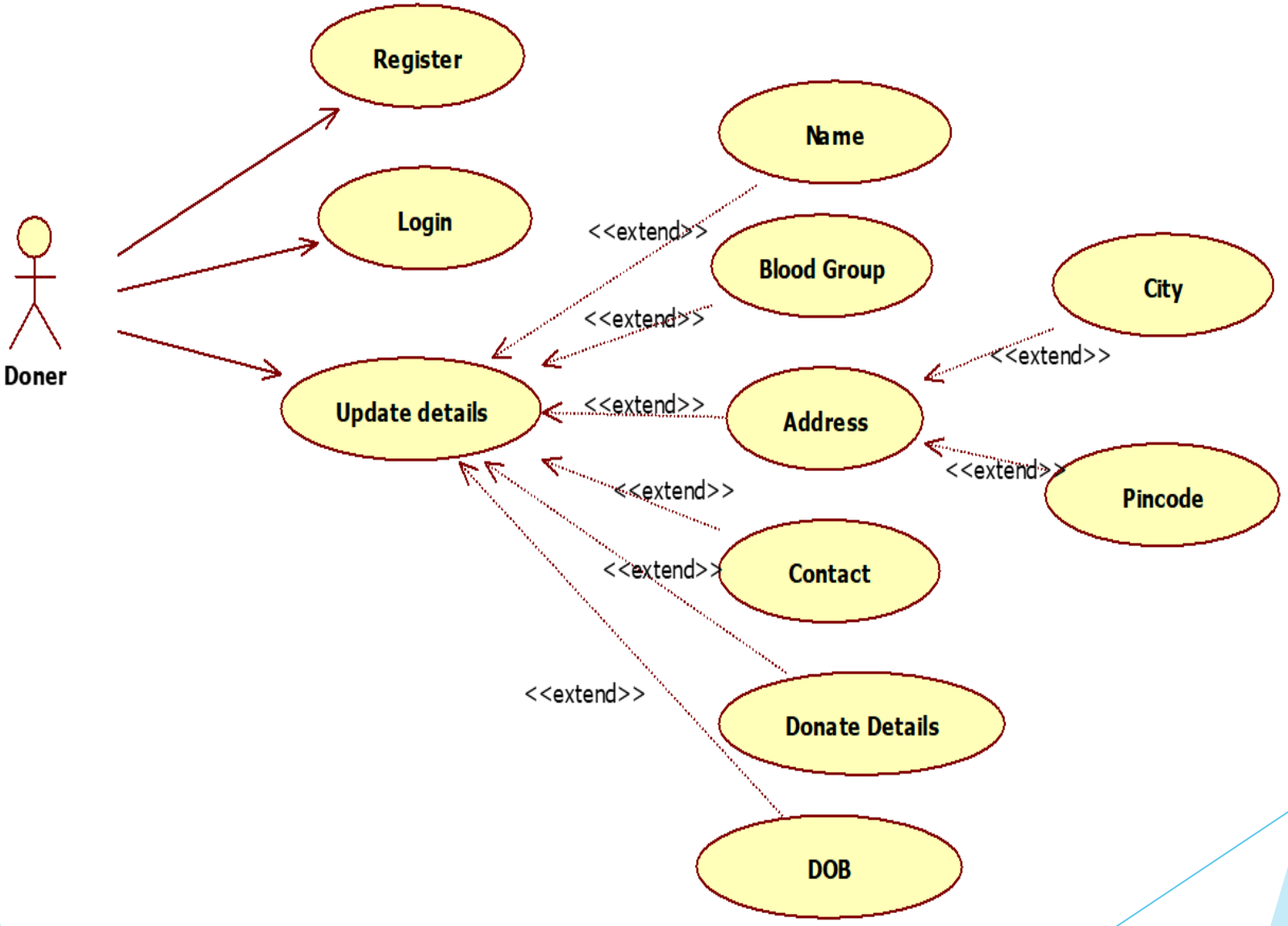
- Inefficient Donor Management
- Personal profile accessibility
- Lack of Data Insights
- Donation record accessibility
- Blood stock management
- Manual Data Entry
- Ineffective distribution
- Inefficient Communication

System Design

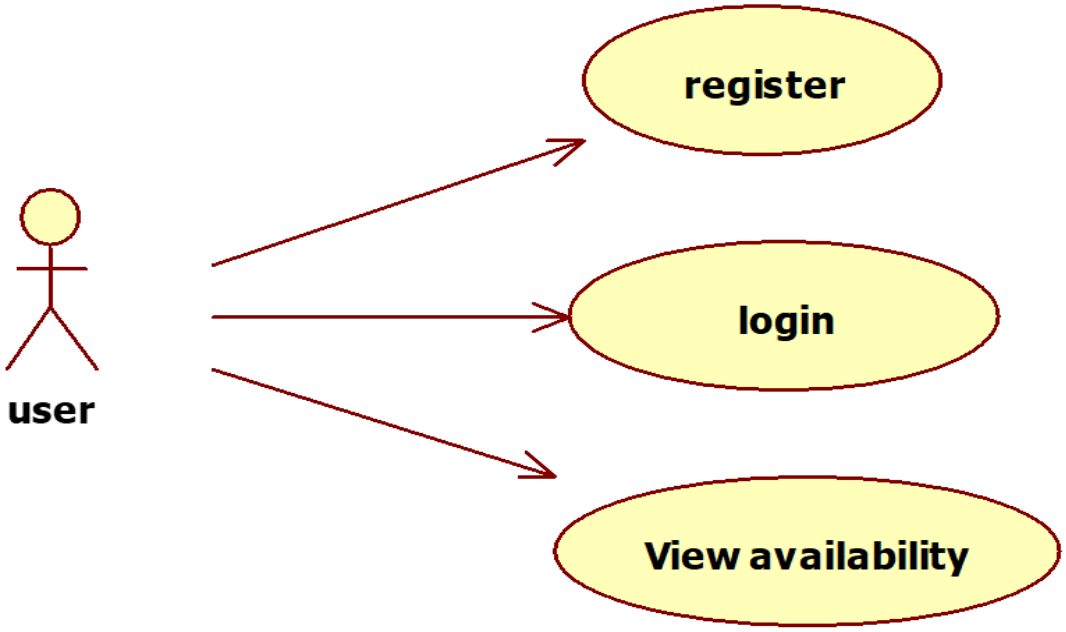


MODULES

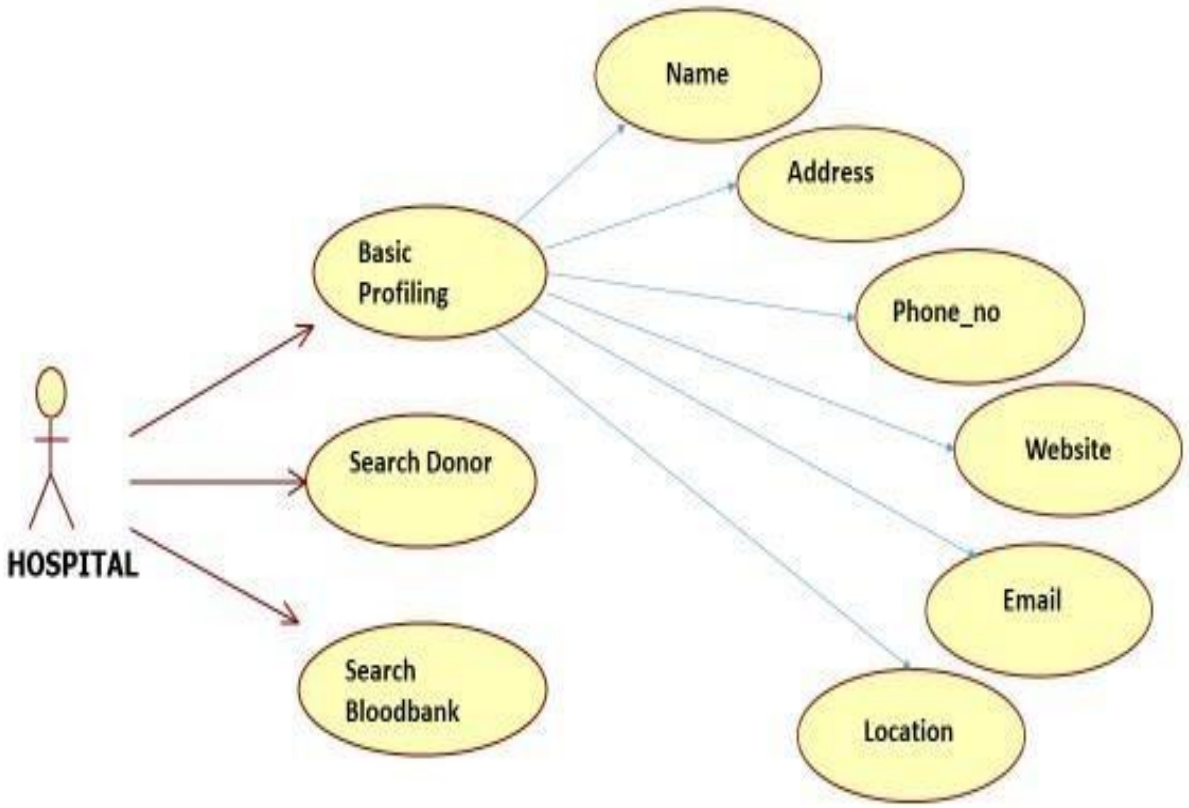
DONOR:



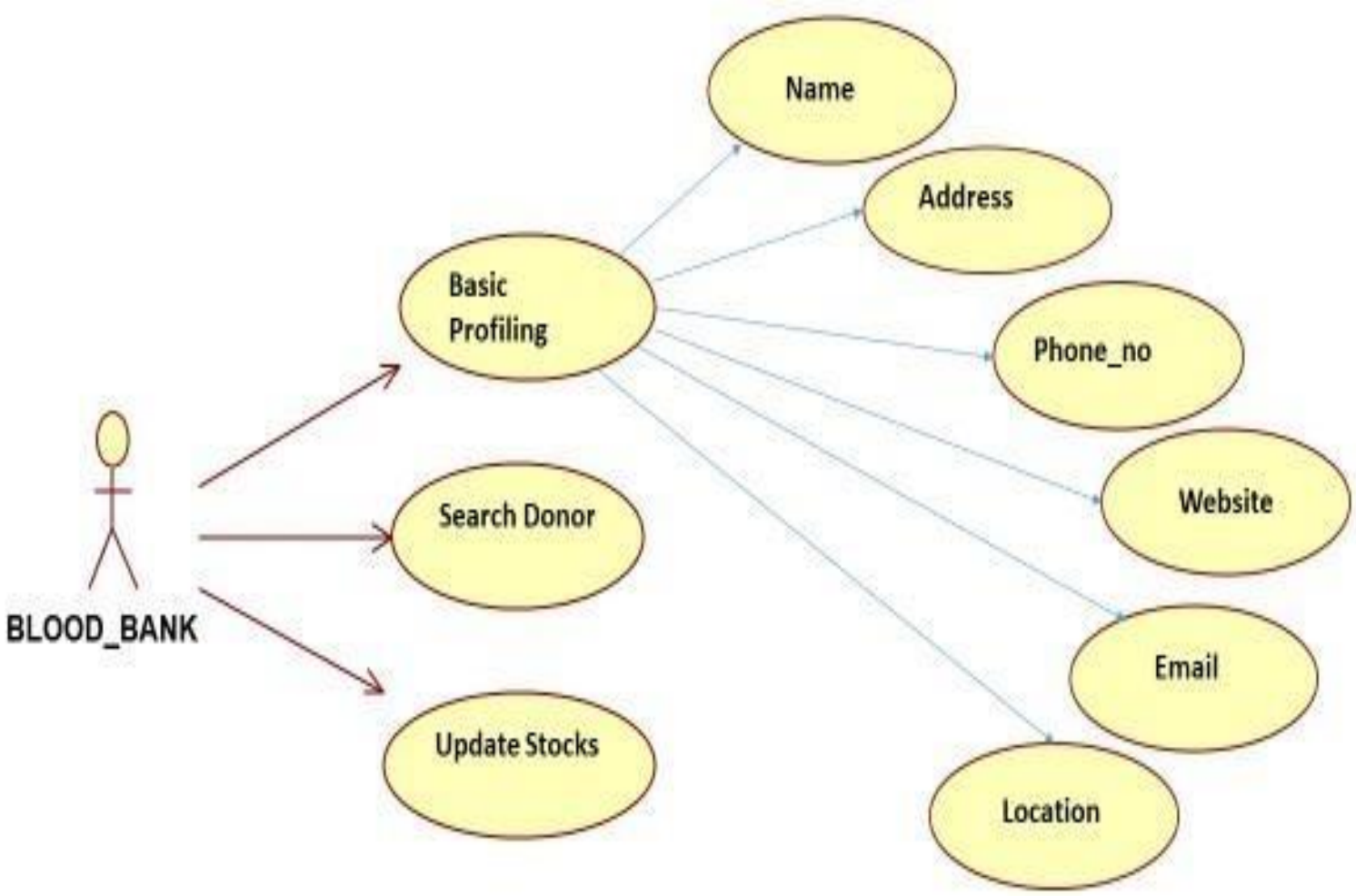
USER:



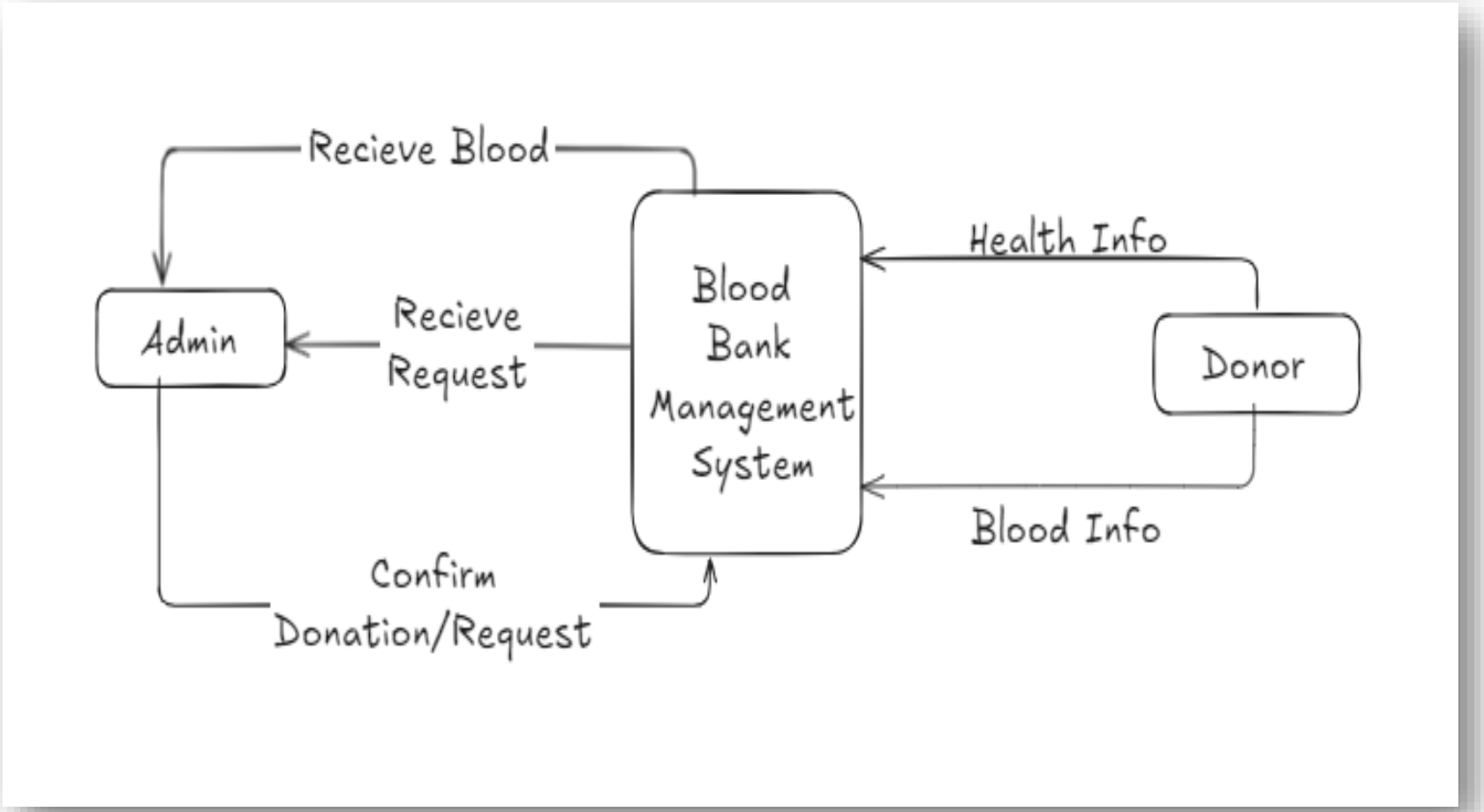
HOSPITAL:


Name
Address
Basic Profiling
Phone_no
Website
Search Donor
HOSPITAL
Email
Search Bloodbank
Location

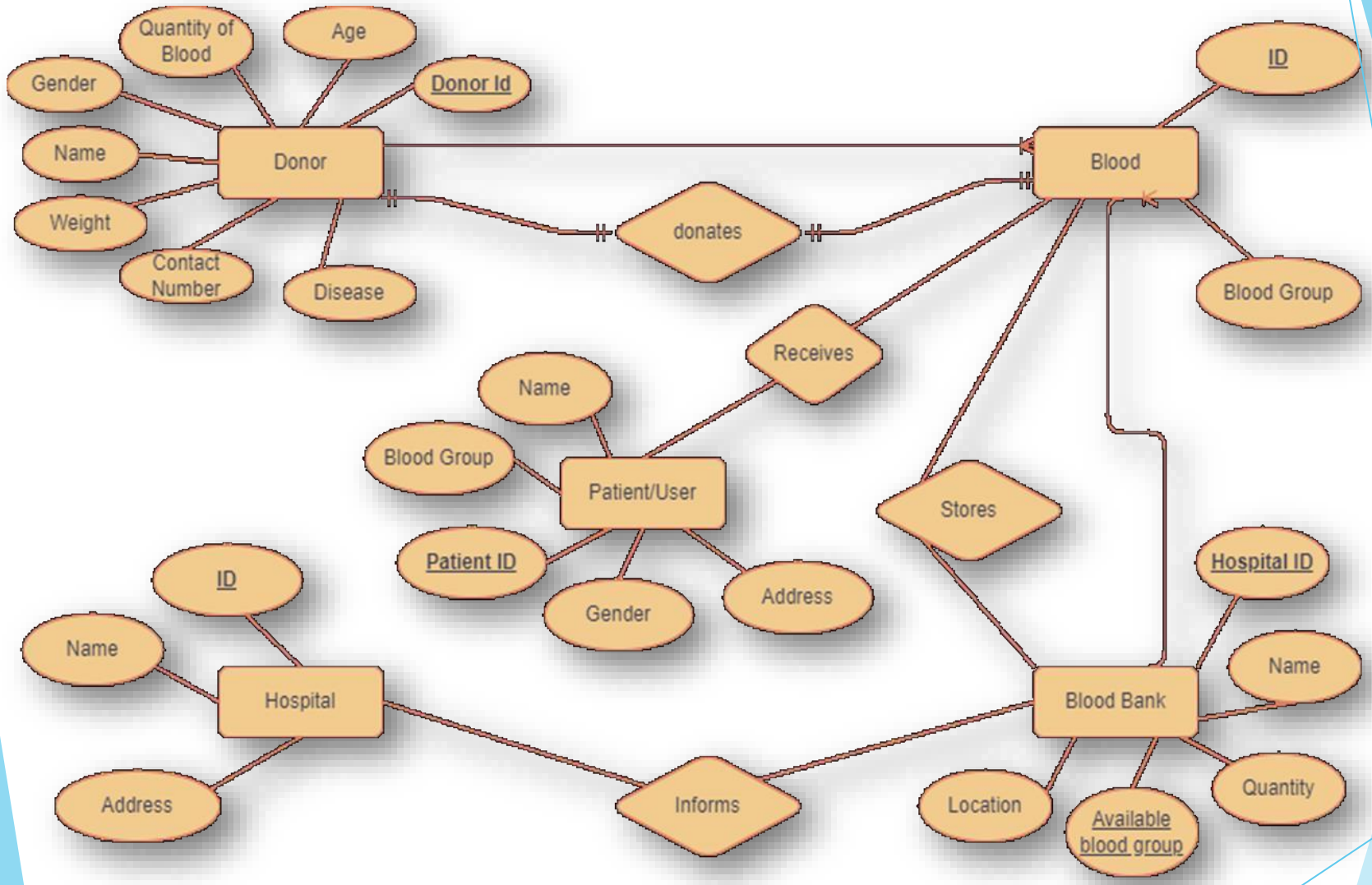
BLOOD BANK:


Name
Address
Basic Profiling
Phone_no
Website
Search Donor
Email
BLOOD_BANK
Update Stocks
Location

DATA FLOW:


Recieve Blood
Admin
Recieve
Request
Blood
Bank
Management
System
Health Info
Donor
Blood Info
Confirm
Donation/Request

E-R DIAGRAM


Quantity of Blood
Age
Gender
Donor Id
Name
Donor
Weight
Contact Number
Disease
donates
ID
Blood
Blood Group
Receives
Name
Blood Group
Patient/User
Patient ID
Gender
Address
Stores
ID
Name
Hospital
Address
Informs
Hospital ID
Name
Blood Bank
Location
Available blood group
Quantity

Technologies and Methodologies

Frontend:

- Java Swing(GUI)
- NetBeans IDE

Backend:

- Java

Database:

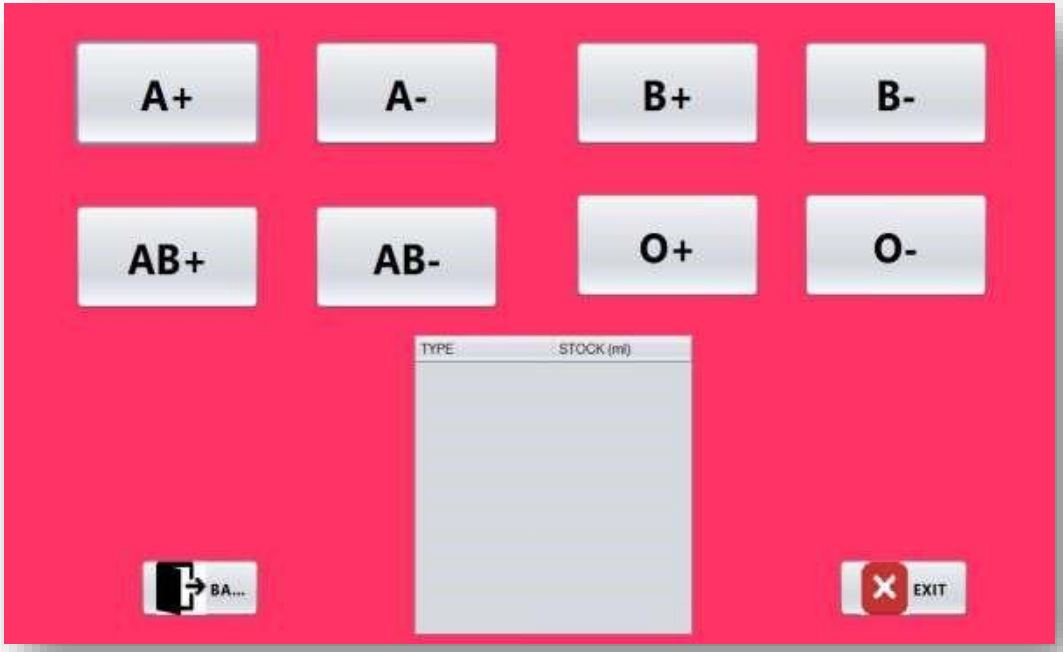
- MySQL JDBC Driver
- MySQL Server
- SQL Connection
- SQL Query

Implementation

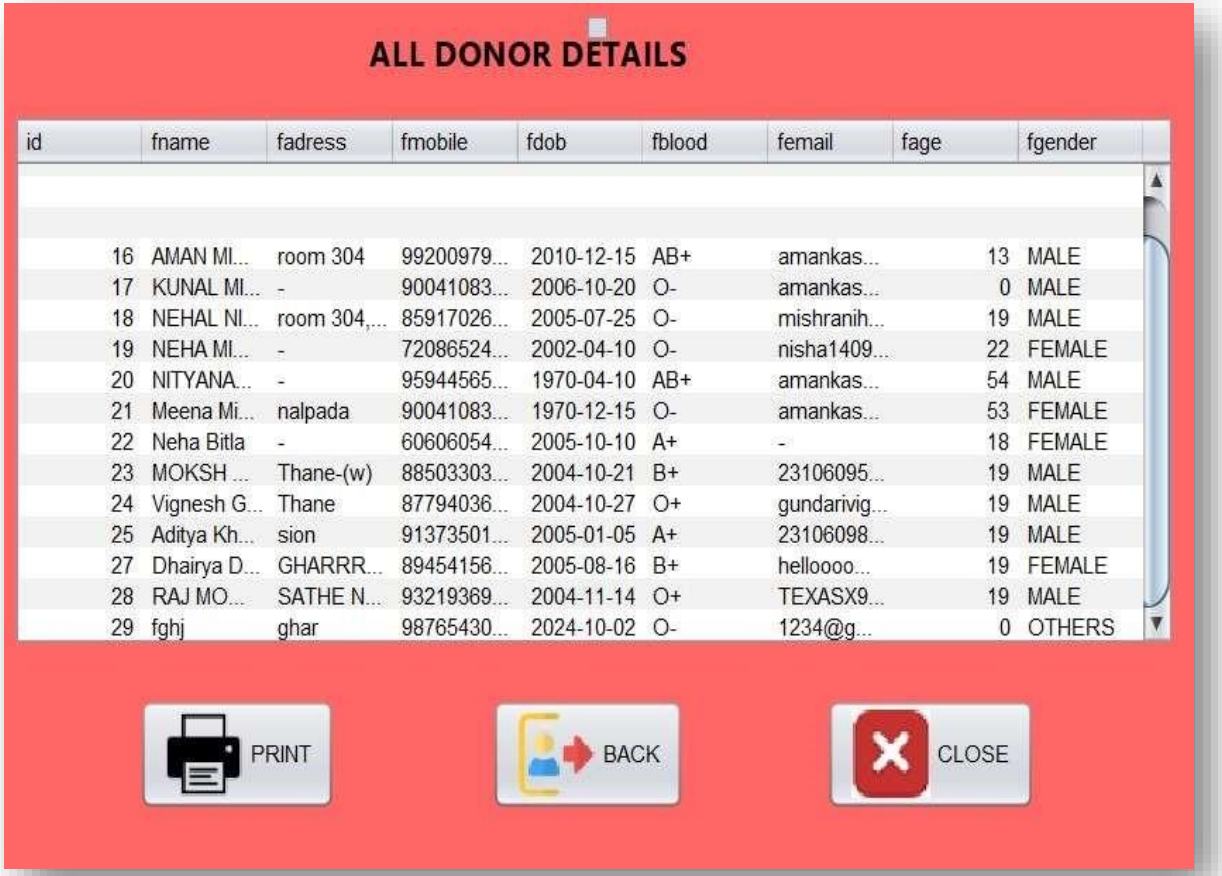

ADD DONOR
DONOR ID:
30
FULL NAME:
D.O.B:
BLOOD GROUP:
CHOOSE
AGE:
GENDER:
SELECT GENDERS
MOBILE N...
EMAIL ID:
ADDRE...
BLOOD DONATED:
CHOOSE
ml
SAVE
RESET
BACK


DELETE DONOR DETAILS
SEARCH DONOR
FULL NAME:
D.O.B:
BLOOD GROUP
A+
AGE
GENDER:
SELECT GENDER
MOBILE NO:
EMAIL ID:
ADDRE...
DELETE
BACK


UPDATE DONOR DETAILS
SEARCH DONOR
FULL NAME:
D.O.B:
BLOOD GROUP
CHOOSE
AGE:
GENDER
SELECT GENDER
MOBILE NO:
EMAIL ID:
ADDRE...
UPDATE
BACK


A+
A-
B+
B-
AB+
AB-
O+
O-
TYPE
STOCK (ml)
BA...
EXIT


BLOOD GROUP:
CHOOSE
SEARCH
id
fname
fblood
BACK


ALL DONOR DETAILS
id fname fadress fmobile fdob fblood femail fage fgender
16 AMAN MI... room 304 99200979... 2010-12-15 AB+ amankas... 13 MALE
17 KUNAL MI... - 90041083... 2006-10-20 O- amankas... 0 MALE
18 NEHAL NI... room 304,... 85917026... 2005-07-25 O- mishranih... 19 MALE
19 NEHA MI... - 72086524... 2002-04-10 O- nisha1409... 22 FEMALE
20 NITYANA... - 95944565... 1970-04-10 AB+ amankas... 54 MALE
21 Meena Mi... nalpada 90041083... 1970-12-15 O- amankas... 53 FEMALE
22 Neha Bitla - 60606054... 2005-10-10 A+ - 18 FEMALE
23 MOKSH ... Thane-(w) 88503303... 2004-10-21 B+ 23106095... 19 MALE
24 Vignesh G... Thane 87794036... 2004-10-27 O+ gundarivig... 19 MALE
25 Aditya Kh... sion 91373501... 2005-01-05 A+ 23106098... 19 MALE
27 Dhairya D... GHARRR... 89454156... 2005-08-16 B+ helloooo... 19 FEMALE
28 RAJ MO... SATHE N... 93219369... 2004-11-14 O+ TEXASX9... 19 MALE
29 fghj ghar 98765430... 2024-10-02 O- 1234@g... 0 OTHERS
PRINT
BACK
CLOSE

About Us

Our mission is to create a centralized platform that connects blood donors with those in need, making the process of blood donation more efficient and accessible.

Through our website, we aim to promote awareness and educate the public on the importance of regular blood donation. By leveraging technology to streamline the process and connect donors with recipients in real-time, we hope to make a positive impact on the lives of those in need of life saving blood transfusions.

Team Members


Dhairya Dixit


Dhruv Jain


Neha Bitla


Nehal Mishra

Conclusion

- So it will be **reduced time consuming for users**. It is **fully easy system** using web application “Blood Donor Recruitment”.
- Earlier systems are fully maintained manually by records. But now users can **view availability through this website.**
- The proposed System can be used to reduce the time required to deliver required blood to needy **in cases of emergency.**
- This application provides a way of communication and **synchronization between the hospital and the blood bank.**

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- H. Lowalekar and N. Ravicharan, "**Blood Bank Inventory Management in India**," OPSEARCH, vol. 51, no. 3, pp. 376-399**, 2014**.

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Thank You...!!