PROJECT REPORT

ON

User Information System

UNDER

WAYSPIRE ED-TED PRIVATE LIMITED

ONLINE TRAINING & INTERNSHIP IN DATA SCIENCE

DELHI

TABLE OF CONTENTS

INTRODUCTION

Blood banks play a vital role in the healthcare system by providing blood and blood products to patients in need. However, the traditional paper-based blood bank management system is inefficient and error-prone. This can lead to serious consequences, such as patients receiving contaminated blood or blood that is not the correct type.

The Problems with Paper-Based Blood Bank Management

There are several problems with paper-based blood bank management systems:

- Inefficiency: Paper-based systems are time-consuming and labour-intensive. This can lead to delays in blood delivery and increased costs.
- Error-prone: Paper-based systems are more prone to errors than computerized systems. This is because data is manually entered and stored, which increases the chances of mistakes.
- Inflexible: Paper-based systems are inflexible and difficult to adapt to changes. This can make it difficult to meet the needs of a growing blood bank or to respond to emergencies.
- Not secure: Paper-based systems are not secure, as they are vulnerable to theft and tampering. This can put patients' health at risk.

The Benefits of Computerized Blood Bank Management

Computerized blood bank management systems offer several benefits over paper-based systems, including:

- Efficiency: Computerized systems can automate many of the manual tasks involved in blood bank management, such as data entry, inventory tracking, and blood typing. This can save time and money.
- Accuracy: Computerized systems are less prone to errors than paper-based systems. This is because data is entered and stored electronically, which reduces the chances of mistakes.
- Flexibility: Computerized systems are more flexible than paper-based systems and can be easily adapted to changes. This makes it easier to meet the needs of a growing blood bank or to respond to emergencies.
- Security: Computerized systems are more secure than paper-based systems, as they are protected by passwords and firewalls. This helps to protect patients' health information

PROBLEM STATEMENT

Despite advances in technology, nowadays, most blood bank systems are running in manual system. As such, there is a prevalent problem in the availability of needed blood types. For instance, when a person needs a certain type of blood and this type is not available in the hospital, family members send messages through social media to those who can donate to them and this process takes longer than the life of the patient to the most dangerous. In addition, it seems that there is lack of proper documentation about blood donors and its medical history. This may lead to blood bag contamination and may affect the blood transfusion safety. Generally, this study aims to determine how the use of online bank management system enhance blood transfusion safety. Subsequently, this study seeks to answer the following specific problems:

1. What is the level of perception among blood bank's stakeholders on manual-based system?

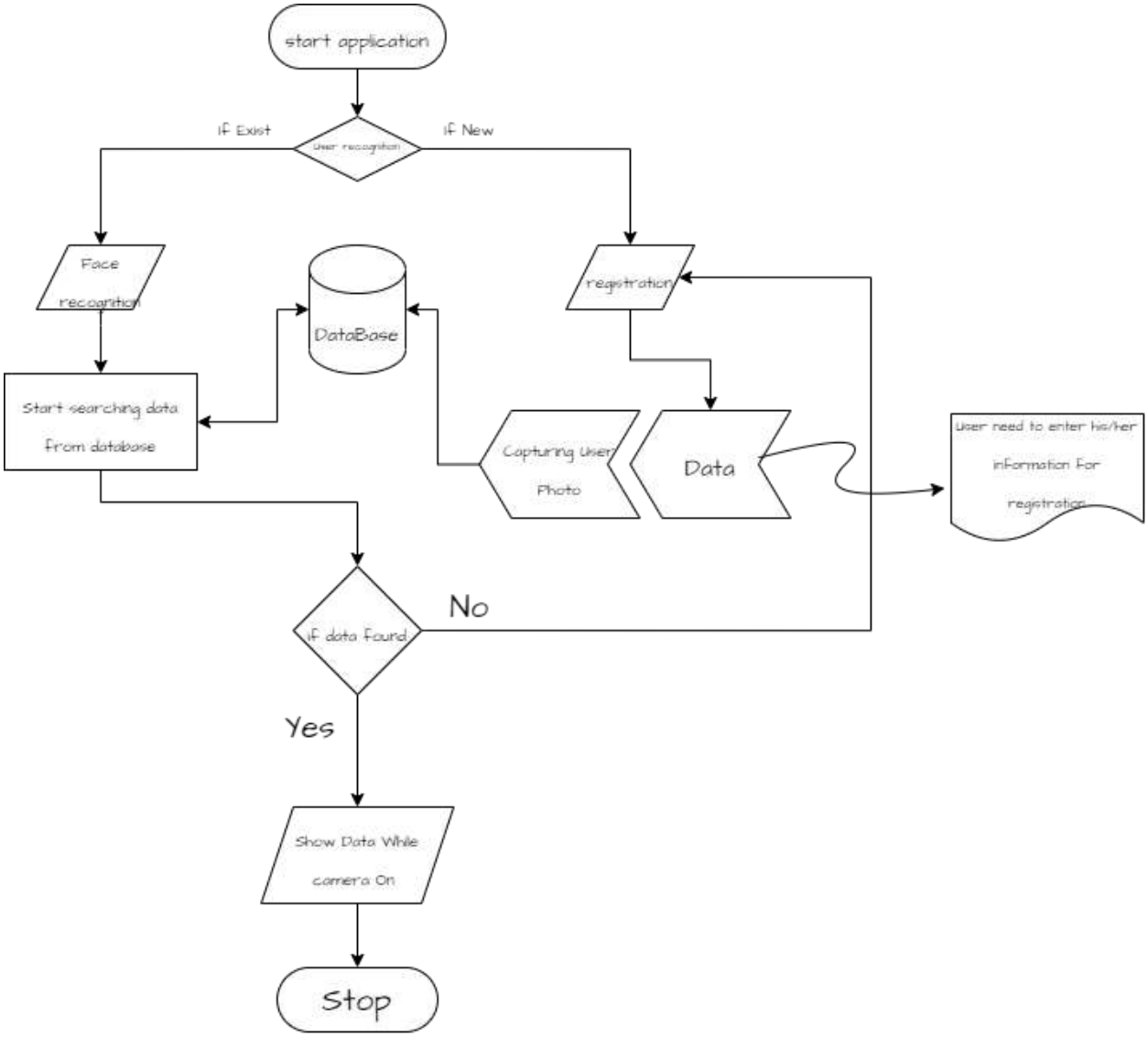
2. What is the level of perception among blood bank's stakeholders on online blood bank management system?

3. H0: Is there no significant difference in the level of perception among stakeholders between manual-based and online-based blood bank system?H1: Is there a significant difference in the level of perception among stakeholders between manual-based and online-based blood bank system?

OBJECTIVES

The main objective of this application is to automate the complete operations of the blood bank. They need to maintain hundreds of thousands of records. Also searching should be very fast so they can find required details instantly. To develop a web-based portal to facilitate the coordination between supply and demand of blood . This system makes conveniently available good quality, safe blood and other blood components, which can be provided in a sound, ethical and acceptable manner, consistent with the long-term well-being of the community. It actively encourages voluntary blood donation, motivates, and maintains a well-indexed record of blood donors and educates the community on the benefits of blood donation. This will also serve as the site for interaction of best practices in reducing unnecessary utilization of blood and help the state work more efficiently towards self-sufficiency in blood. The system will provide the user the option to look at the details of the existing Donor List, Blood Group and to add a new Donor. It also allows the user to modify the record. The administrator can alter all the system data.

Design Methodology

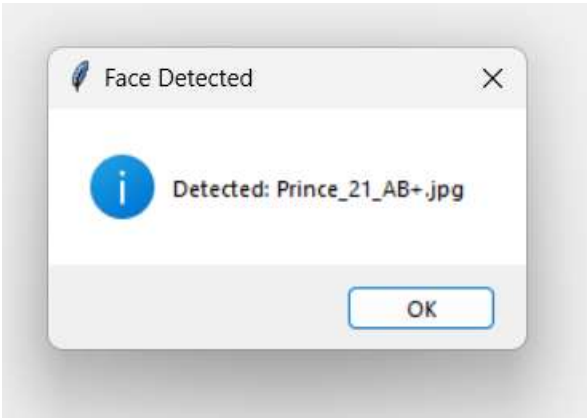


Liberary

- cv2: OpenCV is a library of programming functions mainly aimed at real-time computer vision. It is used in a wide variety of applications, including face recognition, object detection, and image processing.
- OS: The operating system is the software that manages the computer's hardware and software resources. It is responsible for tasks such as loading programs, managing files, and providing a user interface.
- Face_recognition: Face recognition is a technology that allows computers to identify people by their faces. It is used in a variety of applications, such as security systems, social media, and mobile devices.
- PyQt5: PyQt5 is a Python binding for the Qt toolkit. It allows Python developers to create GUI applications using Qt.
- sys: The sys module provides access to system-specific parameters and functions. It is used to get the current working directory, the number of arguments passed to a Python script, and other information.
- PyQt5.QtGui: The PyQt5.QtGui module provides access to the Qt GUI widgets. It is used to create buttons, labels, and other graphical elements for a GUI application.
- PyQt5.QtCore: The PyQt5.QtCore module provides access to the Qt core functionality. It is used to handle events, manage threads, and other low-level tasks.
- MysqlConnector: The MySQL Connector is a library that allows Python applications to connect to MySQL databases. It is used to query and update data in a MySQL database.

Results


User Information Collector
Name:
Rohit
Age:
21
Blood Group:
O+
Registration
Face Recognition
Data
Visualize Data


Face Detected
Detected: Prince_21_AB+.jpg
OK

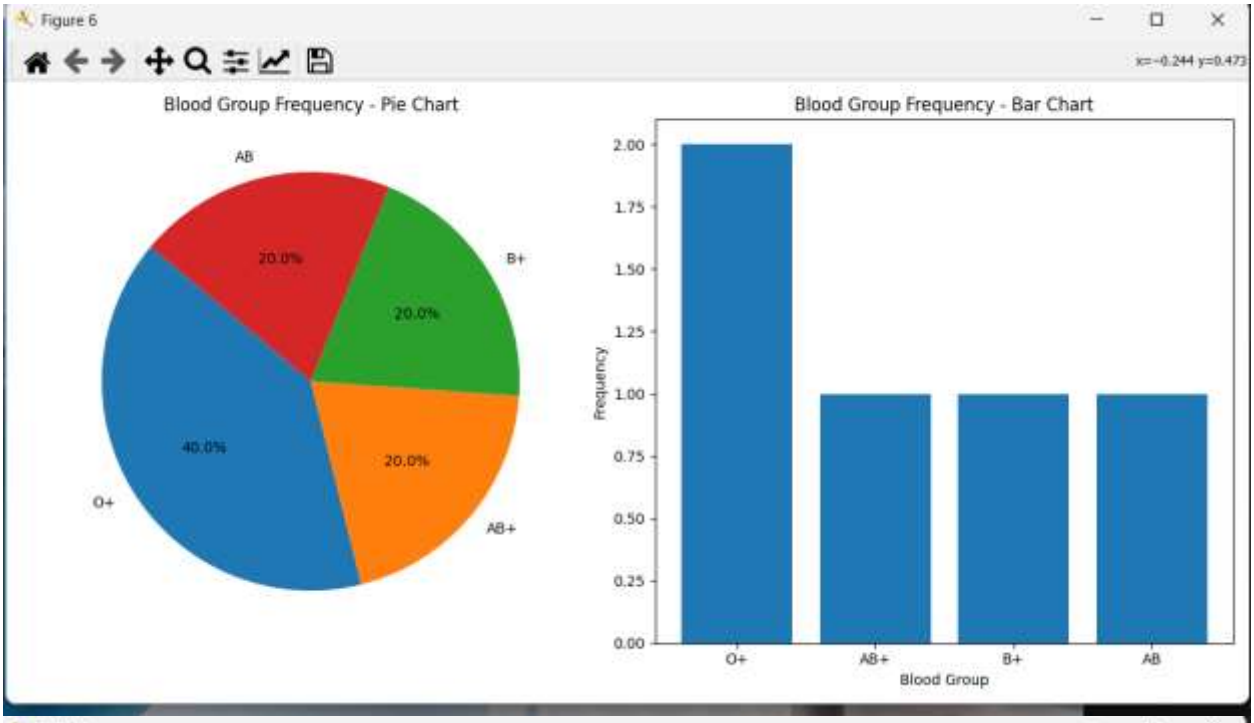


Figure 6
x=-0.244 y=0.473
Blood Group Frequency - Pie Chart
AB
B+
O+
AB+
20.0%
20.0%
40.0%
20.0%
Blood Group Frequency - Bar Chart
Frequency
Blood Group
O+
AB+
B+
AB

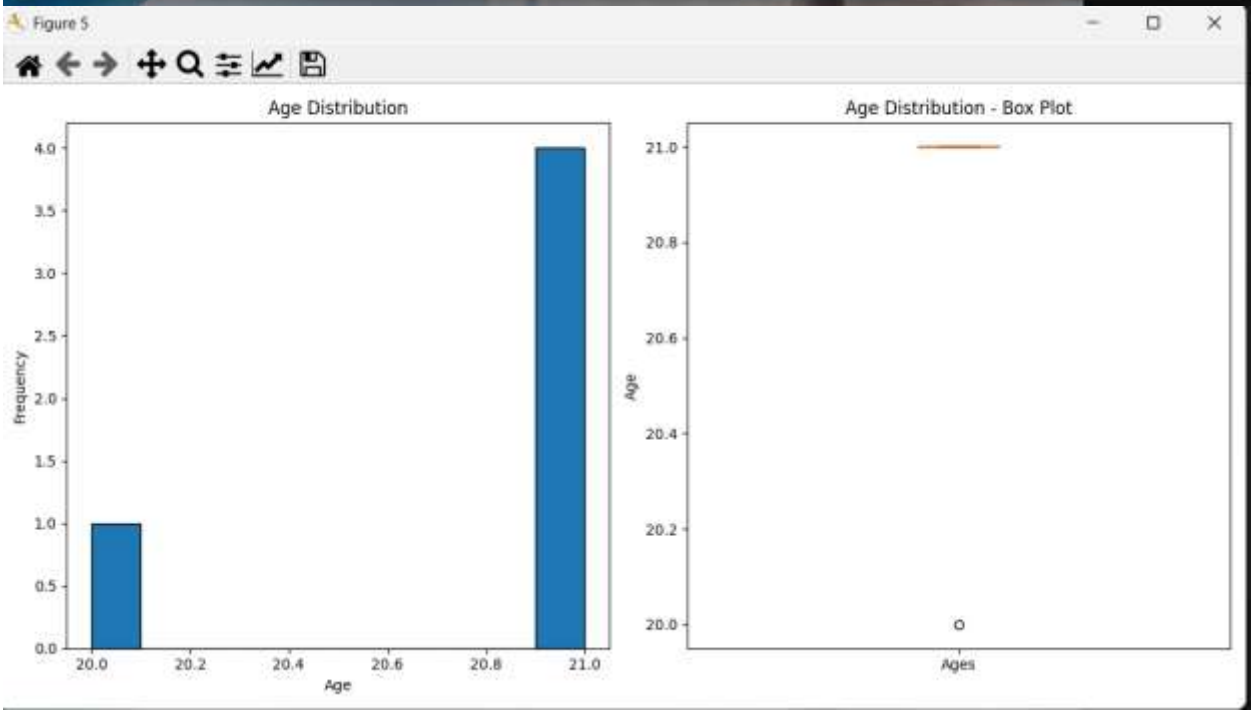
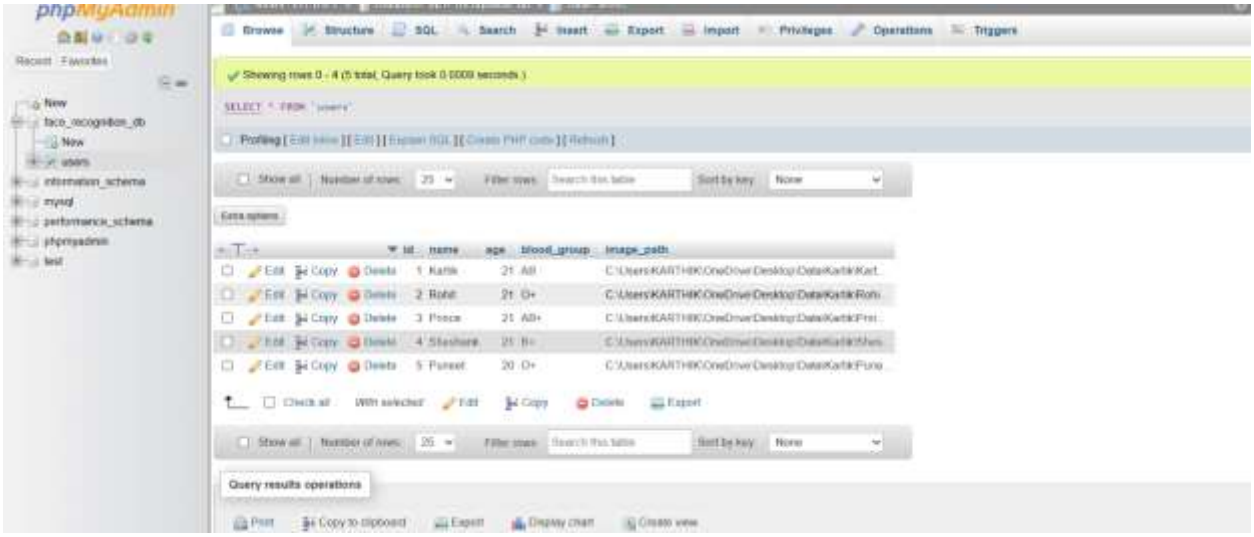


Figure 5
Age Distribution
Frequency
Age
Age Distribution - Box Plot
Age
Ages


phpMyAdmin
Recent Favorites
New
face_recognition_db
New
users
information_schema
mysql
performance_schema
phpmyadmin
test
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Triggers
Showing rows 0 - 4 (5 total, Query took 0.0009 seconds.)
SELECT * FROM `users`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Extra options
id name age blood_group image_path
1 Karthi 21 AB
2 Rohit 21 O+
3 Prince 21 AB+
4 Shashank 21 B+
5 Puneet 20 O+
Edit Copy Delete
Check all With selected: Edit Copy Delete Export
Query results operations
Print Copy to clipboard Export Display chart Create view

CONCLUSION

The blood management system has been experimentally proven to work satisfactorily by developing web applications and the system can be by donor and user etc

We learned many skills such as database modelling, other web tools that we use for this project and being able to work together as a team during this project .

The demo patient, donor and manager tested successfully on our system to find a donor, blood bank and request them to donate blood. Thus, a blood management system is successfully developed ,implemented and tested.

Future Scope:

a. In future we will update our system continuously
b. We will develop live chat feature
c. Track location of the donor etc

REFERENCE:

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- Blood Bank Management System by Sulaiman S, Abdul Hamid AAK, and Najihah Yusri NA. This paper presents the design and implementation of a blood bank management system for a hospital in Malaysia.
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