



## SECURE BLOOD BANK ACCESS USING CLOUD COMPUTING

**Megha Dnyaneshwar Kinge<sup>1</sup>, Hiteshi Hemant Khadke<sup>2</sup>, Sharda Dnyaneshwar More<sup>3</sup>, Jagruti Narayan Chaudhari<sup>4</sup>, Pooja Naval<sup>5</sup>**

<sup>1,2,3,4,5</sup>Student, Department of Computer Engineering KCE's College of Engineering and Management, Jalgaon, Maharashtra, India,

<sup>1</sup>Email-meghadkinge1999@gmail.com

<sup>2</sup>Email-hiteshikhadke123@gmail.com

<sup>3</sup>Email-dvm.more121914@gmail.com

<sup>4</sup>Email-jagrutinc80@gmail.com

### ABSTRACT

A blood Bank can be defined as a bank or storage place where blood is collected, preserved and used whenever needed or demanded. Everyone is aware that the traditional blood bank management system includes paperwork. Its way of working is not efficient enough at the time of emergency situations. The main aim of creating cloud-based blood bank system is to make the blood available on time to the people, even in emergency situations. With the help of this project, the user can be able to view information about every entity related to blood bank i.e. hospitals, donors, a location of another blood bank etc. The security factor is maintained properly. Every time the new user accesses the system as a donor, he/she has to register himself/herself and provide a proof of their identity like license or government document on which the blood group of the person is mentioned. This project will consist of the android application which can be used in the smart phones; it will contain all the information of the donor and nearby hospitals. The application will also contain a GPS (Global Positioning System) system to track the location of the nearby blood banks or hospitals. Every registered user will get the notification regarding health checkup drives, blood donation camps in particular area etc. As the person did not need to go out far, for the search of the blood banks and hospitals, this application helps to save the time to a great extent. This also helps in correct and quick decision making.

**Keywords** -Blood bank, Cloud Computing, Donor, Hospitals.

### 1. INTRODUCTION

Blood is the necessity of everyone .Blood contribute to 7% of total body weight, so to maintain the specific amount of blood in the body is necessary for a human to survive. Studies show that for every moment, to save their life someone needs blood .In every area specially in a rural area because of the lack of facilities of conventional blood bank management system available in the rural area It is healthy donating blood. So, we have created an application to simplify the blood donation process .The main aim of creating this web application is to make the blood available on time to the people, even in emergency situations. The main idea behind this is , to improve the blood bank system working, management etc, with the help of cloud computing technology. The project provides a platform using which the information about the donor, its location, nearby blood bank etc .are available for the requester requesting it. This web application contains different modules to maintain blood and blood donors. A large number of blood donors are attracted using web application. The entities involved in the cloud-based blood bank management system are requester/receiver, blood donor, administrator blood banks, hospitals etc.

### 2. LITERATURE SURVEY

- 1) P. PriyaV. Saranya, S. Shabana , Kavitha Subraman (2014) proposed the Technopedia Geographic Information System Blood bank and Push technology and their advantage on they are efficient and reliable blood donor information and management system using Android mobile application.
- 2) Deepak Pandey ,Achal Umare and Dr.R.S.Mangrulkar (2018) study on Authenticated Logins with Encryption scheme with Data Upload and Dataset Generation Modules.Mining Engines for Blood Distribution. Email Services for user verification and forgot password services. And they have support of E-Blood Bank System based on latest technology of cloud computing is proposed but they have not support of existing system is that there is a concern of many discomforts in immediately following the process.
- 3) T.Hilda Jenipha and R.Backiyalakshmi (2014)they work on cloud system for Data storage and GPS tracking ,Web Technology for online blood bank and Android Application for smartphone .They get the help of help to control donor service and create a database which holds

data of the blood in each area using the cloud. To overcome the drawback of offline blood bank system we have proposed the system using Cloud Computing in which the users can view the information of nearby donors, hospitals, blood banks.

- 4) Alimentally M. Mostafa, Ahmed E. Youssef and Gamal Alshorbag (2014) they work on Ontology interface system Emergency Service provided by national/ regional donors database Blood donation campaign service Blood Donation Registration Service Blood Donation Reservation Service and they get the help to communicate with blood donors and blood donation centers so that patient can get the blood on time.
- 5) Akshay V and Jain Khanter (2009) proposed the management information system application that covers some of the blood bank management issues related to a particular region ad they get the help of the error in a particular region this work could be helpful .

### 3. SYSTEM ARCHITECTURE OF SECURE BLOOD BANK ACCESS SYSTEM

The system is based on cloud computing.

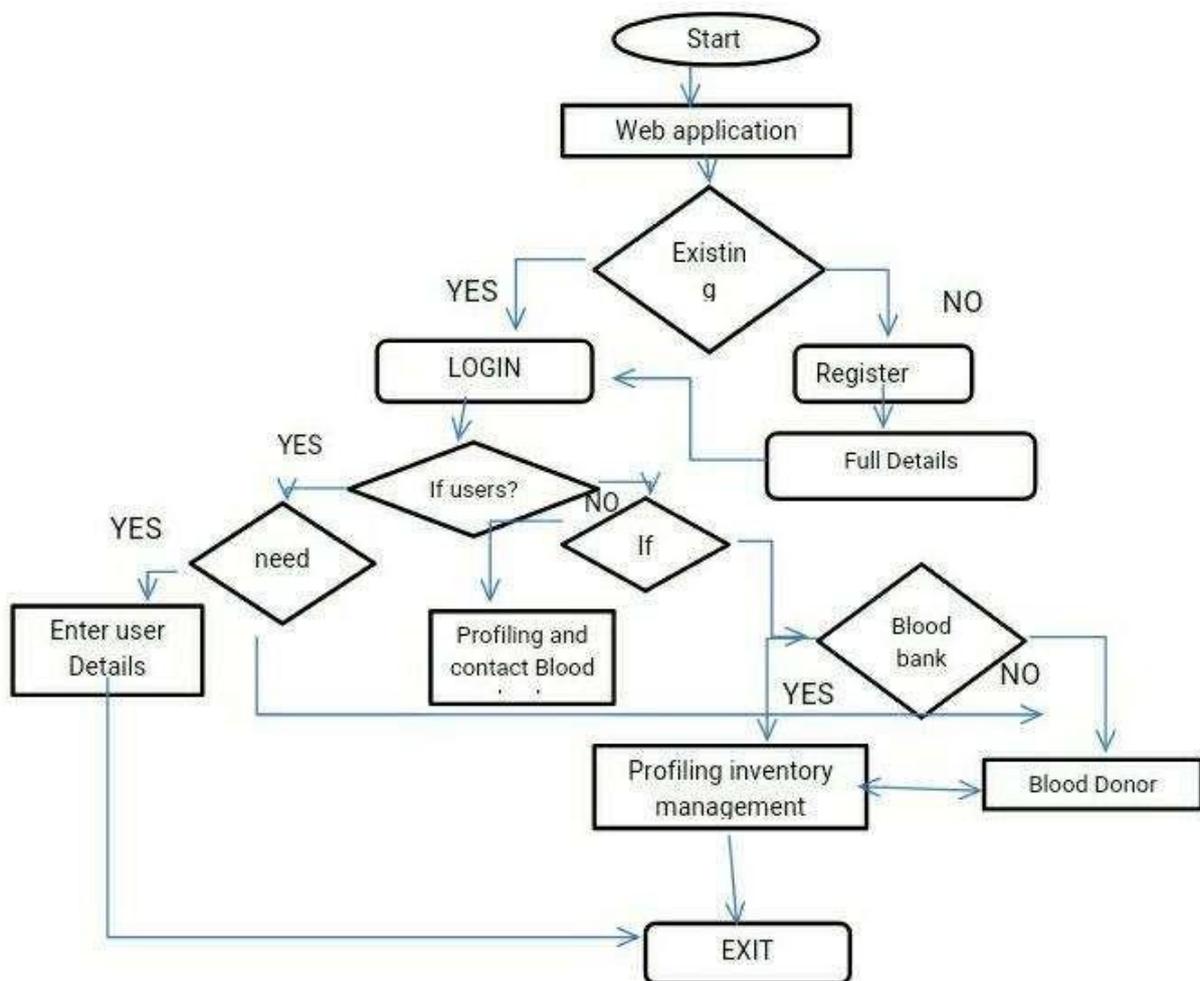


Figure: System Architecture

In this project mainly 3 modules are there.

- a) admin
- b) donor
- c) acceptors

**Admin-**This module focuses on the both donors and acceptors. Each member in a donor & acceptor is given a user id and password, which identifies him uniquely. The member is given a login form. he enters the login details user id and password. The options given to

- Maintain donor details
- Maintain referral once
- Update donor details
- View Experiences
- Logout

**Change password-**Whenever a user wants to change his/her password he can select the change password option The system displays the form, which asks him for old password and new password. The system then compares the old password with the existing password in the database.

**Donor -** Donor is given a user id password .Which identifies him uniquely .The member is given a long form, he enters the login details user id and password. The option given to a each member in a staff are change password

- Find a Blood group
- Why donate blood
- Who needs blood
- Find a Donor
- Refer a friend
- Logout

**Acceptor-**In this module you can store the information about Acceptors.

- Change password
- Find a Blood group
- Who needs blood
- Logout?

---

#### 4. METHODOLOGY

The application contains modules like registration, search donors, search blood banks, search hospitals, make online request for blood

**Registration:** For registration, first of all user has to enter full details (address, name, blood group, contact details etc.) For registration. If user details are not valid then it returns to user and if user details are valid then it goes to database where details of the user are safely saved.

**Search donor:** For searching donors, user has to select volunteer donors from user interface system then the system opens donors list. User has to search donors record by their city, blood group which is saved in database if record found in user interface system then it displays record of donors to the user.

**Search blood banks:** For searching blood banks, user has to select blood bank from navigation panel in UI system. It gives options menu, select visit blood banks which opens blood banks list from UI system. Search blood bank record by city name which is saved in database if record found then UI system displays the record to user.

**Search hospitals:** For searching hospitals, user has to select blood bank from navigation panel in UI system. It gives options menu, select hospitals list from UI system. Search hospital record by city name which is saved in database if record found then UI system displays the record to user.

**Make Online Request:** For online request, user has to select type if it was a donor or receiver then UI system displays the screen as per requirement. Select request button from action bar which opens request form as per user type (donor or receiver) then enter request details which goes to UI system if details are not valid then it returns to the user and if request details are valid then it goes to database where details are saved safely. It gives success message if making request goes successful otherwise it gives failure message.

**Update Stock:** For updating stock, user has to select blood bank from navigation panel which opens options menu for users. Click on login screen, enter username, password to login screen. Insert login information if information is valid then it gives success/failure message from UI system as per

validity of information. UI system displays next activity to user which is blood stock register. In blood stock screen enter stock details which goes to database via UI system. If stock details are saved successfully then it gives success message otherwise failure message to the user.

#### **ADVANTAGES**

- a) Time consumption will be less.
- b) Users won't have to wait for long time.
- c) No calculation problem as it will be done by computers.
- d) The Probability of errors should be minimum.
- e) It will be easily handle.

#### **DISADVANTAGE**

- a) Less security.
- b) Technical complexity.
- c) Without integrating the blood banks will lead to time consuming while searching of a particular group of blood.
- d) Without having proper information it is very difficult to supply the blood to the required people.

---

## **5. CONCLUSION**

This project consist of an web application which will help to provide an emergency services to the needy blood requester seeking people for donating blood and it also uses cloud services for keeping data of donors safely. Latest technology and information system plays a vital role in blood bank system and its services, as its quality improves. The system is beneficial for both requester and donor too. Due to this System, the bridge between donor and the requester is reduced and their Communication improves. The health sector will be definitely benefited by the services provided by the system as patients safety and life is considered valuable.

## **REFERENCES**

---

- [1] Javed Akhtar Khan and M.R. Alony, "A New Concept of Blood Bank Management System using Cloud Computing for Rural Area," International Journal of Electrical, Electronics ISSN No. (Online): 2277-2626 and Computer Engineering 4(1): 20-26(2015).
- [2] T.Hilda Jenipha and R.Backiyalakshmi, "Android Blood Donor Life Saving Application in Cloud Computing," American Journal of Engineering Research (AJER) 2014.
- [3] Sagar Shrinivas, Vasaikar Vijay and Suresh Yennam, "Online Blood Bank Using Cloud Computing," International Journal of Advanced Research, Ideas and Innovation In Technology,(volume 3, Issue 1)
- [4] P. Priya, V. Saranya, S. Shabana and Kavitha Subramani, "The Optimization of Blood Donor Information and Management System by Technopedia," International Journal of Innovative Research in Science, Engineering and Technology An ISO 3297: 2007 Certified Organization, Volume 3, Special Issue 1,2014.
- [5] Siva Shanmuga and N. Ch. S. N. Iyengar, "A Smart Application on Cloud-Based Blood Bank," Journal of Computer and Mathematical Sciences, Vol.7 (11), 576-583, November 2016.
- [6] Almetwally M. Mostafa, Ahmed E. Youssef, ".A Framework for a Smart Social Blood Donation System based on Mobile Cloud Computing,"
- [7] Deepak Pandey, AchalUmare and Dr.R.S.Mangrulkar, "Requirement Based Blood Storage and Distribution System," International Journal of Research In Science & Engineering Volume: 3 Issue: 2 March April2017.
- [8] Healthcare based on Cloud Computing Tamara Luarasi, Mimoza Durrresi Department of IT, Mathematics and Statistics European University of Tirana Tirana, Albania , Arjan Durrresi Department of Computer and Information science.