



Research Journal of Pharmaceutical, Biological and Chemical Sciences

Survey on Design And Implementation Of Automated Diagnostic Tool For Blood Bank.

Kannam Redd Y Surendra^{1*}, and P Muthu Krishnammal².

¹M.E Embedded Systems, Department of ECE, Sathyabama University, Chennai, Tamil Nadu, India.

²Assistant Professor, Department of ECE, Sathyabama University, Chennai, Tamil Nadu, India.

ABSTRACT

A bank is bank of blood or blood elements gathered as a results of blood donation or assortment, keep and preserved for later use in insertion. each year the state needs regarding four large integer units of blood, out of that solely a meager forty hundred thousand units of blood units on the market. There are a unit multiple blood banks round the world, but none of them supply the potential for a right away contact between the donor and recipient. This project aims to beat this communication barrier by providing a right away link between the donor

Keywords: blood testing, donation, raspberry pi,web based application.

**Corresponding author*



INTRODUCTION

Human blood is scanty, valuable and far in demand. each year the state needs concerning four large integer units of blood, out of that solely a meager forty hundred thousand units of blood square measure obtainable. Blood donation is one in all the foremost vital contributions that someone will create towards the society. It is not harmful for an adult person to give blood. The body of the donor will regenerate the blood at intervals few days. It poses no threat to the metabolism of the body. The patient desires blood or his or her cluster of blood whenever necessary. it's another critical issue. Blood has four teams. the specified cluster should be a similar whereas transplantation otherwise the transplantation can go into vain and even the patient could expire. the person with the O-group blood is named the blood donor as a result of the individuals having others will settle for it. On the converse, the person with AB

Cluster of blood is named the universal receiver as a result of he will settle for all teams of blood. Blood is hold on for a restricted amount of your time that's why the blood banks would like a gradual and constant assortment .There are a unit multiple blood banks round the India, but none of them supply the aptitude for an instantaneous contact between the donor and recipient. Typically this can be often a heavy disadvantage remarkably in cases where there's academic degree pressing would love of blood.

LITERATURE SURVEY

Human blood is scanty, valuable and far in demand. each year the state needs concerning four large integer units of blood, out of that solely a meager forty hundred thousand units of blood square measure obtainable. Blood donation is one in all the foremost vital contributions that someone will create towards the society. It is not harmful for AN adult person to give blood. The body of the donor will regenerate the blood at intervals few days. It causes no threat to the metabolism of the body. The patient desires blood or his or her cluster of blood whenever necessary. it's another critical issue. Blood has four teams. These teams square measure A, B, AB and O shown within the following chart. the specified cluster should be a similar whereas transplantation otherwise the transplantation can go into vain and even the patient could expire. the person with the O-group blood is named the blood donor as a result of the individuals having others will settle for it. On the converse, the person with AB cluster of blood is named the universal receiver as a result of he will settle for all teams of blood. Blood is hold on for a restricted amount of your time that's why the blood banks would like a gradual and constant assortment .There are a unit multiple blood banks round the India, but none of them supply the aptitude for an instantaneous contact between the donor and recipient. Typically this can be often a heavy disadvantage remarkably in cases where there's academic degree pressing would love of blood .Blood banks area unit laboratory centers that area unit chargeable for the gathering, processing, typing, safety and storage of blood for analysis and medical functions. Most blood collected for medical use is transfused into patients WHO would like blood due to trauma, for surgery or as therapeutic treatment of diseases, like RBC illness and anemia and as a results of therapy. In all, twenty three million units of blood area unit transfused annually, in line with the report of yank Association of Blood Banks (AABB). automatic bank system plays a really vital role within the bank as a result of blood is that the demand of everybody. several authors confer concerning the beneficiaries of the bank management system. several researchers have developed the bank management system. a number of them area unit summarized below.

Javed Akhtar Khan and M. R. Alony[1] used conception of Cloud Computing that is on demand services. Many times, we tend to don't clarify to the donor at the time of donation that there's service fee for blood units. As a result, once the donor desires blood, it comes as a rude shock and he makes allegations of the 'sale' of blood. At that moment, things become embarrassing as a result of we tend to hesitate to just accept that we tend to follow a value recovery system that may be a part of the business. during this analysis paper, they introduce mobile SMS based mostly bank management system for geographic area that is direct hook up with cloud server placed in alternative location. as a result of in geographic area bank management system not have a sufficient facilities for storing a blood in long-standing. They collect a number of info concerning the bank management system placed in town and geographic area. They realize a number of the hospital have its own bank unit with every and every one technical facilities in town however this transmission is poor in geographic area. a number of the country maintain a on-line bank system like in Srilanka [2] this project have combination of 3 sub modules that is blood module, patient module, donor module. during this project bank employees has approved access permission to cloud computing as a extremely accessible computing setting wherever secure services and information square measure delivered on-demand to echt

devices presently there square measure 3 primary classes of cloud computing service: Blood module will manage the kinds, amount and termination dates for every class of blood that keep in insertion unit. With reference article [1] India total blood assortment in seven.5 million units yearly, two of blood is discarded (minimum) attributable to varied reasons. If we have a tendency to deduct two of discarded blood, the entire usable blood or red cells are 6460,000 units in India. For blood elements, allow us to take a conservative estimate that solely twenty fifth blood is separated into elements. in this state of affairs, we'll have concerning one,365,000 elements for patients. Currently to seek out the entire revenue generation across the country .during this article author gift a 1 major downside once a year our nation needs concerning four large integer units of blood [3], out of that solely a meager five hundred thousand units of blood are obtainable. it's not that, folks don't wish to give blood. typically they're unaware of the necessity and conjointly they are doing not have a correct facility to enquire concerning it. As a result, necessitous folks find yourself looking lots of pain .India has several blood banks, all-functioning in a very suburbanized fashion. within the current system, individual hospitals have their own blood banks and there's no interaction between blood banks. The management is adhoc with no semblance of organization or commonplace operational procedures. Donors cannot access blood from blood banks aside from the bank wherever they need given blood.3.2 gift System All the banks are hooked up to hospitals and there's no complete blood bank.

Anitha national leader associate degreed BalaSenthil MuruganL[2] planned machine-controlled bank is an associate work that brings voluntary blood donors and people in would like of blood on to a standard platform. The mission is to meet each blood request within the country with a promising robot application and driven people World Health Organization square measure willing to gift blood. The planned work aims at service the persons World Health Organization get donors World Health Organization square measure willing to gift blood and additionally provide it within the time-frame needed.

Kieran Healy, Princeton University[7] planned article that could be a comparative study of blood assortment regimes in Europe. Regimes square measure found to have an effect on donation rates and donor profiles. once the nongovernmental organization collects blood, donation is tied to spiritual activity and alternative volunteering, not like state and bank systems. This study argues that assortment regimes turn out their donor populations by providing differing opportunities for donations. The associate degree analysis contributes to an institutional perspective on selflessness and highlights the necessity to attend to the socially embedded nature of unselfish likewise as self-interested action. bank management system victimization unified method methodology presents a whole bank management data system. The analysis and style of the bank management data system has been done victimization Unified Modeling Language (UML).The UML could be a language for visualizing, specifying constructing, documenting the artifacts of a software system intensive system likewise as alternative non-software systems. Implementation has been done victimization Model read Controller (MVC) design and Microsoft Visual Studio. information server is employed that is internet framework and Oracle 8i. Whole development Unified method (UP) methodology has been followed. Anitha general and BalaSenthil MuruganL[2] projected automatic bank is an associate work that brings voluntary blood donors and people in want of blood on to a typical platform. The mission is to meet each blood request within the country with a promising robot application and intended people World Health Organization area unit willing to give blood. The projected work aims at mating the persons World Health Organization request donors World Health Organization area unit willing to give blood and conjointly provide it within the time frame needed.

The blood donation system in java is intended for bank management system. it's planned to gather blood from several donators in brief from varied sources and distribute that blood to necessitous individuals. the essential need is to supply blood donation service to town and major task of bank system is to supply blood to assist individuals. This bank system project uses asp.net project that manages all reasonably info associated with blood. The bank system project report contain info associated with blood like 1) bank 2) Date of donation of blood 3) Validity of blood 4) accessible people to try to to all this we tend to need top quality computer code to manage those jobs. At any purpose of your time the people that area unit in want of blood will reach the donors through this search facility. A. Clemen Teena, K. Sankar and S. Kannan[12] provides reliable security measures, that shield information and also the package from accidental of deliberate threats that would cause unauthorized modifications, disclosures of destruction of the info and protection of the knowledge system by the employment of watchword. It provides an automatic registration of donor code for every style of blood. came upon forms records all the knowledge of blood teams and its donor, recipient and

amount etc. Here, we are able to add edit and search records info in step with the need of donor or recipient. This application is specially inbuilt such the way that it ought to suits for all style of blood banks in future.

CONCLUSION

Most of the blood donors area unit unpaid volunteers World Health Organization give blood for a community provide. In poorer space, provide of blood is proscribed and donors sometimes offer blood once family or friends need a transfusion (directed donation).The purpose of this review paper is to grasp totally different aspects projected by the researchers associated with the bank system/blood bank management systems. the aim of this literature review was to look at the trends in studies associated with the bank at intervals the past years has modified and continues to be dynamic . Most of the analysis found was on the blood and its elements. Blood donation is one in every of the foremost important contributions that someone will create towards the society. This field of research is extremely necessary as at its centre may be a concern with serving to individuals

REFERENCES

- [1] Javed Akhtar Khan, M. R. Alony, "A New Concept of Blood Bank Management System using Cloud Computing for Rural Area (INDIA)" Department of Computer Science & Engineering
- [2] Articles from Asian Journal of Transfusion Science are provided here courtesy of Medknow Publications Asian J Transfus Sci. 2009 July; 3(2): 57– 59.doi: 10.4103/0973-6247.53871 N. Choudhury. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2920472/>
- [3] Ibrahim. M. and Youssef, M. (2013), 'Enabling wide deployment of GSM localization over heterogeneous phones', Communications (ICC), IEEE International Conference, ISSN: 1550-3607, pp. 6396 - 6400.
- [4] Arif. M. Sreevas. S. Nafseer. K. and Rahul. R. (2012), "Automated online Blood bank Database", India Conference (INDICON), Annual IEEE.
- [5] Karan Punjabi, Pooja Bolaj, Pratibha Mantur, and Sneha Wali (2014), "Bus Locator via SMS Using Android Application", (IJCSIT) International Journal of Computer Science and Information Technologies, ISSN: 0975-9646, Vol. 5 (2), pp. 1603-1606.
- [6] Kieran University, Princeton University, Embedded Altruism: Blood Collection Regimes and the European Union's Donor Population.
- [7] Anitha Julian, Bala Senthil Murugan L, "Design and Implementation of Automated Blood Bank using Embedded Systems" IEEE Sponsored 2nd International Conference on Innovations in Information, Embedded and Communication systems.
- [8] Buecker, Lodewijkx, Moss, Skapinetz, Waidner,2009.
- [9] Neetesh Saxena, and Narendra S. Chaudhari, (2014), "EasySMS: A Protocol for End-to-End Secure Transmission of SMS", IEEE Transactions on information forensics and security, VOL. 9, NO. 7, ISSN: 1556-6013, pp. 1157 - 1168.