

GPS Based Blood Bank System

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ABSTRACT

In a real world, the blood donation system and blood banking system is increasing day by day. Although during the emergency time, the blood cannot be reached at a correct time because of unreachable the blood donor place. To solve the problem, GPS based Blood Bank System is developed as proposed method. GPS based Blood based Bank System is the mobile application which can developed in Android. This application first find out the location through the GPS values that is latitude and longitude values of the user location and the query input. The services are collected for all areas and gets stored in database. If the user requests for the blood, the system finds out the GPS values, compares with the database and find out limit area where the user location GPS values come under. The system also finds the other user's location through GPS and search for the required Blood group. If the system finds the required blood group and their GPS values matches nearly with the user, then it displays donor's current location to the user.

Keywords: Mobile Computing, latitude and longitude values, Global Position System,Android

CHAPTER I

INTRODUCTION

MOBILE COMPUTING

Mobile Computing is a technology that provides an environment that enables users to transmit data from one device to another device without the use of any physical link or cables .In other words, you can say that mobile computing allows transmission of data, voice and video via a computer or any other wireless-enabled device without being connected to a fixed physical link. In this technology,

data transmission is done wirelessly with the help of wireless devices such as mobiles, laptops etc.. This is only because of Mobile Computing technology that you can access and transmit data from any remote locations without

being present there physically. Mobile computing technology provides a vast coverage diameter for communication. It is one of the fastest and most reliable sectors of the computing technology field. Mobile Computing is a technology that provides an environment that enables users to transmit data from one device to another device without the use of any physical link or cables. In other words, you can say that mobile computing allows transmission of data, voice and video via a computer or any other wireless-enabled device without being connected to a fixed physical link. In this technology, data transmission is done wirelessly with the help of wireless devices such as mobiles, laptops etc. This is only because of Mobile Computing technology that you can access and transmit data from any remote locations without being present there physically. Mobile computing technology provides a vast coverage diameter for communication. It is one of the fastest and most reliable sectors of the computing technology field.

APPLICATIONS OF MOBILE COMPUTING

Following is a list of some significant fields in which mobile computing is generally applied:

Web or Internet access.

Global Position System (GPS).

Emergency services.

Entertainment services.

Educational services.

GPS BLOOD BANK APPLICATION

Now-a-days, give chains are frightfully troublesome than at any other time. Shoppers' anticipate new item, though associations, must be constrained to be extra imaginative however attributable to these changed escape clauses and shifted interruptions it still unequipped for agreeably tending to a few reasonable, real world challenges.

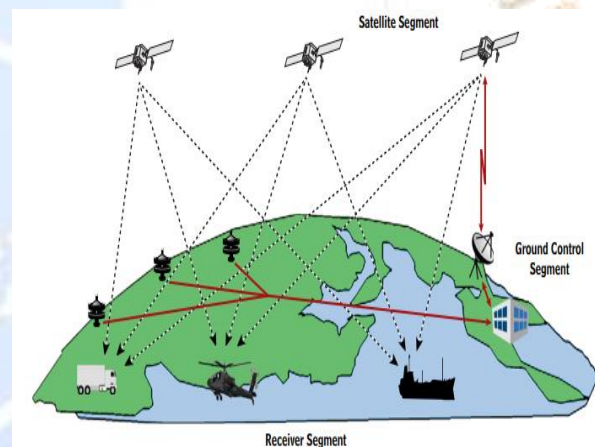
One among the premier fundamental test for example to deliver a quick assistance inside the crisis things, anyway a few of the administrations neglects to achieve it. By creating Associate in Nursing application which can encourage society and differed necessitous people is that the use of E Blood Bank which can give a quick support of the necessitous people. during this application the client's area will be caterpillar tracked exploitation GPS framework. On the off chance that blood is required, the benefactor with the ideal explicit individuals is known and informed concerning its interest.

In the event that the known close to contributors aren't ready to blessing blood these days, at that point the extent of trailing the benefactors is increment The MIS of bank Bharat spares the name of the giver UN organization is giving blood, a novel id through that the giver will peruse his record, Arcanum for getting to the record, date of birth of the contributor because of his age ought to be inside the change of 18-60 years, sex of the individual, individuals, weight, portable no, email id, address, city, state, last time once contributor given blood also once a pristine contributor enrolled himself as a benefactor. This undertaking comprises of Associate in Nursing robot application that is blessing on the givers' Associate in Nursing droid-telephone application which can encourage to create a crisis administrations to the necessitous blood requestor looking for people for giving the blood and it furthermore uses cloud administrations for keeping the data of benefactor's securely.

LOCATION IDENTIFICATION (GPS NAVIGATION)

The Global Positioning System (GPS) is a space based system that provides positioning and timing data to users worldwide. The data that it provides have become essential to the conduct of military operations; they also contribute to transportation efficiency and safety in the civilian sector and to the timing and recording of financial transactions. The system, which includes a constellation of satellites, was developed and is operated by the Department of Defense (DOD) in consultation with the Department of Transportation and several other federal agencies.¹ The Air Force is responsible for the acquisition of GPS components and is in the process of modernizing the system to enhance its performance, particularly in the presence of deliberate and hostile interference or jamming. In this study, the Congressional Budget Office (CBO) examines DOD's

plan to modernize GPS and assesses the cost of that plan and the benefits that the proposed improvements would yield to the system's military users. (Although this analysis focuses on military users, it notes significant effects on civilian users as well.) CBO also examines several options that would improve GPS capabilities for military users at lower cost than would DOD's plan, although those options have some disadvantages relative to DOD's plan as well. GPS is a global network composed of three segments: satellites that transmit military and civilian GPS signals, systems on the ground that control the satellites and support the signals (ground control systems), and receivers that make use of the broadcasted signal. Each of those signals includes positioning and timing information that enables users with GPS receivers to determine their position and the exact time 24 hours a day, in all weather, worldwide. GPS began operations with a full constellation of satellites in 1995.



GPS WORKS

GPS works by timing how long it takes the radio signals from its satellites to reach a specific location on earth. Each satellite continuously broadcasts the time and its own position, and GPS receivers calculate the delay between the time when the signal left the satellite and when it reaches the receiver. That time delay, when multiplied by the speed of light, determines the receiver's distance from the satellite. A GPS receiver could, in theory, calculate its three dimensional position by measuring its distance from three different satellites simultaneously. But, in practice, by using the distance measured from a fourth satellite, a GPS receiver can calculate its position more accurately.

Although the Air Force monitors the data that each satellite transmits to ensure its accuracy, errors in determining location can be introduced as the satellite's signal travels through the atmosphere and because the

clocks on the satellite and those in the receiver are not synchronized exactly. Satellite geometry is also important because a GPS receiver determines its position by triangulation; the more widely dispersed the satellites are, the more accurately a receiver will be able to determine its position. Several points should be noted about how the system works.

First, there is no interaction between the satellites and the receivers. That is, the satellites send out military and civilian signals that are available to all receivers that can decode them. The receivers merely process the information received from the satellites; they do not send signals back to the satellites or to other systems. To process the data that the satellite or satellites are transmitting, a receiver must first “acquire” a signal from one or more GPS satellites in view.⁴ Once the receiver has acquired and identified signals from a GPS satellite, it can more easily continue to process the data from or “track” the signal.

Second, because the receivers determine a user’s location on the basis of triangulation, any errors introduced into the distances calculated from the satellites result in errors in determining the location of the receiver. Receivers can cancel out any errors introduced by atmospheric interference by using information from signals on two different frequencies transmitted by the same satellite.⁵ Such a capability has been available to military users from the system’s inception (because each GPS satellite has always transmitted military signals on two different frequencies), although not all military receivers were capable of processing both signals.

CHAPTER II

LITERATURE SURVEY

BLOOD INVENTORY MANAGEMENT: HOSPITAL BEST PRACTICE

Blood is a perishable product, and hence good management of inventories is crucial. Blood inventory management is a trade-off between shortage and wastage. The challenge is to keep enough stock to ensure a 100% supply of blood while keeping time expiry losses at a minimum. This article focuses on inventory management of red blood cells in hospital transfusion laboratories to derive principles of best practice and makes recommendations that will ensure losses due to time expiry are kept to a minimum.

The literature was reviewed to identify available models for perishable inventory management. Historical data from the UK blood supply chain was analyzed to

identify hospitals with good inventory management practice and low wastage levels. Transfusion laboratory managers in the selected hospitals were interviewed in 7 case studies with the aim of identifying drivers for low wastage and good inventory management practice. The findings from the case studies were compared with the literature. The extant literature asserts that the drivers for good inventory performance are the use of complex inventory models and algorithms. This study has found this not to be the case. Instead, good performance is driven by the quality of transfusion laboratory staff, who must be skilled, regularly trained, and experienced. Electronic cross matching, transparency of the inventory, and simple management procedures also facilitate good performance.

Interviews with blood inventory managers in the top performing hospitals revealed 6 key themes that together drive good performance in blood stocks inventory management. These themes are human resources and training, stock levels and order patterns, transparency of inventories, simple inventory procedures, focus on freshness, and internal collaboration within the hospital. All of these themes highlight the importance of having high-quality, trained, and experienced staff. These staff must be aware of the wider implications of wasting a unit of blood, be able to apply simple inventory management techniques, and collaborate with clinical staff outside of the hospital laboratory. These findings are contrary to what is claimed in the academic literature, which suggests that it is complex policies, models, and techniques that are the key drivers to low wastage levels in the blood supply chain.

NATIONAL AIDS CONTROL ORGANIZATION (NACO)

NACO is the nodal organization for National AIDS response in the Ministry of Health and Family Welfare. National AIDS Control Programme is a fully funded Central Sector Scheme implemented through State/UT AIDS Control Societies (SACS) in States/Union Territories (UTs) and closely monitored through District AIDS prevention and control unit (DAPCU) in 188 high priority districts. Currently, National AIDS Control programme (NACP)-IV (extension) is under implementation for the period 2017-20.

C (TI) for High Risk Groups (Female Sex Workers SW, Men who have Sex with Men-MSM, Injecting Drug Users-IDU, Transgender Hijra- TGH) and Bridge population (migrants, truckers etc) is fundamental to AIDS response and aims to keep these population Human

Immunodeficiency Virus (HIV) free through awareness generation, safe behaviour promotion, HIV testing etc. Interventions for HIV prevention are also important for inmates of prisons and other closed settings. People who have Sexually Transmitted Infections (STI) have higher risk of HIV infections and hence the NACP provides quality standardized STI

RTI services at Designated STI/RTI Clinic (DSRC), branded as Suraksha Clinic. Safe blood (free of HIV, Malaria, Syphilis, Hep B and Hep C) is ensured through a NACO supported network of blood transfusion services.

Awareness generation services were rolled out 25 years ago with a focus on awareness generation on the modes of transmission of HIV/AIDS and the services available for testing and treatment, and continues to be the mainstay of NACP through vibrant multimedia approach comprising Mass media, mid-media and on-ground mobilization & Inter Personal Communications across the country.

LOCATION BASED ONLINE BLOOD BANK SYSTEM

Location Based Online Blood Bank System using Global Positioning System and nearest neighbour algorithm used for primary blood transfusion services. The main aim is to provide fast and efficient way to gain attention of potential donors in the need of hour. We are including SMS and email services such that the donors can locate the requires when the request is generated for blood. Online Blood Bank (OBB) System assists in the process of blood donation. It consists of an application which is present on the donor's website which acts as an interface for the users of the system and it also uses database for storing the donor's data, blood bank details and hospital details. If there is need of blood, the donor with the required blood group is identified and notified of the requirement. It includes algorithm which detects accurate location of the donors, identifies the donors who are available nearby to the location of requester and notifies them. By creating an online location based web-portal where blood banks and hospitals can look for donors in their nearby area who will be available in quick time. And also keep record of donor's health report to evaluate quickly.

Location based online blood bank system it is proposed in order to save the lives of the people who are in need of blood .It is mainly useful in the case of emergency situations who are in the need of blood, for the implementation nearest neighbour algorithm and global

positioning system to trace the people who are in nearby locations .The nearest neighbour algorithm was the algorithm used to determine a solution to the travelling salesman problem in the beginning. The salesman starts at any city and repeatedly visits the nearest city until all have been visited .It quickly yields a short distance, but usually not the optimal one.

SMART BLOOD BANK MANAGEMENT BASED ON GPS

Blood transfusions save lives and enhance e health, yet millions of patients who require transfusions are unable to obtain safe blood in a timely manner. Many individuals die as a result of the lack of safe blood ,even in some urban health-care institutions. Every year, more than 81 million units of blood are collected around the world. Only 45% of them are donated in poor and transitional nations, which account for more than 80% of the global population. The main goal is to use the concept of Location-based Services to create a Geo location based blood donor application system that allows users to find donors based on their location and improve search efficiency by using GPS and nearest neighbour algorithms, as well as to display a list of donors in the specified location.

Blood is referred to be the "river of life" since it is such an important aspect of human life. Many scenarios necessitate the immediate availability of a blood donor. During these trying times, a mobile application that provides an optimal option for identifying donors depending on the user's desired area and submitting requests will be invaluable. The application is primarily designed to save time and make the process of seeking a donor as simple as possible. The application operates by allowing users to submit request for seeking a donor using the application. The user enters the details of the blood requested, as well as their own information and the selected location, and the system sends a pop-up message to all specified users of the required location from the search results listed in the app using GPS. FCM API(firebase cloud messaging) is used to send the message. The donor's information and data are kept in the Google Firebase cloud store .Currently, the system simply allows users to look for and browse donors; there is no reliable way to request blood other than sending text messages, which may not be the most trustworthy method. The current systems have the disadvantage that donor requests are not sent in an efficient manner because sending via text message will not capture all users' attention, and there is no feature to obtain a

response from the user for the request being raised. When blood is required at the hospital, it is frequently not available on time, resulting in inconsistencies. Patients and donors are both unaware that the donor is available in the hospital due to a lack of communication and other help. A system like this is necessary to bridge the communication gap between hospitals, blood banks, donors, and receptors. This system has offered security through authentication, requiring users to login if they are already registered or to register according to their form of viewpoint if they are new. In order to complete the project, you'll need access to the internet. The system will confirm that blood is made available to the patient in the event of a medical emergency. This programme is designed as an Android app with a companion mobile app to serve as a communication tool between patients (who require blood) and donors.

E-BLOOD BANK APPLICATION USING GPS AND CLOUD COMPUTING

In numerous elective cases, similar to mishaps, there might be Associate in Nursing basic might want for explicit blood gathering. When contrasted with the extent connection of interest of the blood awfully less amount of people blessing the blood, hence the need of the blood will increment. Blood Donation and intromission Services (BTS) are essential for sparing individuals' lives. Blood donation centers endure visit lack of blood; in this manner, commercials are frequently observed on informal communities encouraging sound individuals to blessing blood for patients UN organization frantically need intromission. The E-Blood Bank is Associate in Nursing robot application that allows the client to go looking contributors of explicit individuals bolstered their area, in a short measure of your time. This application won't exclusively demonstrate the rundown of contributors anyway also facilitated with trailing the circumstance of the close to benefactors and giving SMS cautions to them, all together that the patient will be presented with blood a little while later. in order to blessing blood through the application, one must enroll himself by giving all the ideal subtleties. These subtleties ought to be substantial and valid all together that they'll be caterpillar-followed at the hour of crisis. when all the learning is acknowledged by the Admin, the benefactor will be extra to the rundown of enrolled contributors. GPS module is encased to discover the givers. Accordingly, exclusively enrolled individuals, UN office need to blessing blood ,ready to get to the administration. Cloud-basically based administrations are prove horribly significant in basic blood conveyance as they care ready to

focal and quick access to gives information and site from wherever and whenever.

Now-a-days, give chains are frightfully troublesome than at any other time. Shoppers' anticipate new item, though associations, must be constrained to be extra imaginative however attributable to these changed escape clauses and shifted interruptions it still unequipped for agreeably tending to a few reasonable, real world challenges.

One among the premier fundamental test for example to deliver a quick assistance inside the crisis things, anyway a few of the administrations neglects to achieve it. By creating Associate in Nursing application which can encourage society and differed necessitous people is that the use of E Blood Bank which can give a quick support of the necessitous people. during this application the client's area will be caterpillar tracked exploitation GPS framework. On the off chance that blood is required, the benefactor with the ideal explicit individuals is known and informed concerning its interest. The venture comprises of equation that tracks area of the contributors, distinguishes the givers UN organization are close to the circumstance of requester and informs them as well. In the event that the known close to contributors aren't ready to blessing blood these days, at that point the extent of trailing the benefactors is increment The MIS of bank Bharat spares the name of the giver UN organization is giving blood, a novel id through that the giver will peruse his record, arcanum for getting to the record, date of birth of the contributor because of his age ought to be inside the change of 18-60 years, sex of the individual, individuals, weight, portable no, email id, address, city, state, last time once contributor given blood also once a pristine contributor enrolled himself as a benefactor. This undertaking comprises of Associate in Nursing robot application that is blessing on the givers' Associate in Nursing droid-telephone application which can encourage to create a crisis administrations to the necessitous blood requestor looking for people for giving the blood and it furthermore uses cloud administrations for keeping the data of benefactor's securely.

BLOOD DONOR TRACKER BY USING GPS

The proposed system acts as an important role in saving life of human beings and which is also its main aim. The project Android Blood Bank system is developed so that users can view the information about registered blood donors and receiver such as name, address, and other such personal information along with their details of blood group

and other medical information of donor and receiver. The proposed system also has a login page where in the user is required to register and only then can view the availability of blood and may also register to donate blood if he/she wishes to. This proposed system requires internet access continuously. Thus this application helps to select the right donor online instantly using medical details along with the blood group. The main aim of developing this application is to reduce the time to a great extent that is spent in searching for the right donor and the availability of blood required. Thus this application provides the required information in no time and also helps in quicker decision making. This project acts as an important role in saving life of human beings and which is also its main aim. The project Android Blood Bank system is developed so that users can view the information about registered blood donors such as name, address, and other such personal information along with their details of blood group and other medical information of donor. The project also has a login page where in the user is required to register and only then can view the availability of blood and may also register to donate blood if he/she wishes to.

In today's rapid developing scientific world technology has become a very important aspect of life. Today's generation is more depended on advanced technology than any other aspect. Today, most of the people use advance technologies in their daily life like Internet, Smartphone. So, the idea mentioned in this paper will make the process of blood bank less time consuming by gathering all information of donor and receiver. In these application there will modules for donor, Receiver, and blood bank. Donor and receiver has to register himself to use this improved system. For Receiver, no need to call in every blood bank to check the blood availability. In improved system only admin can check. Blood bank will send notification to donor regarding Donation camps or Emergency donation. The development of a Blood Donation System depends on android-based application. System has admin which acts as server to match donors and patient pair compatibly by using rule-based knowledge. All Clinic System should have patient or receiver and donor information control matcher system. Nowadays, computers are the most useful for all fields; they can also stand for information distributing, catching, matching, etc. All users who are system's members can see donors' and patients' data and matching information. In this system, blood matcher can help donors' and patients' to get the best matcher. The establishment of android based matcher for

blood donation system is to encourage blood donor society. Current knowledge applications mainly focus on the discovery, creation, preservation, sharing and direct use of information. Nowadays, a big part of people rely on available content in social media in their decisions (e.g. reviews and feedback on a topic or product). The possibility that any body can leave a review provides a golden opportunity for spammers to write spam reviews about products and services for different interests. Identifying these spammers and the spam content is a hot topic of research and although a considerable number of studies have been done recently toward this end, but so far the methodologies put forth still barely detect spam reviews, and none of them show the importance of each extracted feature type.

RESEARCH METHODOLOGIES

PROBLEM DEFINITION

To develop a GPS based blood bank system in Android to provide the blood donor location very accurately and instantly by analyzing the GPS values of the user queried location.

CHAPTER III

EXISTING SYSTEM

- If anyone present in new location means, there is no possible to know about the services such as hospital, auto, hotel, lodge, etc.
- One company is maintaining the location Updation of the user in the location based services.
- The other third person involves in getting the dynamic location of one person by giving some rewards to the company.
- Also several attacks takes place while using IP address as communication between mobile and the server (company).

DISADVANTAGES OF EXISTING SYSTEM

- Limitation of existing system is the Manual system, it is time consuming and it leads to error prone results.
- It consumes lot of manpower to better results and in this project. It lacks of data security. And also Retrieval of data takes lot of time, Percentage of accuracy is less and Report take time to produce.

PROPOSED SYTEM

- This application first find out the GPS values that is latitude and longitude values of the user location and the query input.
- The services are collected for all areas and gets stored in database. The user location GPS values are compared with database, and find out limit area where the user location GPS values come under.
- It retrieves the blood bank nearby the requested mobile.

ADVANTAGES OF PROPOSED SYSTEM

- When the user query with input, the application traces the GPS values and, stored in server.
- The user location retrieved are stored in server by using the GPS instead of using IP address.
- If communication is done through IP address means, there is possibility of more network attacks.

SYSTEM IMPLEMENTATION AND DESIGN

MODULES

BLOOD DONORS REGISTRATION:

- The application is developed for the smart phones using Android operating system. The main duty of the application is to notify regularly the donor’s location to Rh++. The process of being a registered donor of Rh++ consists of following tasks: Volunteer to be registered as donor into the system. Rh++ is a smart information system, and all users’ interventions are minimized.
- Nevertheless, following the registration, volunteer is called by blood recruitment centre's staff and required to pass the routine health checks. If his/her health condition is suitable to be a donor, blood centre gives the username and password to the volunteer and s/he downloads the application into his/her smart phones. The following picture illustrate login screen of the Android application.

USER QUERY LOCATION IDENTIFICATION:

- The application has been initially developed on Android Studio using ANT. Application has two major tasks: a) sending periodically donors. from Rh++. To determine the donor’s latitude and longitude values, we included maps feature to our

applications and we chose to implement Google’s maps services.

- To find the nearest available donor to the requester health center, the system calculates the distance between the requester health center and the donor. It is Euclidian distance calculation. The data exchange between the application and the main system is provided by the web services.

DONORS LOCATION IDENTIFICATION:

- This web service is responsible to determine the nearest donors to the requester healthcare center. In order to make this calculation, the web service gets the healthcare center location’s information, requested blood information and the radius value determined by the user.
- With all this input, the web service determine the name, surname and location information of the donors who are suitable, close to the requester healthcare center and updated his/her location at most checked In Last N Hours’ time period ago.

REPORTING FOR QUERY:

- It retrieves the donars of the nearest location which user query (as blood group).We can view donors and blood seekers list

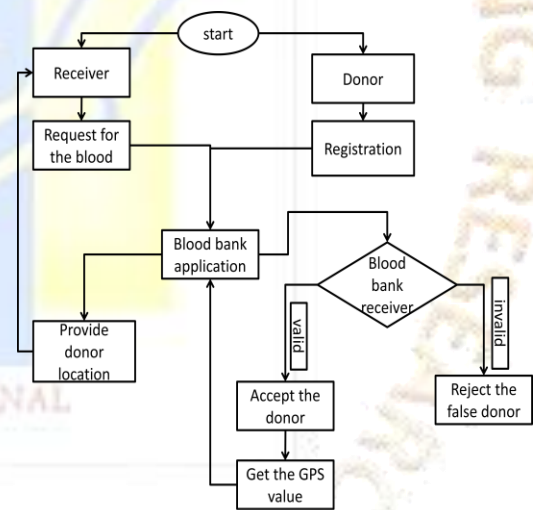


Fig1:Architecture diagram for proposed system

SOFTWARE REQUIREMENTS

SOFTWARE USED:

- Language : Java, Android
- Tool Kit : Android
- IDE : Eclipse / Android Studio

➤ Backend : MySql 5.0

ARCHITECTURE

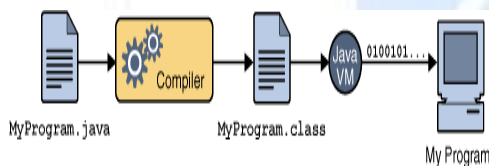
HARDWARE USED:

- Processor : Dual core
- Ram : 2 GB
- Hard Disk : 160 GB

TECHNOLOGIES USED:

JAVA (PROGRAMMING LANGUAGE)

- In the Java programming language, all source code is first written in plain text files ending with the .java extension. Those source files are then compiled into .class files by the java c compiler. A .class file does not contain code that is native to your processor; it instead contains *byte codes* — the machine language of the Java Virtual Machine¹ (Java VM). The java launcher tool then runs your application with an instance of the Java Virtual Machine.



An overview of the software development process.

ANDROID

Android is a software stack for mobile devices that includes an operating system, middleware and key applications.

The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.



CONNECTING TO A DATABASE

In order to connect to a database, you need to perform some initialization first. Your JDBC driver has to be loaded by the Java Virtual Machine class loader, and your application needs to check to see that the driver was successfully loaded. We'll be using the ODBC bridge driver, but if your database vendor supplies a JDBC driver, feel free to use it instead. To load the Driver class, and then catch the Class Not Found Exception if it is thrown. This is important, because the application might be run on a non-Sun virtual machine that doesn't include the ODBC bridge, such as Microsoft's JVM. If this occurs, the driver won't be installed, and our application should exit gracefully. Once our driver is loaded, we can connect to the database. We'll connect via the driver manager class, which selects the appropriate driver for the database we specify.

SYSTEM TEST

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

WHITE BOX TESTING

White Box Testing is a testing in which in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

BLACK BOX TESTING

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of

the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box .you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

UNIT TESTING:

Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

INTEGRATION TESTING

Software integration testing is the incremental integration testing of two or more integrated software components on a single platform to produce failures caused by interface defects.

The task of the integration test is to check that components or software applications, e.g. components in a software system or – one step up – software applications at the company level – interact without error.

FEASIBILITY ANALYSIS

Whatever we think need not be feasible .It is wise to think about the feasibility of any problem we undertake. Feasibility is the study of impact, which happens in the organization by the development of a system.

The impact can be either positive or negative. When the positives nominate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technical feasibility and Economical Feasibility.

INPUT DESIGN

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data into a usable form for processing data entry. The activity of putting data into the computer for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system.

The design of input focuses on controlling the amount of input required, controlling errors, avoiding delay, avoiding extra steps and keeping the process simple. The system needs the data regarding the asset items, depreciation rates, asset transfer, and physical verification for various validation, checking, calculation and report generation. The error raising method is also included in the software, which helps to raise error message while wrong entry of input is done. So in input design the following things are considered.

OUTPUT DESIGN

Computer output is the most important and direct information source to the user. Output design is a process that involves designing necessary outputs in the form of reports that should be given to the users according to the requirements. Efficient, intelligible output design should improve the system's relationship with the user and help in decision making. Since the reports are directing referred by the management for taking decisions and to draw conclusions they must be designed with almost care and the details in the reports must be simple, descriptive and clear to the user. So while designing output the following things are to be considered.

Determine what information to present Arrange the presentation of information in an acceptable format Decide how to distribute the output to intended receipts Depending on the nature and future use of output

required, they can be displayed on the monitor for immediate need and for obtaining the hardcopy. The options for the output reports are given in the appendix.

CONCLUSION AND FUTURE ENHANCEMENT

The conclusion is that we have a better system which will help in better interaction between the blood donors and the blood banks. This application has a wide usage and will encourage donors to donate blood. Following are the contributions of this system towards this cause:

- The user can read information about blood and the basic requirements for a donor.
- The donor can find blood banks in his nearest area via maps or call a blood bank in his area by the numbers provided in the application.

- The blood banks can see a list of donors of a particular blood group and can contact them to donate blood.

At present, the blood bank can only see the list of donors, but in future we will also include features by which blood banks can call, SMS as well as send an e-mail to the donor.

The system is scalable and allows any number of different devices to be added with no major changes in its core

FUTURE ENHANCEMENT

There is a scope of further improvement of the system.

The system can be expanded with the following ideas:

- It is recommended to develop a system which is not limited to TamilNadu only but can be used in other areas.
- We aim at including as many blood banks as possible and also as many donors as possible.

