



# Blood Bank Management System using Global Position System

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## Abstract

We proposed new technique GPS based managing blood bank using android application. In this project we develop two android applications and one intermediate server. First application for blood requester, another for blood donor, server contain previous donor database. Blood requester can send query to server for specific blood via GCM (Google Cloud Messaging), Server process query and send notification to specific person whose data satisfied for specific query. Application send GPS (Global Position System) co-ordinate's and contact no to sender, only if blood donor accept to that notification. Else nothing sends because in this paper we proposed privacy concept, so cannot get or access donor information without our permission

Key Terms:GPS – Global Positioning System, GCM- Google Cloud Messaging

## 1. Introduction

Blood is a non-replenish able entity, the only source of which is humans. Timely availability of quality blood is a crucial requirement for sustaining the healthcare services.

Therefore, maintaining quality of blood and identification of Professional Donors is a major responsibility of blood banks. NACO (National AIDS Control Organization) and NABH (National Accreditation Board for hospitals and Healthcare Providers) have provided

guidelines for ensuring the quality of blood and identifying Professional Donors. Moreover, manually monitoring standards and identifying professional donors is a challenging job. In this work, we develop a standard compliant Blood Bank Management System with a novel rule based enforcing mechanism. The developed system is an end-to-end solution for not only managing but implementing enforcing strategies and providing decision support to the users. The proposed Blood Bank management system has been implemented across 28 blood banks and a major hospital. It has been found extremely effective in streamlining the workflow of blood banks.

## 2. Literature Survey

Adarsh N, Arpitha J, Md. Danish Ali, Mahesh Charan N, Pramodini G Mahendrakar. [1] Proposed the major concern for hospitals and blood centres today is patient safety, minimal wastage of blood products and minimization of blood transfusion errors. The traditional blood-handling process in many hospitals involves a number of manual steps with

high probability of human mistakes. To ensure absolute quality of services, more and more hospitals and blood banks now require modern and advanced solutions to provide high levels of accuracy, automation and reliability. In this paper, we present a RFID based Blood bank management system that aims at reducing the number of transfusion errors. We have developed a prototype of the system using 13.56 MHz HF RFID reader/writer. This system continuously tracks the inventory status of the blood bank in real time and has cross-point checks at various locations to ensure correct transfusion.

André Abrial, Jacky Bouvier, Marc Renaudin, Member, IEEE, Patrice Senn, Member, IEEE, and Pascal Vivet [2] This paper describes a new generation of Contactless Smart Card Chip which integrates an on-chip coil connected to a power reception system and an emitter/receiver module compatible with the ISO 14443 standard, together with an asynchronous quasi-delay insensitive (QDI) 8-bit microcontroller. Beyond the Contactless Smart Card application field,

this new chip demonstrates that system-on-chip integrating power reception and management, radio-frequency communication, and signal processing is feasible. It associates analog/digital parts as well as synchronous/asynchronous logics and has been fabricated in a CMOS six metal layers 0.25-  $\mu$ m technology from STMicroelectronics.

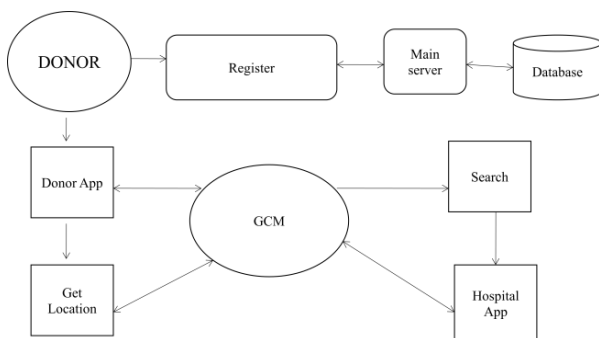
Ming Jiang, Ping Fu, Hexin Chen, Mianshu Chen, Bo Xing, and Zhonghua Sun, Ping Deng, Guang Wang, Yi Xu, Yu Wang [3] As a patient and recipient of a blood transfusion, it is important for him or her to receive the safest blood possible. Information about the donated blood should be under the track to guarantee the quality of the blood source. In this paper, we present a RFID-based blood information management system that aims at ensuring the quality of the blood and increasing the efficiency of operation management. In this system, the fingerprint sensor is adopted to enable the process of identifying blood donor more reliable and credible and RFID tag is used to make the management more conveniently. In addition, GPRS is

applied in this system so that real-time data can be transmitted between the bloodmobile and blood center through wireless internet

Gildas Avoine and Philippe Oechslin [4] The biggest challenge for RFID technology is to provide benefits without threatening the privacy of consumers. Many solutions have been suggested but almost as many ways have been found to break them. An approach by Ohkubo, Suzuki and Kinoshita using an internal refreshment mechanism seems to protect privacy well but is not scalable. We introduce a specific time-memory trade-off that removes the scalability issue of this scheme. Additionally we prove that the system truly offers privacy and even forward privacy. Our third contribution is an extension of the scheme which offers a secure communication channel between RFID tags and their owner using building blocks that are already available on the tag. Finally we give a typical example of use of our system and show its feasibility by calculating all the parameters.

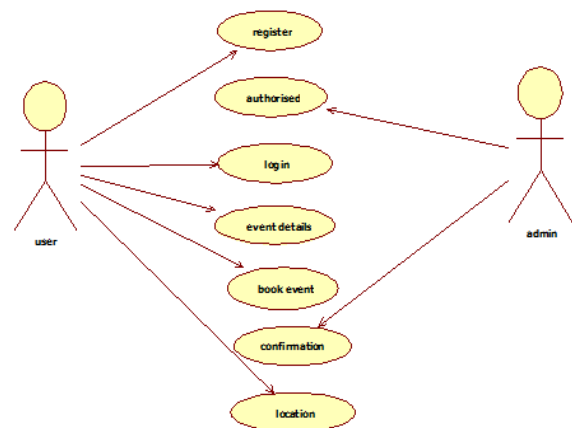
### 3. System Design

Design Engineering deals with the various UML [Unified Modeling language] diagrams for the implementation of project. Design is a meaningful engineering representation of a thing that is to be built. Software design is a process through which the requirements are translated into representation of the software. Design is the place where quality is rendered in software engineering. Design is the means to accurately translate customer requirements into finished product.

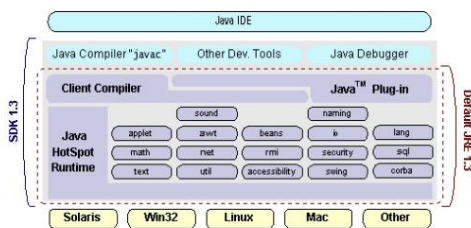


Any computer based system that manages sensitive information or causes action that can improperly harm (or benefit) individuals is the target for improper or illegal penetration. Penetration spans a board range of

activities; hackers who penetrate system for sport; disgruntled employee who attempt to penetrate for revenge; dishonest individual who penetrate for illicit personnel gains Security testing to verify that protection mechanism built into a system will in fact provide proper protection form improper penetration. During system testing, the tester plays the role of the individual who desires to penetrate the system. Anything goes! The tester may attempt to acquire password through external clerical means; may attack the system with custom software designed to break down any defenses that have been constructed may overwhelm the system thereby denying the service to other; may purposely cause system errors



Provides uniform access to a wide range of relational databases. The Java platform also has APIs for 2D and 3D graphics, accessibility, servers, collaboration, telephony, speech, animation, and more. The following figure depicts what is included in the Java 2 SDK.



### 4.Implementation

The web based android application is readily scalable,efficient and adaptable to meet the complex need of blood bank who is key facilitators for the health care sector. We proposed new technique GPS based managing blood bank using android application.First application for blood requester, another for blood donor, server contain previous donor database.Blood requester can send query to server for specific blood via GCM(Google Cloud Messaging), Server

process query and send notification to specific person who's data satisfied for specific query.Application send GPS(Global Position System) co-ordinate's and contact no to sender only if blood donor accept to that notification. Else nothing sends because in this paper we proposed privacy concept, So cannot get or access donor information without our permission. The web based android application is readily scalable,efficient and adaptable to meet the complex need of blood bank who is key facilitators for the health care sector

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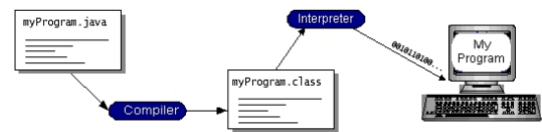
DROP TABLE IF EXISTS `bbank`;
CREATE TABLE `bbank` (
`sno` int(10) unsigned NOT NULL
AUTO_INCREMENT,
`name` varchar(45) NOT NULL,
`register_no` varchar(405) NOT NULL,
`bbankname` varchar(450) NOT NULL,
`bgroup` varchar(45) NOT NULL,
`phone_no` varchar(45) NOT
NULL,`location` varchar(45) NOT
NULL,
`unit` varchar(45) NOT NULL,
`collection` varchar(45) NOT NULL,
PRIMARY KEY (`sno`)
    
```

```

) ENGINE=InnoDB
AUTO_INCREMENT=2 DEFAULT
CHARSET=latin1
--
-- Dumping data for table `bbank`
--
/*!40000 ALTER TABLE `bbank`
DISABLE KEYS */;
INSERT INTO `bbank`
(`sno`,`name`,`register_no`,`bbankname`,
`bgroup`,`phone_no`,`location`,`un
it`,`collection`) VALUES
(1,'ragu','ragu@gmail.com','Big
Bank','o+', '9944460129','chennai','8','12-
05-
2018');
/*!40000 ALTER TABLE `bbank`
ENABLE KEYS */;
--
-- Definition of table `main`
--

```

You can think of Java byte codes as the machine code instructions for the Java Virtual Machine (Java VM). Every Java interpreter, whether it's a development tool or a Web browser that can run applets, is an implementation of the Java VM. Java byte codes help make "write once, run anywhere" possible. You can compile your program into byte codes on any platform that has a Java compiler. The byte codes can then be run on any implementation of the Java VM. That means that as long as a computer has a Java VM, the same program written in the Java programming language can run on Windows 2000, a Solaris workstation, or on an iMac.



The interpreter parses and runs each Java byte code instruction on the computer. Compilation happens just once; interpretation occurs each time the program is executed. The following figure illustrates how this works.





## Conclusion and Future Enhancement

In this project we find the nearest blood donor and track his details. This app collect his blood during emergency situation and save lives. And also this app using and collecting both the hospital and user information for easily access. Thus in this project we find the nearest blood donor and track his details through the app and collect his blood during emergency situations and save lives.

This system will be linked by internet, so the other hospitals can use this data. Now we intended to draw graph and print monthly statistical analysis details and to take backup database in another computer. We decided to change the database to sql server from Microsoft access.

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