GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda, Ahmedabad

Affiliated

Sigma Institute of Engineering

A

Project Report

On

"BLOOD BANK"

Under Subject of

PROJECT 2

B.E.-II – Semester-VIII

(Information Technology)

Submitted by:

Group: 20420

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CERTIFICATE

This is to certify that 7th Semester Project embodied in this report entitled **"BLOOD BANK"** is carried out by **"Pandya Swar (150500116016), Surani Fenil (150500116046), Raval Mihir (160503116009)"** at Sigma Institute of Engineering, Bakrol in partial fulfillment of Bachelor of Information Technology Degree to be awarded by Gujarat Technological University, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidates themselves, has duly been completed, and partially fulfills the requirement of the ordinance relating to the Bachelor Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner.

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Abstract

In our project, Blood Bank we have describe about the online availability of the blood for the needy. In our system we provide online ordering of blood to the hospitals, NGOs, or any other. We also provide the 24*7 hour of service to the customer so that they can order the blood anytime. We provide the delivery of blood in minimum time & security during online ordering.

1. Introduction

1.1 Problem Summary (What exact problem are you trying to solve?) and Introduction,

1.1.1 Introduction

The "Blood Bank "The Blood Donation Agent is to create an e- Information about the donor and Organization that are related to donating the blood. This project is aimed to developing an online Blood Donation Information. Online Blood Bank is aims serving for human welfare.
We have all the information, you will ever need. Many people are here for you, to help you, willing to donate blood for you anytime. We have done the entire job, rest is yours. Search the blood group you need. You can help us by registering on Online Blood Bank if you are willing to donate your blood when needed.

Through this application any person who is interested in donating the blood can register himself /herself in the same way if any organization wants to register itself with this site. That can also register. As a proud member of Online Blood Bank and a responsible human being, you can help someone in need. So, donate blood in online is a precious thing.

1.1.2 Problem summary:

In earlier system of blood donation, the time complexity & work complexity is high. So it becomes a huge issue for both the donor & the patient. Donor have to face several issues while donating blood & patient needs to face lot of issues to get the blood in an emergency time. So earlier system used to have so many holes which needs to be filled by some adaptive & flexible system to be used for solving these problems.

1.1.3 Purpose:

This particular system is used to provide fast blood delivery to patient of an organization that they are maintaining in their day to day life, so this system prevents the misuse of confidential data from authorized user.

1.1.4 Scope:

This system is useful for the organization which works on blood bank is to provide the blood in emergency from everywhere. Also provides Authentication preservation on blood .

1.1.5 Features:

- Can be applied from everywhere.
- Reduce the time and complexity.
- Reduce the manual work load.
- E-mail notification.
- patient can view reports.
- Provide blood authentication
- Fast blood delivery

1.2 Aim and objectives of the project

Aim:

Our aim is Accuracy-Constrained Privacy-Preserving Access Control Mechanism for Relational Data to provide better security as well as better privacy protection system.

Objectives:

- To prevent anonymous user to access confidential data.
- Authorized user can access limited amount of data.
- Provide security to database.

1.3 Problem Specifications

We investigate privacy-preservation from the anonymity aspect. The sensitive information, even after the removal of identifying attributes, is still susceptible to linking attacks by the authorized users. This problem has been studied extensively in the area of micro data publishing and privacy definitions, e.g., k-anonymity, l-diversity, and variance diversity.

1.4 Brief literature review and Prior Art Search (PAS) about the project. [It should include Web search/research publication, User feedback, Vendor/market search, Patent Search (Do not attach the whole PSAR report, mention just one page gist/summary)].

❖ Literature Review:-

1.4.1 Title: Cloud-based blood bank collaborative communication and recommendation

Author: Nilesh R. Gujarathi, Sachchidanand Singh, Sanjay K. Singh, Vikram V. Sutar

Publication:

A method for providing cloud-based communication for blood bank collection and management is provided. The method may include detecting a plurality of cloud systems. The method may also include registering the plurality of cloud systems. The method may further include enabling a plurality of cloud communications for the plurality of cloud systems. Additionally, the method may include receiving at least one blood donation request and at least one blood donation event using the plurality of cloud communications for the plurality of cloud systems.

1.4.2 Title: Blood supply management system

Author: Benjamin James Bowman , David Mitchell

Publication: The system uses an online e-commerce platform, which enables lab managers to transition away from phone and fax ordering to a web interface, saving time and reducing errors. This online ordering system also enables blood banks to post supply that is available on an ad hoc basis; lumpy supply never equals lumpy demand. The system can also include full integration of blood bank supply and hospital demand. Blood suppliers and hospitals will interact on this platform to enter into long-term delivery (future) contracts as well as immediate (ad hoc) needs. The system can be both a financial clearinghouse and the logistics platform—collecting payments and generating shipping documents with complete transparency and certainty for both parties. Blood banks and hospitals will be able to manage their entire supply chain with the

platform. This system can be priced similarly to other exchanges with members paying a tiered annual seat fee as well as per transaction fees.

1.4.3 Title: RFID blood management system

Author: Li An Liao Zhixin, Li Zhao Li Kunkun

Publication: The object of the present invention is to provide an RFID system, blood management, blood management to solve the conventional devices and systems interactive poor, low working efficiency.The present invention is achieved, an RFID system includes an RFID scanning blood management module, a blood collection system with the communication system and a communication system connected to the blood storage system, the library system of blood, blood using the system, inventory management system, information tracking system blood, blood monitoring system, query system. Blood collection system according to comprising blood,a blood filter disposed on the electronic tag information module blood, blood analysis module, the blood collection and blood analysis module through a wireless network;

1.4.4 Title: Blood donation management system

Author: Dong Ho

Publication: The present invention relates to a system for managing a donor by utilizing, Van (VAN), which is particularly common relates to blood management systems network.

Infection incident repeated government has since committed to the Red Cross for blood work in 1981 but the rapid quantitative growth, such as achieving 2.5 million people in the annual donor 1,080,000 people in 1989, 1998, recently caused by the factory and transfusion of some inadequate blood in the blood business for it is spreading general public distrust and anxiety. In addition, there is a problem that must be consumed a lot of time and effort because it is not in the current donation management system is computerized management of the donor, to find those who can donate blood needed for an emergency.

1.4.5 Title: Blood donation information managing device

Author: Kazuaki Naruse, Tatsuhisa Takeda

Publication: The blood test result information at the time of blood donation past read from said host device, characterized in that comprising a terminal device and a writing means for writing to said IC card.

Further, IC card of the present invention described in claim 4, together with the identification information of the donor storing blood test result information or the like, in the IC card for managing blood donation information blood donors, the IC card blood donation information to store the third storing a first region for storing identification information, such as blood donors name address, and a second region for storing history information such as the blood donation date / blood donor site, the test result information of the blood storage means having an area, and control means for reading / writing from the memory means, the said control means together with the writing of information into the third region to limit the medical practitioner, from the third region the readout of information is characterized in that to limit to allow only the medical practitioner and donor himself.

1.5 Plan of work

So the planning is very first of all deciding the algorithm which we are going to use for partitioning the dataset according to the users role. Secondly is to set the imprecision bound for each role. Then the use of key and how to prevent it from misuse of sensitive data from authorized user by verifying the key and this key will be auto generated by the system and assigns to user based on role.

Task	Months	Works
Task1	Jun-July	Research Analysis
Task2	Aug-Sept	Design analysis, canvas, PSAR
Task3	Nov-Dec	Implementation
Task4	Jun-Feb	Implementation, Algorithm
Task5	Feb- March	Canvas, PDE

Task6	April-May	Implementation completed

Table: 1.5 Plan of work

1.6 Materials / Tools required.

❖ Software Requirement for implementing system:

- Operating system : Windows 10.
- Coding Language : PHP
- IDE : VS CODE
- Database : MYSQL

❖ Hardware Requirements

- Minimum Hardware Requirement For Project:

COMPONENT	MINIMUM REQUIREMENTS
PROCESSOR	**Dual core or later version**
RAM	**512 MB RAM**
HDD	**40 GB HDD**
GPU	**Intel 400 or Above**
MONITOR	**15'' COLOR MONITOR**
CD Rom	**52 CDROM**

Table: 1.6 Hardware Requirement

OPERATING SYSTEM	**Windows XP/Win7/Win8**
FRONT END	**PHP**
BACK END	**MySQL**

Table1.6 Software Requirement

2. Analysis & Design Methodology

2.1 Canvas

2.1.1 AEIOU Summery:

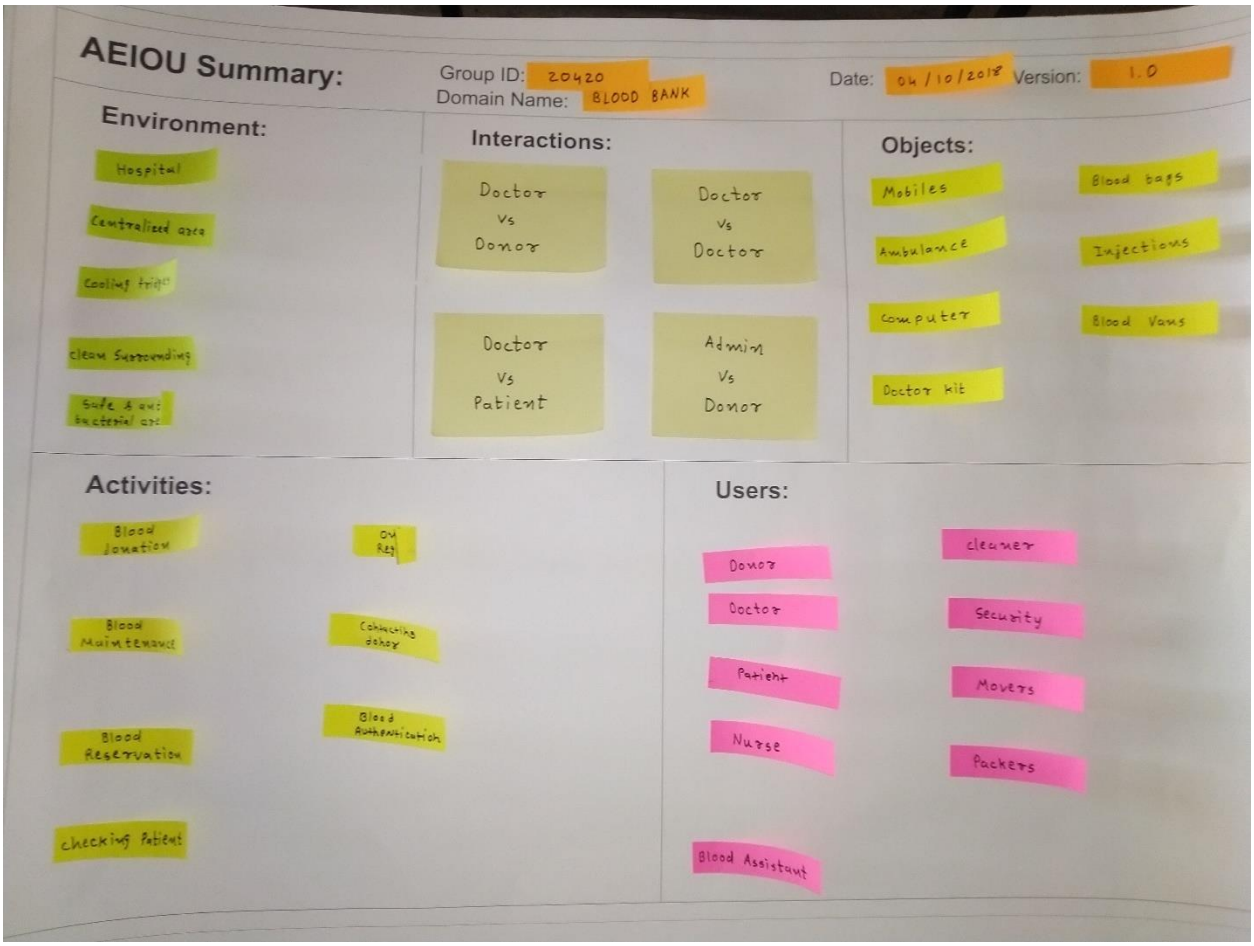


Fig: 2.1.1 AEIOU Summery

AEIOU canvas that describes the Activities, Environment, Interactions,Objects and users of observation site. An Activities shows the overall system actitvities carried out over there that is to set the permissions based on the role,to provide high security and services, user set the imprecision bound and sets the shedule of the doctor. Then Environment study includes system,traffic overload,day/night, wheather etc.Interactions includes all the interaction with user like receptinist issues the case paper, doctor gives the priscription, identifies deseases of patient etc. Objects are hosppital ,medicine,network, system, electricity, user etc. And at last the Users are doctor, medicine analyst, research analyst, nurse, workers etc.

2.1.2 EMPATHY Canvas:

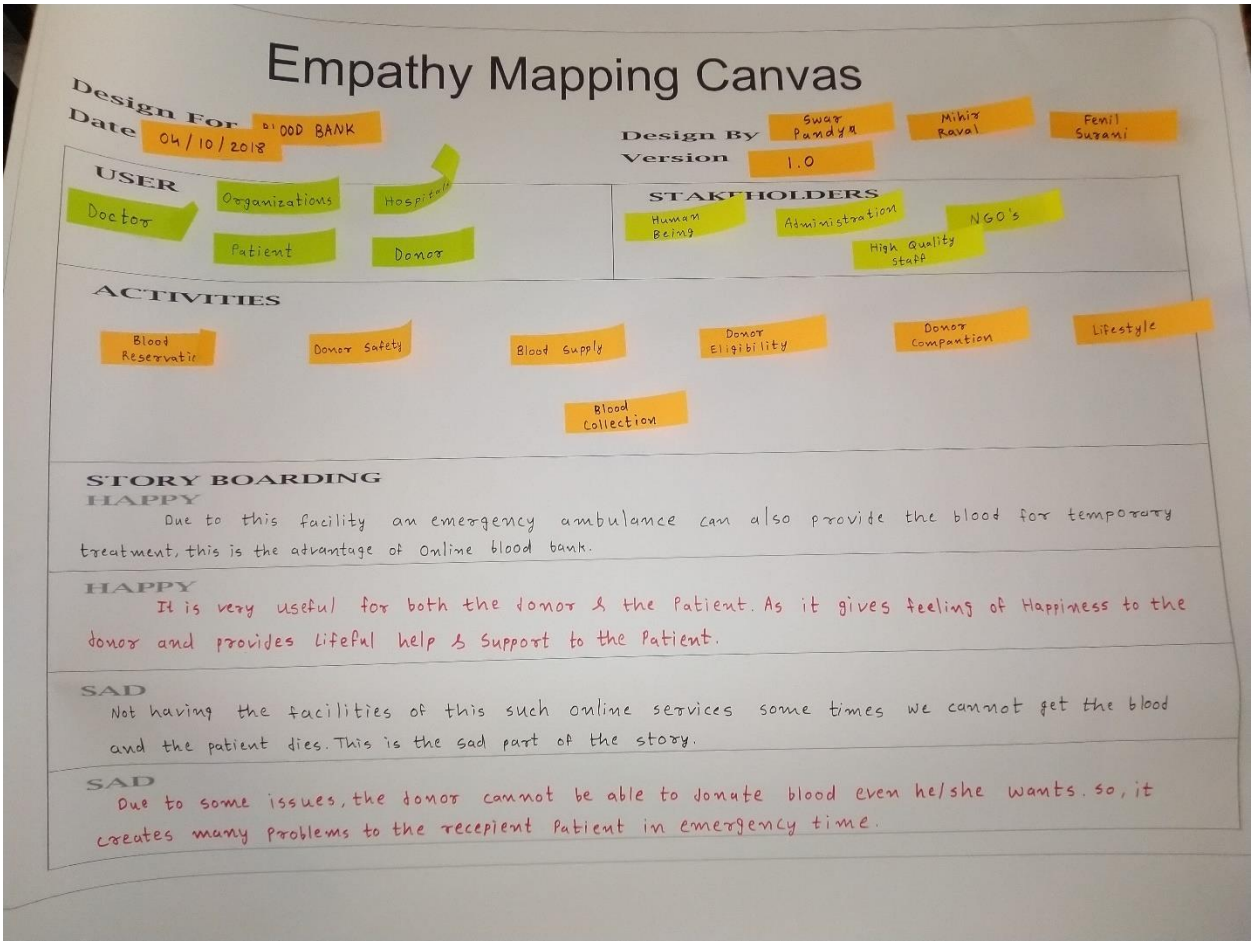


Fig 2.1.2 EMPATHY Canvas

The empathy canvas describes the User that takes the experience of system that is Doctor and Admin. Other stakeholders doctor, medicine analyst, research analyst, nurse, workers etc. An Activities shows the overall system actitvities carried out over there that is to provide high security and services, user set the imprecision bound and sets the shedule of the doctor, registration, group communication.and also the stories of user that descibes the happy and sad situations.

2.1.3 IDEATION Canvas:

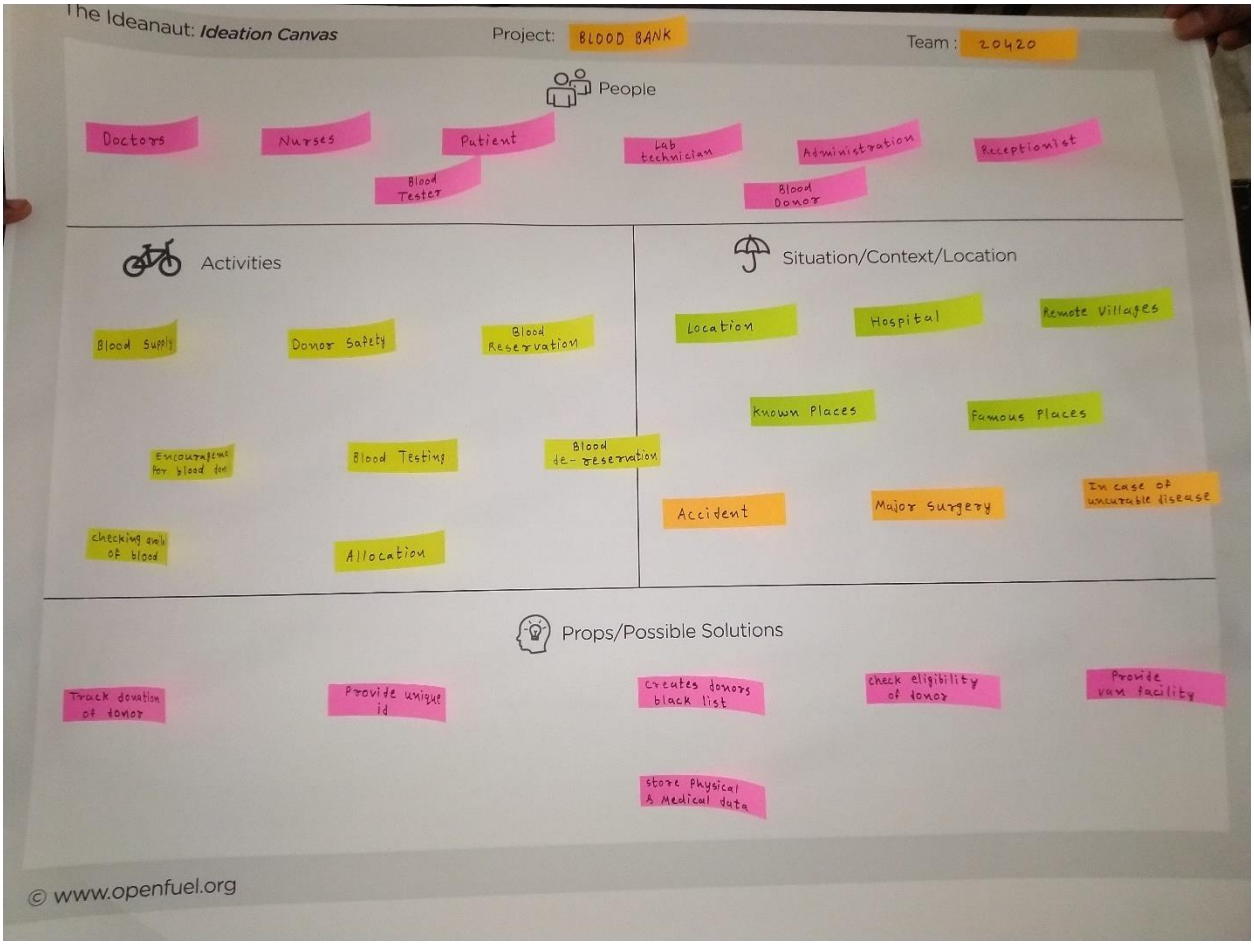


Fig 2.1.3 IDEATION Canvas

Ideation canvas describes the problems and solutions of the system. People include all the peoples involved in system and their activities. Then the situation/context/location describes all the possible location in which the system is used and their possible solutions that purposed to be used by the system.

2.1.4 PRODUCT DEVELOPMENT Canvas:

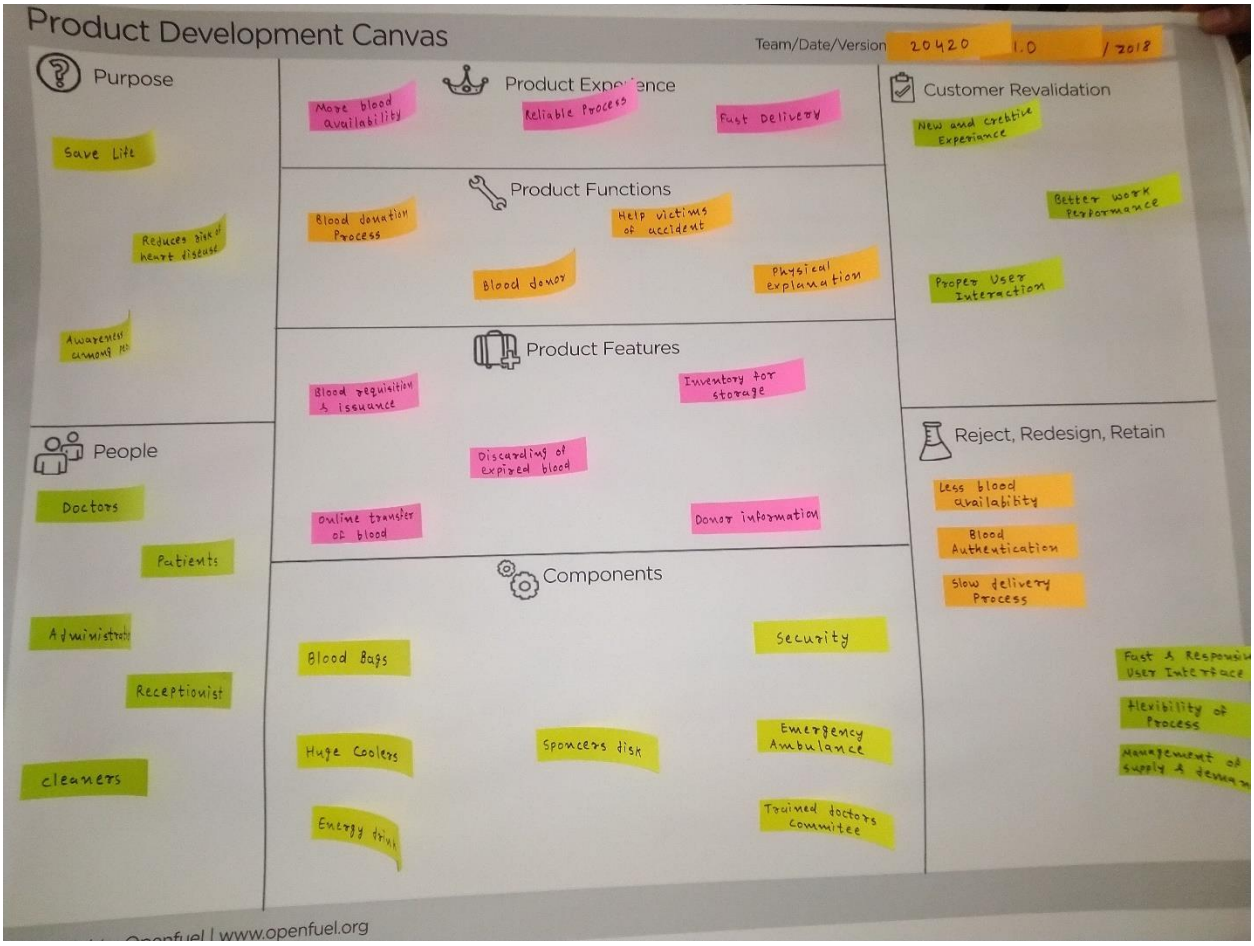
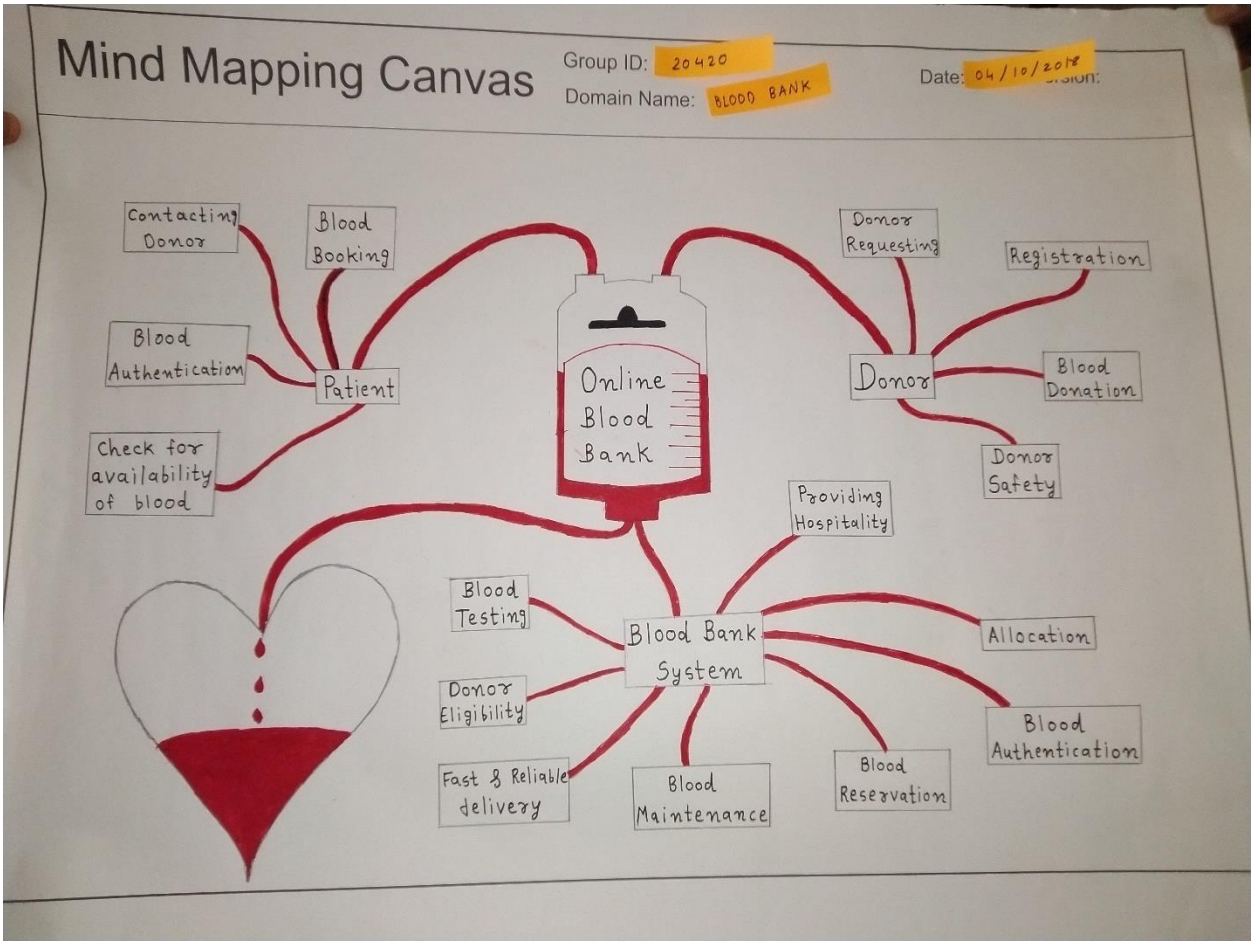


Fig 2.1.4 PRODUCT DEVELOPMENT Canvas

The product development canvas describes the purpose of the system, the experience of the product by end user, functions of product and their features , components that is to be used to develop the system, the peoples involved in the system etc. the problems found by the customer is revalidated and redesigned.

2.1.5 Mind Maping:



3.Detail Design

3.1 System Analysis

3.1.1 Study of current system

Project team member maintain the status of their assigned task on their individual desks. On demand reports are prepared by collecting status information from individual and printed or softcopy is submitted to relevant authority. Existing system is an MS-Excel based system.

3.1.2 Proposed System

To take advantage of the latest technology and to facilitate client to make online inquires about their project status a tool need to be developed.

The tool should accomplish the following functions: The tool should be able to manage all the projects effectively and ensure that projects cycle goes on smoothly and they are completed on time. While accepting clients requirements, all necessary validations should be performed.it should also store the client's detail. The system should generate client's detail list, employee detail list, project detail list and allocated task.

3.1.3 Feasibility study

3.1.4 Requirements of new system

3.1.4.1 User Requirements

Operating system	:	Windows 10.
Coding Language	:	PHP
Server	:	XAMPP Server
Database	:	MYSQL

3.1.4.2 System Requirements

Minimum Hardware Requirement For Project:

Processor : Dual core or later version

RAM : 512 MB RAM

HDD : 40 GB HDD

3.1.4.3 Functional Requirements

- **Administrator :**
  Admin should be able to insert, update and delete donor, patient and events related to projects.
- **Project:**
  Project module should be able to create new project with its deadline and add task of new project.
- **Contact Us:**
  This function would be used by user's of system using this function they can contact us if they have any query related to this system.
- **Sign Up:**
  This function is used to register with the system. If user has already account in this system so that he/she can access this system.
- **Events:**
  This module is used to add new events related to blood donation.

3.1.4.4 Non-Functional Requirements

- **Security:**

Login Id: Any user who uses the system shall have a Login Id and password.

Modification: Any modification like insert, update, delete for the database shall be synchronized and only by the administrator.

- **Reliability:**

  System shall be reliable on any platform.

- **Availability:**

  The system shall be available all the time.

- **Safety:**

Humans are error-prone, but the negative effect of common errors should be limited. E.g. Users should realize that a given command will delete data, and be asked to confirm their intent or have the option to undo.

- **Maintainability:**

Back Up: The system shall provide the capability to back-up the data.

Errors: The system shall keep a log of all the errors.

4. System Design

4.1 DFD Diagram

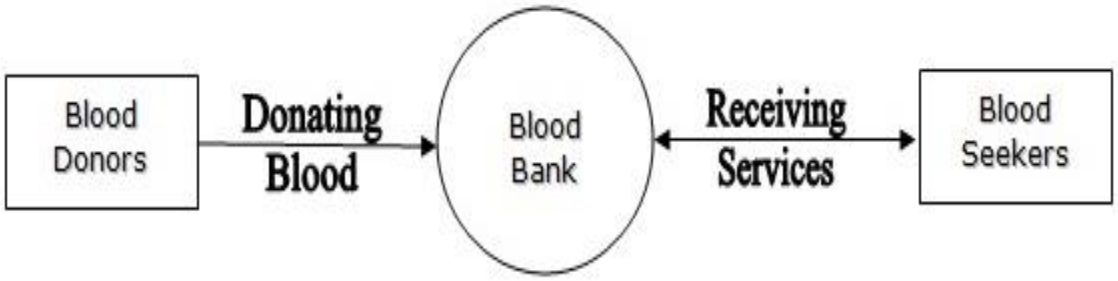


figure 4.1.1 (Context level diagram)

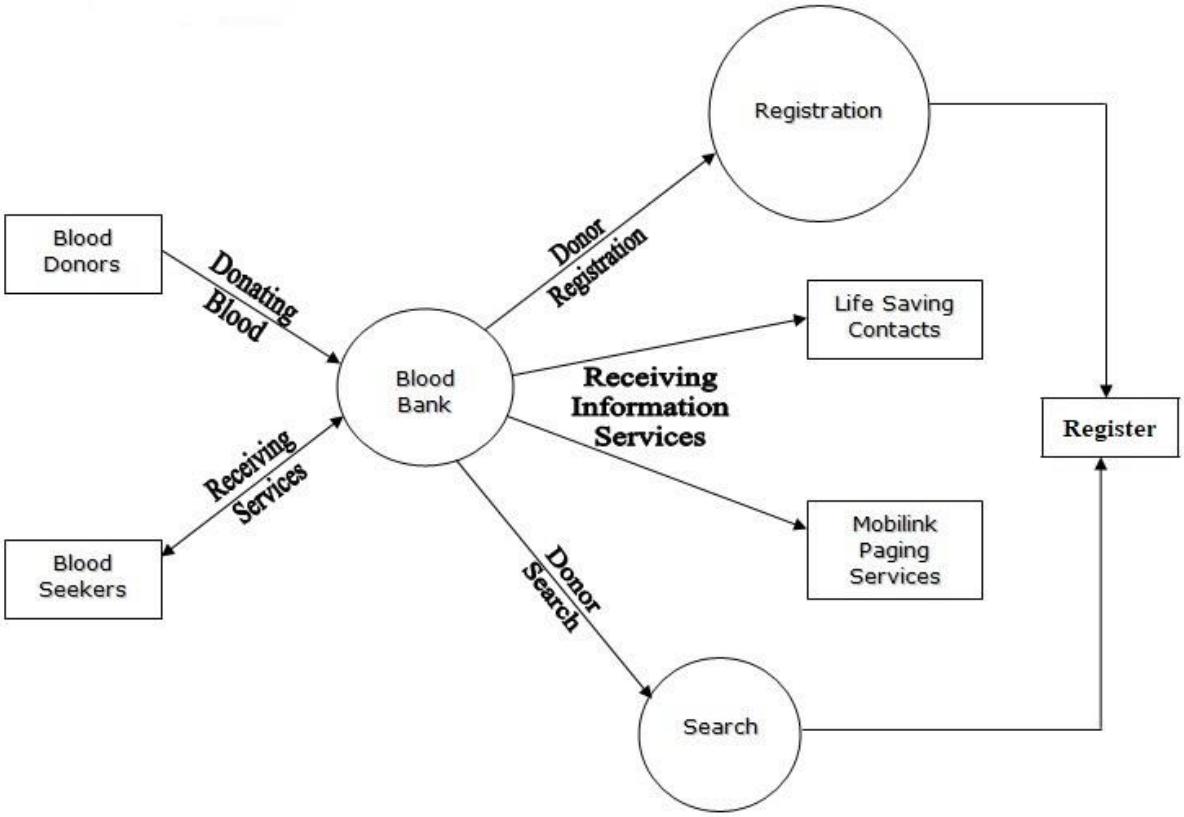


Figure 4.1.2 (DFD Level 1)

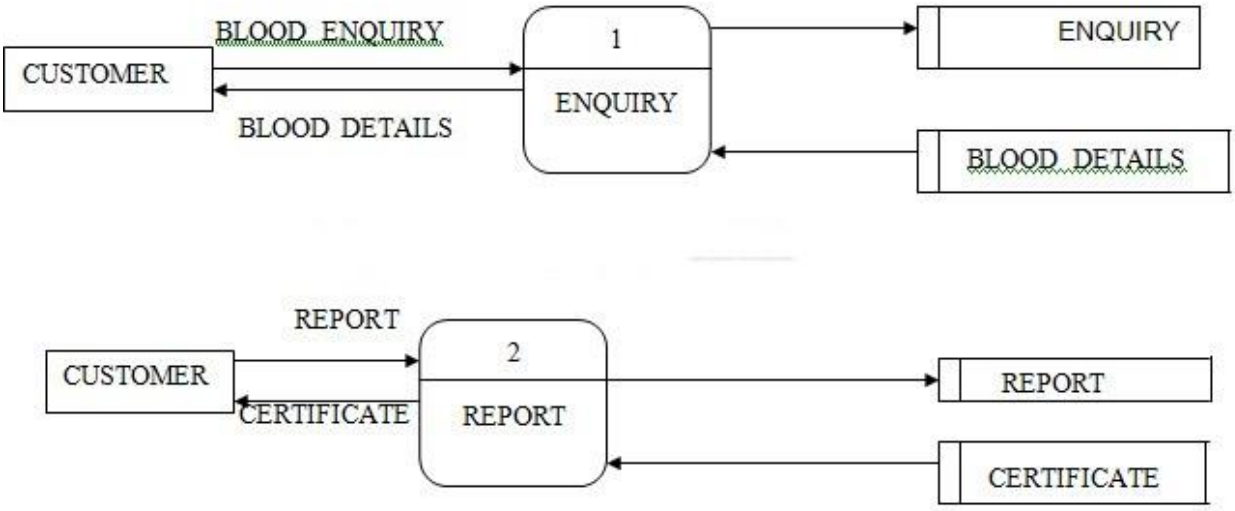


Figure 4.1.3 (DFD Level 2)

4.2 Flow Diagram

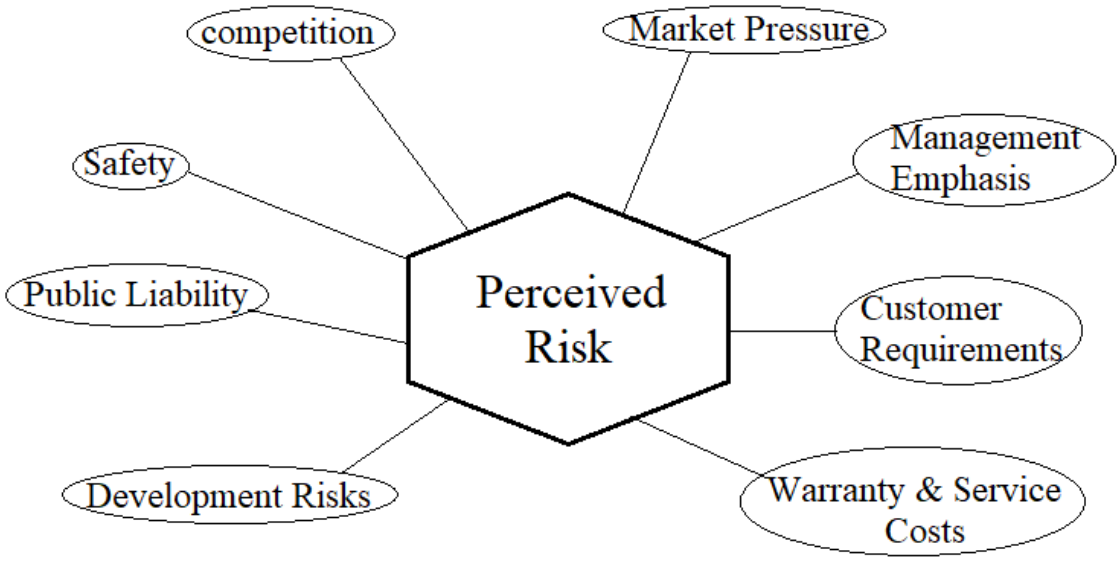


Figure 4.2.1 (Flow Diagram)

4.3 Use Case Diagram

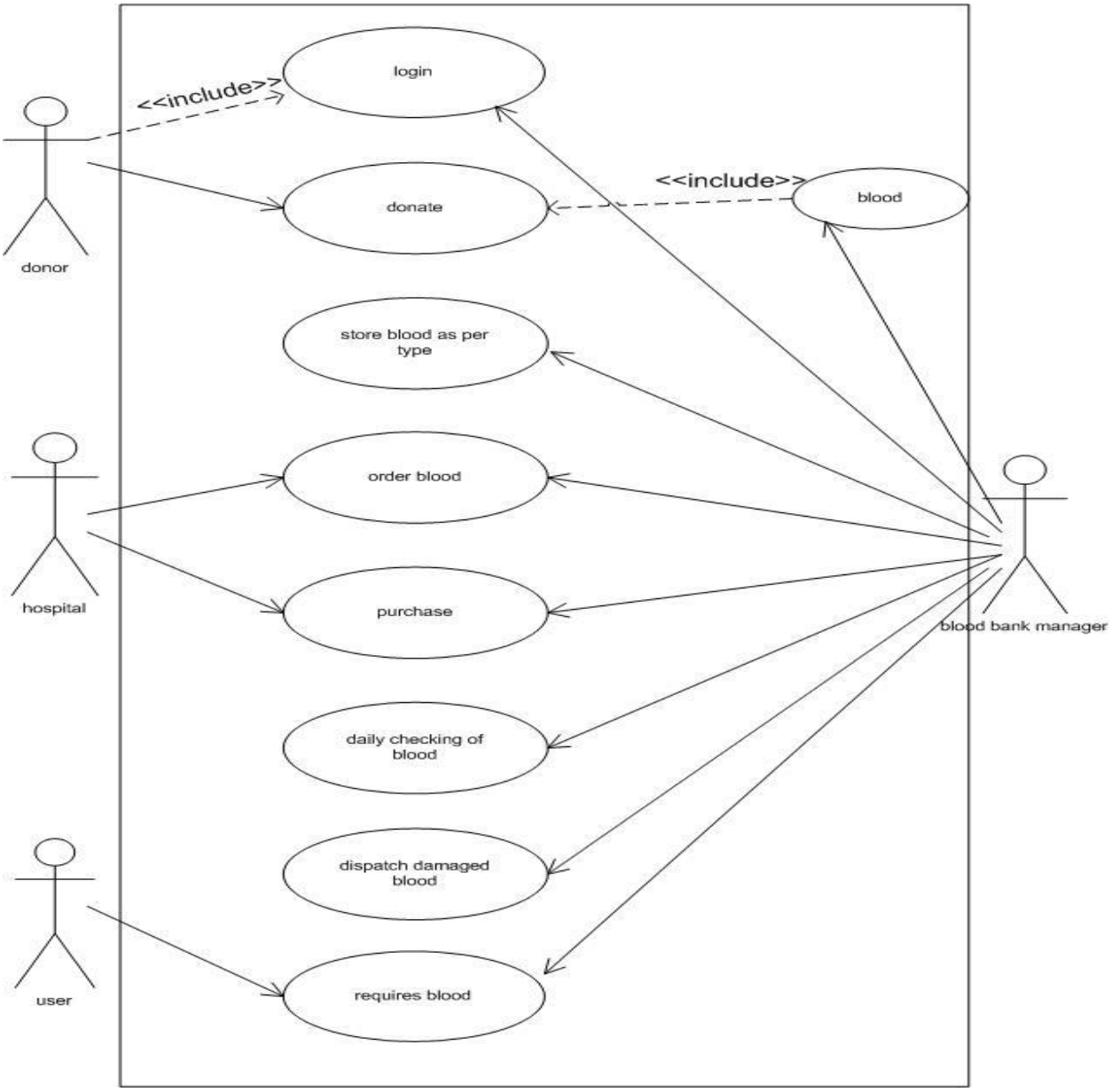


Figure 4.3.1 (use case)

4.5 Database Design

4.5.1 ER diagram

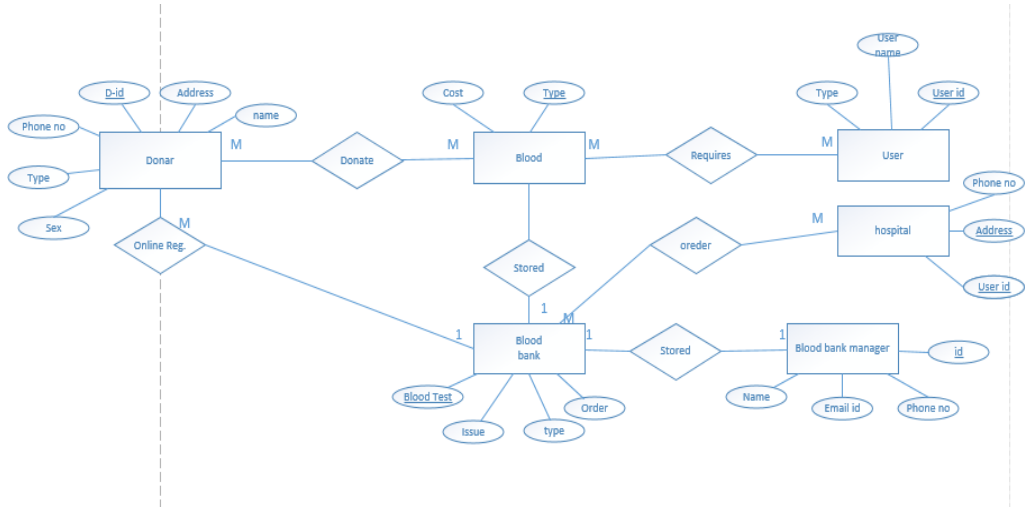


Figure 4.5.1 (E-R diagram)

4.5.2 Data dictionary

Table Name : blood donors registration table

Description : This Table Contains User Information.

Primary Key : reg_id

ID	Column Name	Data type	Null	Description
1	username	varchar(45)	✓	Email address of user
2	Posting date	varchar(45)	✓	Register User date
3	mobileno	varchar(45)	✓	MobileNo of User.
4	bloodgrp	varchar(45)	✓	Blood group of the User.
5	address	varchar(45)	✓	Address of the user
6	gender	varchar(45)	✓	Gender of the user
7	Email	varchar(45)	✓	Valid mailaddress of user
8	reg_id	int(11)		It is a Primary key.
9	state	tinyint(1)		Indicate whether user is approved or not

Table 4.5.2 :Blood Donors Registration table

Table Name : Admin Circular table

Description : This Table Contains Circulars uploaded by the Admin.

ID	Column Name	Data type	Null	Description
1	Username	Varchar(45)		User name of admin
2	password	Varchar(45)		Password by admin
3	UpdationDate	Varchar(45)		Date when uploaded

Table 4.5.3: Admin Circular table

Table Name: Blood Groups

Description : This Table shows the Blood Groups details.

ID	Column Name	Data type	Null	Description
1	Blood group	Varchar(45)		Collection of blood groups
3	Posting date	Varchar(45)	✓	Posting time of blood

Table 4.5.4: Blood groups table

Table Name : patient

Description : This Table shows patient details.

Primary Key : p_id

ID	Column Name	Data type	Null	Description
1	P_id	Int(10)		It is the primary key
2	Name	Varchar(45)	✓	Name of patient
3	Address	Varchar(45)	✓	Address of patient
4	Mob	Varchar(45)	✓	Mobile no. of patient
5	Email	Varchar(45)	✓	Valid email address of patient
6	Admit date	Varchar(45)	✓	Date when patient was admitted
7	Age	Int(3)	✓	Age of the patient
8	Blood group	Varchar(45)	✓	Blood group of patient

Table 3.4.4: Patient table

4.6 Activity Diagram

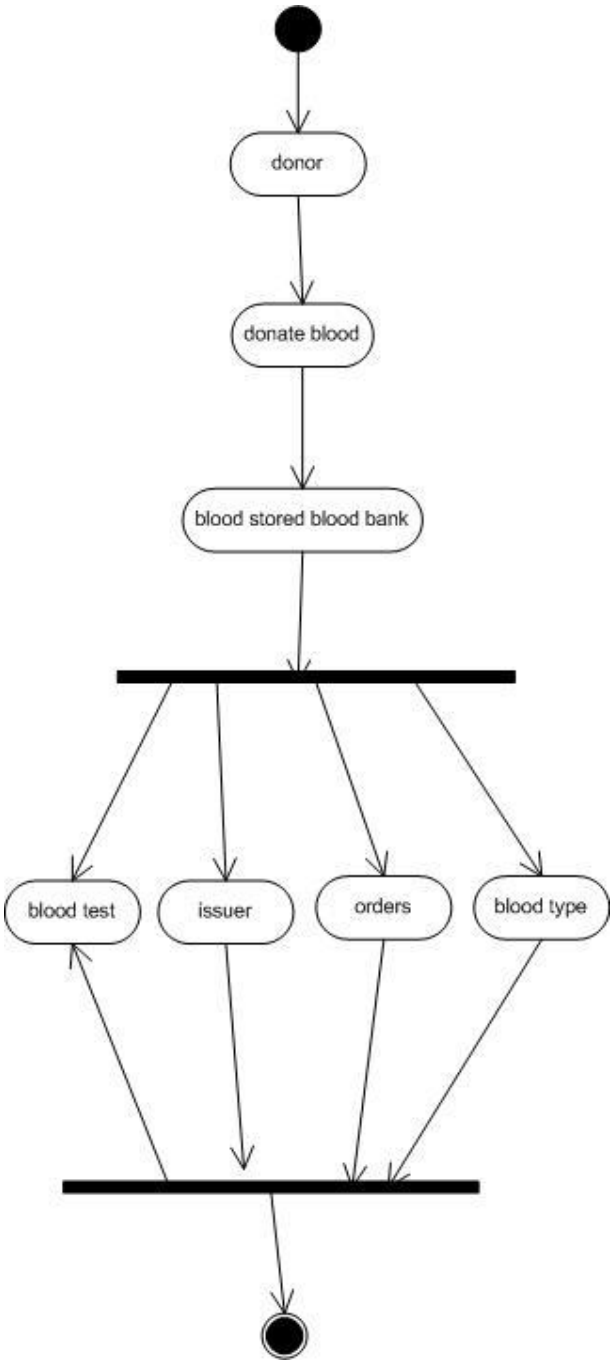


Figure 4.5.1 (activity)

4.7 Sequence Diagrams

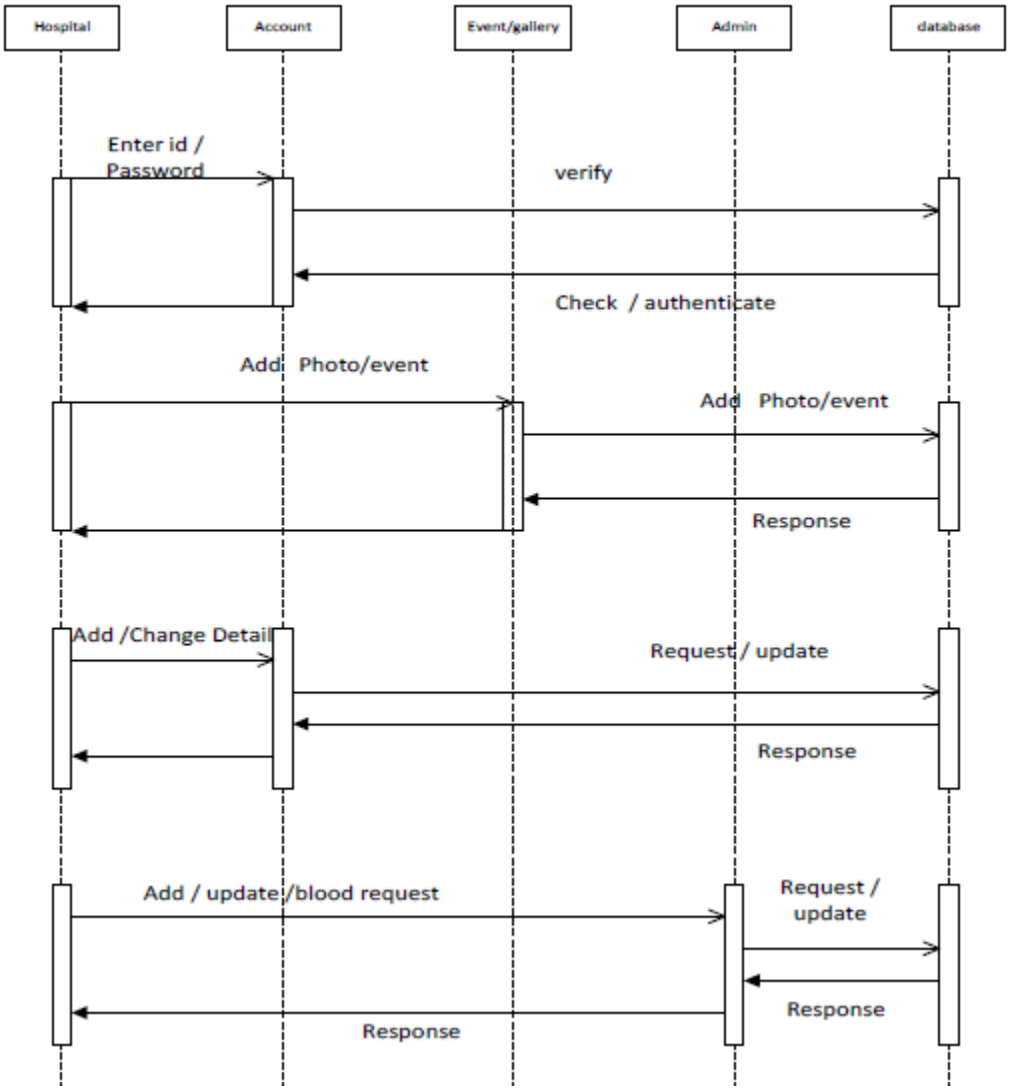


Figure 4.6.1 (Sequence diagram)

5. Implementation

5.1 Snapshot

Home Page

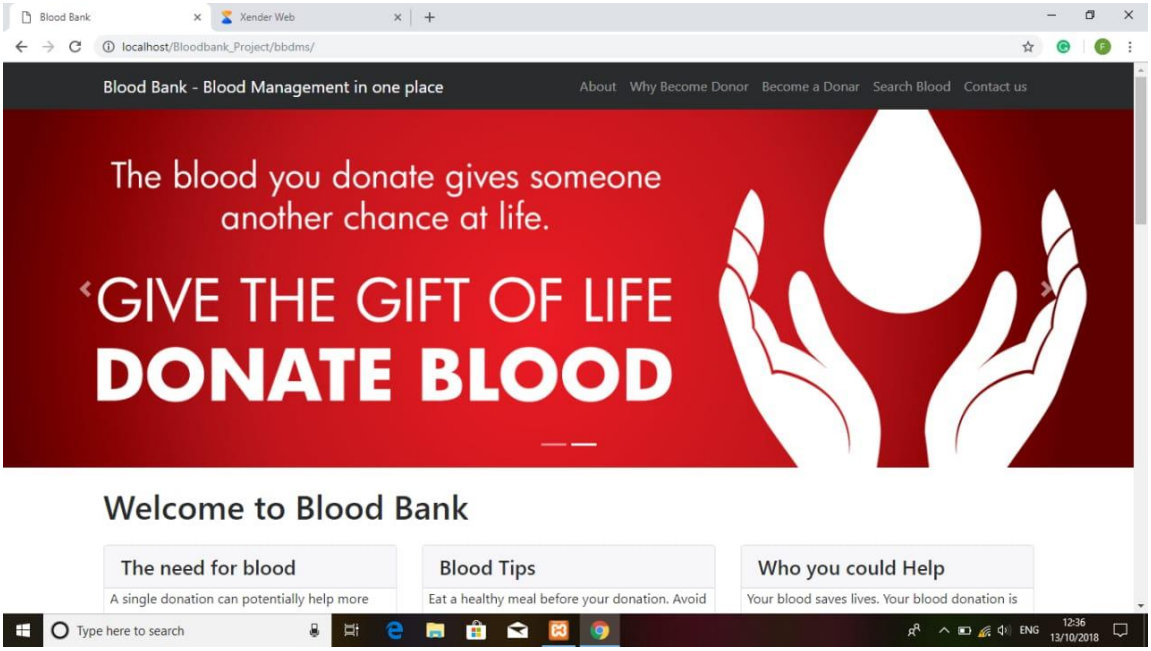


Figure 5.1.1(Home Page)

Registration:

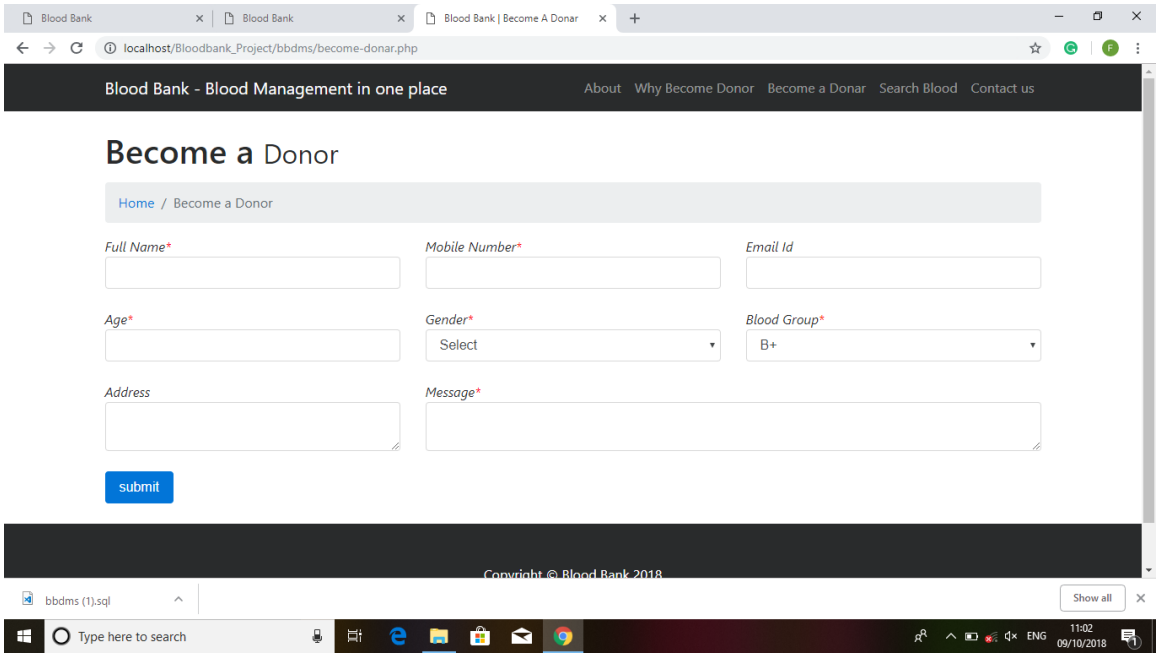


Figure 5.1.2(Registration)

About Us

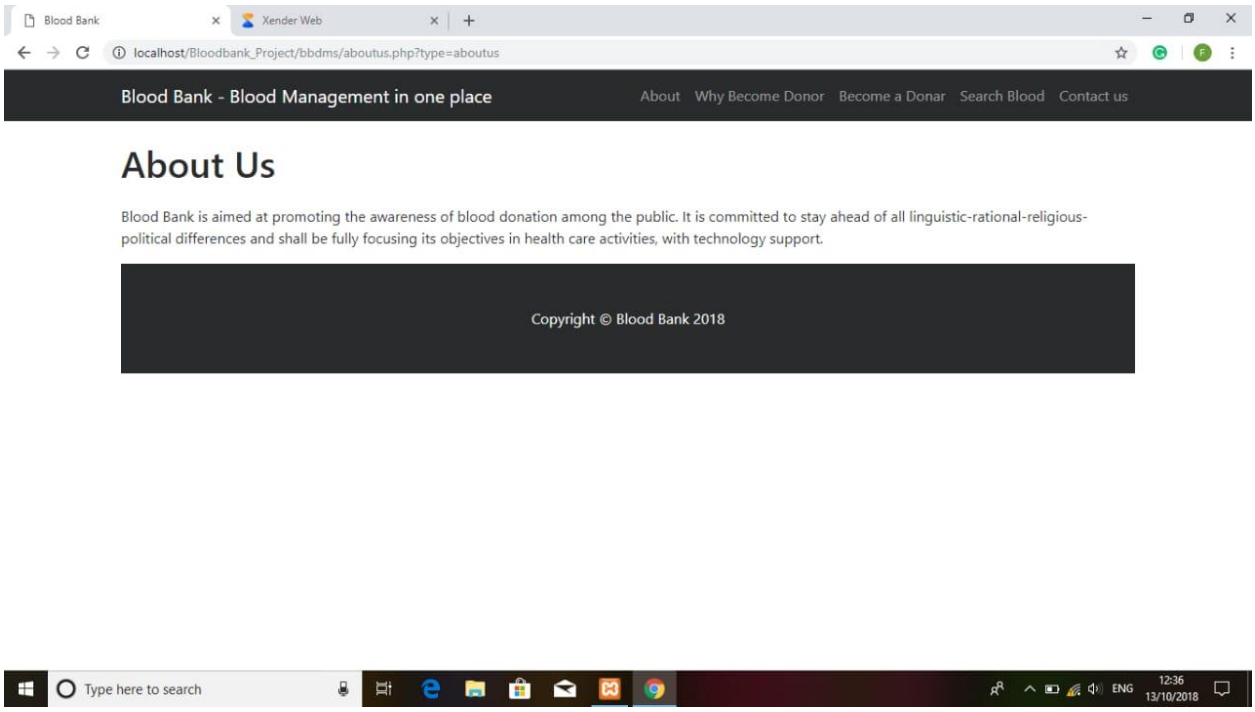


Figure 5.1.3(About Us)

6. Summary

6.1 Advantages

- The Joy of Saving Human Lives
- It manages the use of proper resources in time.
- It manages donor & patient relation with each other & communication network.
- Aids in weight loss of donors.
- The system saves time, efforts and cost of organization.
- It is easy and flexible to use.

6.2 Scope

This system is useful for the organization which works on Database and primary need is to provide the role based security on database. Also provides privacy preservation on confidential data of organization.

Future work.

- In future work we will make system more efficient & flexible to use.
- In future work we plan to use new strategies of authentication.
- In future work we will introduce new events regularly & give updates about it.

6.3 Limitations

- We can provide blood to only in few kilometers of area & not to all the areas.
- Only one user per time.

REFERENCES

1. www.w3schools.com
2. www.tutorialspoint.com