PROJECT REPORT ON

BLOOD BANK MANAGEMENT SYSTEM

ABSTRACT

The Project describes the Blood Bank management system. This **report will help you** to know in deep the actual work that has been done as a team work. The main objective of this application is to automate the complete operations of the blood bank. They need to maintain hundreds of thousands of records. Also searching should be very faster, so they can find required details instantly. Main objective is to create a system which helps them to complete their work faster in simpl**e way by using computer not the** oldest way which is used paper. Also our project contains updated information and many things else**.**

A Blood Bank stores blood of various blood groups. Many donors donate blood, each of different blood group/type. A donor may donate blood more than once and he is identified by a donor id(DID), name, address, email, phone number and dob. The blood donated by the donor is characterized by blood type. Before each donor donates his blood, he is required to register himself as a donor with the medical personnel who works at the Blood Bank. The medical personnel is identified by employee id, name, address, email, phone number, and dob. The Blood Banks receives orders for blood from many hospitals for emergency purposes and other surgical requirements and each blood bank issues the same of required blood type.

`

INTRODUCTION

Today you can easily connect with anything through internet services. So online platform is the best choice for our project. Blood Bank 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 all the job, rest is yours. Search the blood group you need. You can help us by registering on Blood Bank if you are willing to donate your blood when needed. As a proud member of Blood Bank and a responsible human being, you can help someone in need. So, donate blood in online. Person who need to donate blood may register on our website with the help of username and password. The persons who need blood donor, they can search and find blood donors by using our website. After searching, a list of donors will be displayed and user can get brief details about their contact details, email including their location, so they can communicate.

This project is mainly towards persons who are willing to donate blood to the patients. Through this system it will be easier to find a donor for exact blood type and easy to build the connection between donor & the blood bank authorities. The main intend of building this software is to formal the procedure of blood donation & motivate donors in order to donation blood. We have tried to maintain all those information of donor which is easily understandable to the doctors which makes them easy to find the donor.

SYSTEM SPECIFICATION

Software Requirements:

a. WINDOWS OS

b. DB BROWSER

c. SQL SERVER/SQL LITE

Hardware Requirements:

a. RAM 512 MB AND MORE

b. 2.8 GHZ PROCESSOR

OBJECTIVE

1. **We'll start with an virtual representation of our database with the help of an ER diagram**

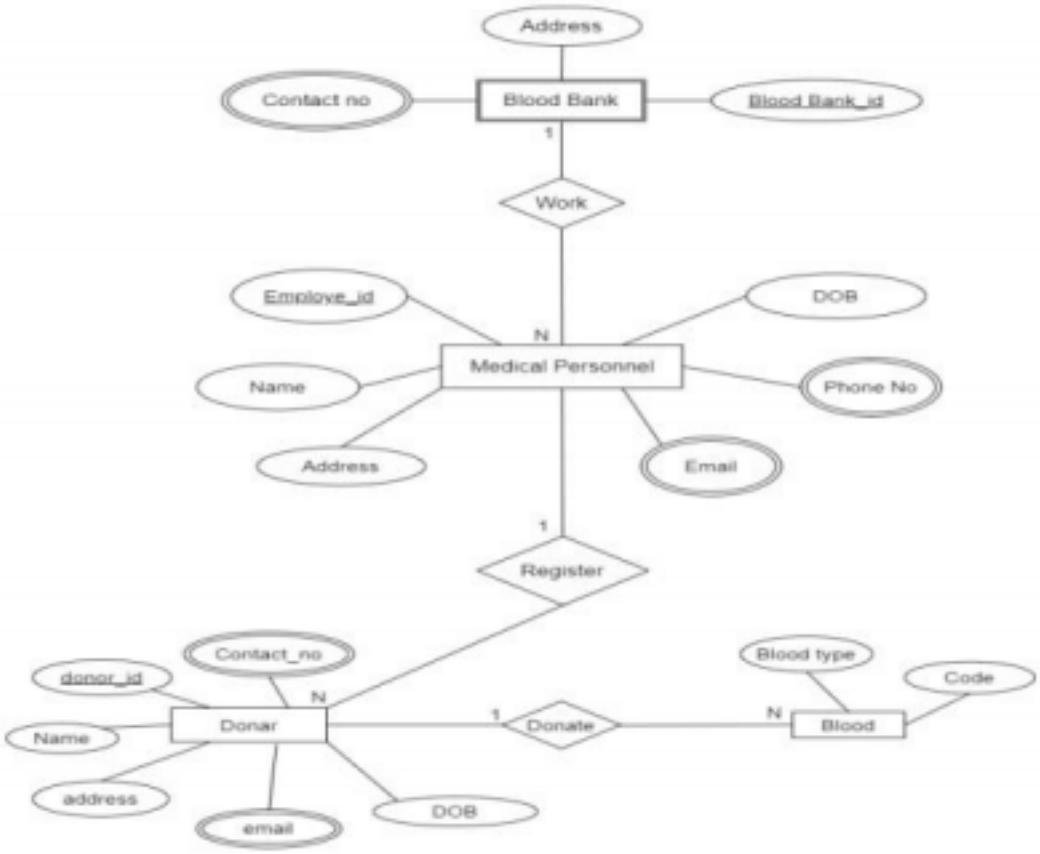
2. **We'll set up our database**
   a. Donar Table
   b. Recipient Table
   c. Medical Personnel Table
   d. Blood Donation Table
   e. Blood Transaction Table

3. **We'll create our views**
   a. PatientSeen
   b. BloodStock

4. **We'll create our Trigger**
   a. eligible

1.0 VIRTUAL REPRESENTATION - ER DIAGRAM

An Entity–relationship model (ER model) describes the structure of a database with the help of a diagram, which is known as Entity Relationship Diagram (ER Diagram). An ER model is a design or blueprint of a database that can later be implemented as a database. The main components of E-R model are: entity set and relationship set.



2.0 DATABASE - TABLES

2.1 DONAR TABLE

CODE:

```
CREATE TABLE Donor(
 DonorID INT AUTO_INCREMENT
 NOT NULL , firstName VARCHAR( 50 ) NOT
NULL, lastname VARCHAR( 50 ) not null, address
VARCHAR( 60 ) not null, email VARCHAR( 100 )
not null, phone VARCHAR( 20 ) not null, dob
DATE not null, bloodType varchar (3)NOT NULL ,
PRIMARY KEY ( donorID ) );
```

donorID	firstName	lastname	address	email	phone	dob	bloodType
1	Alice	Smith	3232 Apple Ave	asmith@xymail.com	251-365-1472	1935-12-04	B-
2	Tim	Rogers	6464 Alen Ave	trogers@xymail.com	486-657-2365	1982-03-09	O-
3	Divina	Gorospe	5346 Blue Ave	dgor@xymail.com	321-351-4567	1981-11-04	A-
4	Raul	Cordero	2130 Spring Ave	rcordero@xymail.com	265-175-1656	1983-12-09	AB+
5	Purva	Chandel	9863 Rainbow Drive	pchandel@xymail.com	977-148-2615	1985-07-14	O+
6	Richard	Daniel	4684 Cole Ave	rdaniel@xymail.com	516-898-5258	1999-06-18	A+
7	rachel	Mane	6468 6th ave	mane@xymail.com	316-687-3158	1999-04-07	0-
8	Holly	Asher	5427 River Road	hasher@xymail.com	2313-658-8341	1990-02-05	A+
9	Hal	kim	2465 Green Road	hkim@xymail.com	545-4747-3665	1999-03-31	AB-
10	Lina	Krane	2343 Sona drive	lkrane@xymail.com	546-6848-3543	1958-06-08	O+
11	Eliza	Car	5752 Rial Drive	ecar@xymail.com	87-745-4375	2000-05-03	B+
12	Ren	Shu	2343 Sona Road	rshu@xymail.com	522-656-4781	1936-12-20	O-
13	Serena	Lon	3543 Lora Ln	slon@xymail.com	257-3325-5752	1935-11-01	A-
14	Edgar	Bana	8686 Sear Dr	ebana@xymail.com	363-986-4773	1957-03-25	AB+
15	Ethan	Roy	4505 Square Road	eroy@xymail.com	578-957-1240	1957-04-17	o+
16	Sera	Han	4254 Smite Ln	shan@xymail.com	254-587-54216	2000-05-03	A+
17	Stu	Grain	2725 Len drive	sgrain@xymail.com	542-686-6215	1958-05-18	O-
18	Ryan	Stanly	2355 Rio Ln	rstanly@xymail.com	259-782-4534	1965-08-05	A+

2.2 RECIPIENT TABLE

CODE:

```
CREATE TABLE Recipient(
recipientID INT AUTO_INCREMENT NOT
NULL , firstName VARCHAR( 50 ) NOT NULL,
lastname VARCHAR( 50 ) not null, address
VARCHAR( 60 ) not null, email VARCHAR(
100 ) not null, phone VARCHAR( 20 ) not null,
dob DATE not null, bloodType varchar (3)NOT
NULL , PRIMARY KEY ( recipientID ) );
```

ecipientID	firstName	lastname	address	email	phone	dob	bloodType
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	Melissa	Sone	6216 Ash Ave	msone@xymail.com	368-478-3652	1935-03-15	AB-
2	Chris	Cole	5465 Cherry Ln	ccole@xymail.com	516-141-5165	1936-02-27	B+
3	Aspen	Holland	5447 Crew Ln	aholland@xymail.com	545-599-5465	1936-02-27	O-
4	Sia	Al	8441 Rym Ave	sai@xymail.com	236-144-3655	2000-02-17	A-
5	Deanna	Riza	3654 sieera driva	driza@xymail.com	232-447-2622	1984-02-17	AB+
6	Ashely	Sky	3642 Create Ave	asky@xymail.com	178-266-1541	1935-06-07	B+
7	Kate	Free	1475 lime drive	kfree@xymail.com	654-575-3627	2013-09-28	A+
8	Morris	Hane	5423 Crow Drive	mhane@xymail.com	651-615-2683	1947-08-25	B-
9	Eli	Mac	2144 Cina Ave	emac@xymail.com	646-369-5683	1983-07-04	AB+
10	Ron	Ali	9883 River Road	rali@xymail.com	545-652-3253	2013-11-06	B-
11	Eli	Cole	2531 Green Road	ecole@xymail.com	215-468-6486	1954-06-18	A+
12	Alice	Holland	545 Purple Ave	aholl@xymail.com	531-686-1516	1925-04-07	O-

8

2.3 MEDICAL PERSONNEL TABLE

CODE:

```
CREATE TABLE MedicalPersonnel( empID INT
AUTO_INCREMENT NOT NULL , firstName
VARCHAR( 50 ) NOT NULL , lastname
VARCHAR(
50 ) NOT NULL , address VARCHAR( 60 ) NOT
NULL , email VARCHAR( 100 ) NOT NULL ,
phone
VARCHAR( 20 ) NOT NULL , dob DATE NOT
NULL , PRIMARY KEY ( empID )
```

empID	firstName	lastname	address	email	phone	dob
Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	Melissa	Smith	3362 Create Ave	msmith@gmail.com	316-659-1475	1935-12-04
2	Deanna	Mane	1423 Lime Drive	dmane@gmail.com	154-477-3255	1942-03-09
3	Ashely	Asher	1553 Crow Drive	aasher@gmail.com	247-878-4876	1963-08-02
4	Kate	Kim	2574 Cina Ave	kkim@gmail.com	568-474-2632	1963-08-03
5	Morris	Sone	3362 Apple Ave	msone@gmail.com	443-151-4843	1985-07-14
6	Eli	Cole	2667 Alen Ave	ecole@gmail.com	215-468-6486	1954-06-18
7	Alice	Holland	3254 6th Ave	aholland@gmail.com	531-686-1516	1925-04-07
8	Tim	Hane	9883 River Road	thane@gmail.com	648-165-3202	1990-02-05
9	Holly	Mac	2531 Green Road	hmac@gmail.com	212-032-0124	1990-02-06
10	Sam	George	545 Red Ave	sgeorge@gmail.com	545-2625-5486	1955-03-05
11	Crea	Snow	2342 Gen Drive	csnow@gmail.com	827-682-2417	1954-02-15
12	Maya	Stein	4564 Realgar Ln	mstein@gmail.com	178-684-2452	1965-06-25
13	Rena	Jal	3562 Free Drive	rjal@gmail.com	148-368-2872	1935-12-21
14	Max	Rain	2326 Gray Ln	mrain@gmail.com	436-5483-1752	1946-01-09
15	Shea	Lia	9890 Brian Grove	slia@gmail.com	257-587-2536	1968-07-30
16	Horatia	Mayor	3452 Linden St	hmayor@gmail.com	456-522-5822	1934-08-15
17	Laura	Grove	3567 Nat St	lgrove@gmail.com	259-367-3527	1987-06-05
18	Roy	Het	7542 Lemon Ave	rhet@gmail.com	428-582-6843	1987-09-23

2.4 BLOOD DONATION TABLE

CODE:

CREATE TABLE BloodDonation(bloodID INT AUTO_INCREMENT, donorID INT NOT NULL , dateDonated DATETIME NOT NULL , quantity INT NOT NULL , PRIMARY KEY (bloodID) , FOREIGN KEY (donorID) REFERENCES Donor(donorID));

bloodID ▲1	donorID	dateDonated	quantity
Filter	Filter	Filter	Filter
32	11	2016-03-11	1
31	10	2016-03-10	1
30	9	2016-03-09	1
29	8	2016-03-08	1
28	7	2016-03-07	1
27	6	2016-03-06	1
26	1	2016-03-05	1
25	5	2016-03-04	1
24	4	2016-03-03	1
23	3	2016-03-02	1
22	2	2016-03-01	1
21	19	2016-01-19	1
20	18	2016-01-18	1
19	17	2016-01-17	1
18	16	2016-01-16	1
17	15	2016-01-15	1
16	14	2016-01-14	1
15	13	2016-01-13	1

2.5 BLOOD TRANSACTION TABLE

CODE:

CREATE TABLE BloodTransaction(transactID INT AUTO_INCREMENT , empID INT NOT NULL , dateOut DATETIME NOT NULL , quantity INT NOT NULL , recipientID INT NOT NULL , bloodID INT NOT NULL , PRIMARY KEY (transactID) , FOREIGN KEY (empID) REFERENCES MedicalPersonnel(empID) , FOREIGN KEY (recipientID) REFERENCES Recipient(recipientID) , FOREIGN KEY (bloodID) REFERENCES BloodDonation(bloodID));

transactID	empID	dateOut	quantity	recipientID	bloodID
Filter	Filter	Filter	Filter	Filter	Filter
20	1	2016-03-01	1	1	3
21	1	2016-03-02	1	2	4
22	3	2016-03-03	1	3	5
23	4	2016-03-04	1	4	6
24	1	2016-03-05	1	5	7
25	6	2016-03-06	1	6	8
26	7	2016-03-07	1	7	9
27	8	2016-03-08	1	8	10
28	9	2016-03-09	1	9	11
29	1	2016-03-10	1	10	12
30	11	2016-03-11	1	11	13
31	12	2016-03-12	1	12	14
32	13	2016-03-13	1	13	15
33	2	2016-03-14	1	14	16
34	15	2016-03-15	1	15	17
35	2	2016-03-16	1	16	18
36	17	2016-03-17	1	17	19

3.0 Views

3.1 Patient Seen

This view is made to see which patient is been seen by which medical personnel on which dates by joining the tables medicalpersonnel,bloodtransaction and recipient.

Medical Personnel	Patient Name	Date Seen
Filter	Filter	Filter
Ashely Asher	Aspen Holland	2016-03-03
Eli Cole	Ashely Sky	2016-03-06
Laura Grove	Hal Kim	2016-03-17
Tim Hane	Morris Hane	2016-03-08
Roy Het	Lina Krane	2016-03-18
Alice Holland	Kate Free	2016-03-07
Rena Jal	Tim Hane	2016-03-13
Kate Kim	Sia Ai	2016-03-04
Shea Lie	Sam George	2016-03-15
Holly Mac	Eli Mac	2016-03-09
Deanna Mane	Holly Mac	2016-03-14
Deanna Mane	Holly Asher	2016-03-16
Deanna Mane	Eliza Car	2016-03-19
Melissa Smith	Melissa Sone	2016-03-01
Melissa Smith	Chris Cole	2016-03-02
Melissa Smith	Deanna Riza	2016-03-05
Melissa Smith	Ron Ali	2016-03-10
Crea Snow	Eli Cole	2016-03-11

CODE:

```
create view PatientSeen as select m.firstNamell' 'll m.lastName as 'Medical Personnel',
r.firstnamell' 'llr.lastName as 'Patient Name', dateOut as 'Date Seen' From
MedicalPersonnel m, BloodTransaction b, Recipient r where m.empID = b.empID AND
r.recipientID = b.recipientID order by m.lastName ASC
```

3.1 BloodStock

This view give us an idea about the stocks of blood quantity that is present to us for each blood type by joinig the tables bloodDonation and bloodTransaction.

CODE:

```
create view BloodStock as select Donor.bloodType as 'Blood Type', sum(BloodDonation.quantity) as 'In Stock'from BloodDonation join Donor on BloodDonation.donorID = Donor.donorID where BloodDonation.bloodID not in (select bloodID from BloodTransaction) group by bloodTyp
```

Blood Type	In Stock
Filter	Filter
0-	1
A+	2
A-	1
AB+	1
AB-	1
B+	1
B-	1
O+	2
O-	1

4.0 Trigger

4.1 Eligible

A trigger to check whether the person is eligible or not for donating the blood.

CODE:

```
CREATE TRIGGER eligible BEFORE INSERT ON Donor BEGIN SELECT CASE WHEN ( new.dob > "2001-12-31") THEN RAISE(ABORT,"Donor Not Eligible to donate blood") END; END
```


CONCLUSION

- In conclusion we had successfully implemented the project.
- The project is designed and developed keeping in view that it should be user friendly, searching should be easy, and it should have the good and easy display. ▪ All the experiment result showed that average response time is decreased. ▪ User is provided the option of monitoring the records he entered earlier. He can see the desired records with the variety of options provided by him.