Blood Bank Management System Project

Produced to Dr. Ahmed Abdalaal

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Summary:

This report discusses a project for a blood bank database. A blood bank is a place where blood units that are collected from blood donation events are stored in one place, with huge data about donors, patients, and blood units donated to patients, as well as data of employees in the blood bank and hospitals benefiting from the blood bank to fulfill medical requirements. So we make a blood bank database management system to organize data and to minimize the cost and time of the labor invested in accessing and sorting this data. In addition, it keeps track of blood bank data and related information.

Introduction:

A blood bank contains a lot of data that needs to be organized and manageable, which can be done by a database management system. So the project is about a blood bank database management system that aims to:

- Organize the data in the blood bank.
- Facilitate access to and deal with it.
- minimize the cost and time of the labor invested in accessing and sorting this data.
- The user of this system can see the result of the blood test that has been conducted on each of the blood units he donated to the blood bank, the result of the test will indicate whether the blood unit can be delivered to a patient or not.
- The system also can give information to the donor about blood analysis test results each time the donor makes a contribution.
- The user can see the available blood units and their types.

The report is concerned with all the cities of Gaza Strip, as each city has a blood bank linked to the hospitals of the Strip.

Case study:

Blood banks maintain an extensive network of blood donors and recipients to fulfill the medical requirements when the needs arise. To ensure quick management of the blood bank it is mandatory to have a system that can help to minimize the cost and time of the labor invested in accessing and storing this vast information.

• We present to you, a database management system that keeps records of blood banks and related information to facilitate the functioning of the above-mentioned scenario.

A glance at the database:

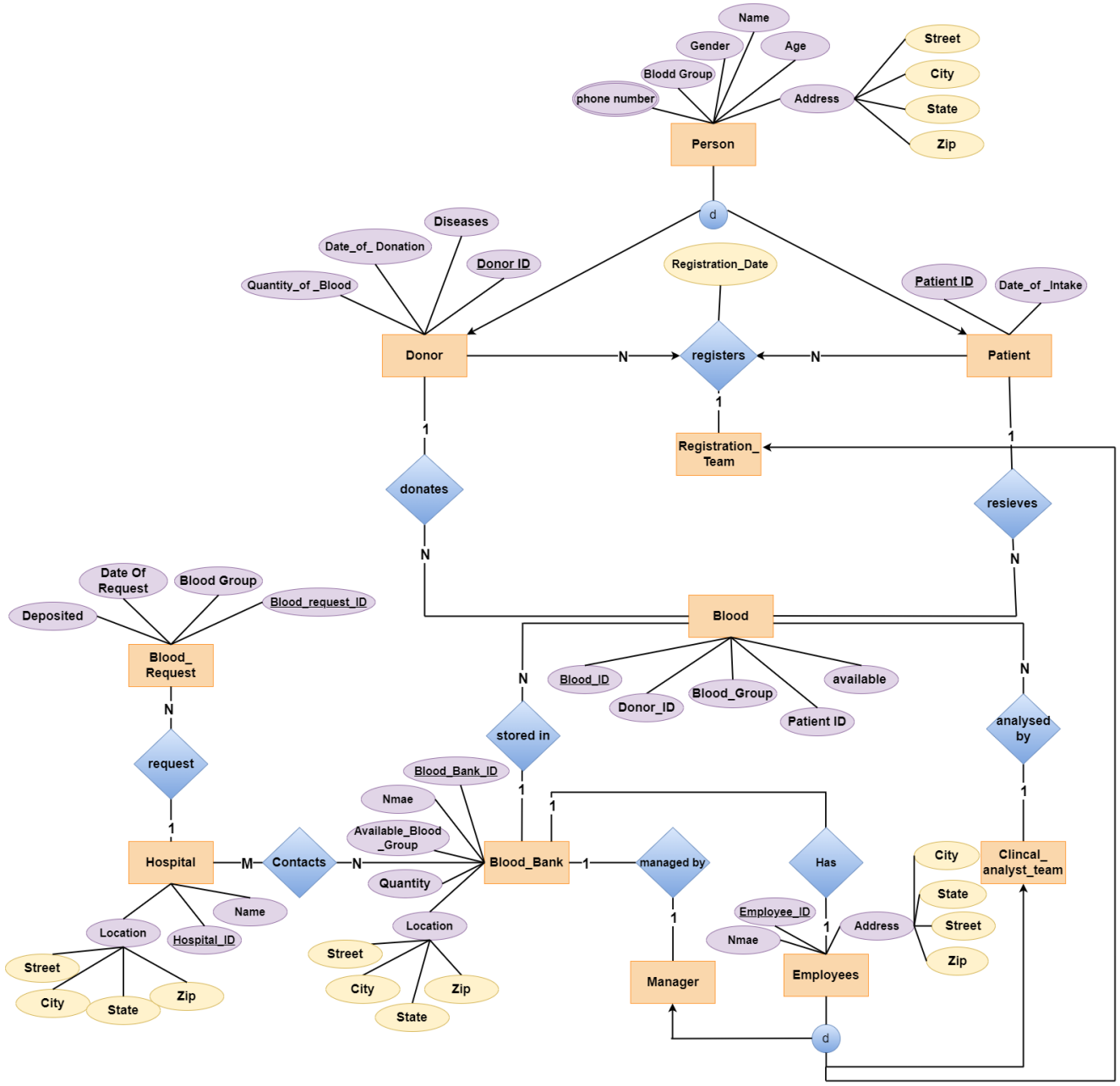
- Separate tables are maintained for the donors and recipients along with data like age, gender, blood group, and more.
- Data about the blood is stored separately with a unique lD for every unit and the blood group.
- The Blood Bank is managed by a manager who has a name and an lD.
- A registration team registers the donors and patients.
- The date of registration for each donor and patient is important.
- A clinical analyst team analyzes the blood units.

Assumptions:

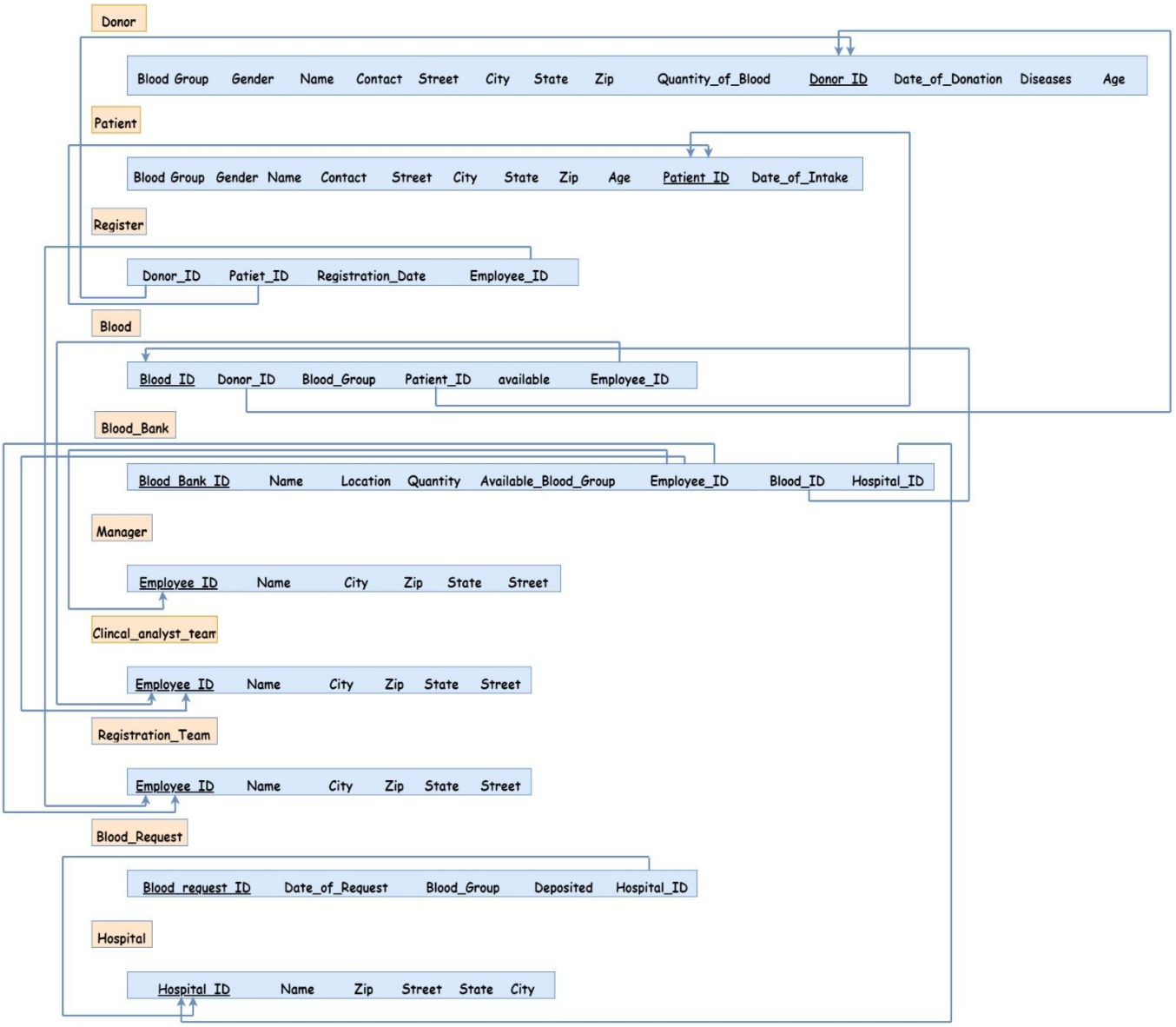
- Every city in Gaza Strip has a blood bank available.
- A donor can donate blood only once a month.

- Every donated unit is analyzed and tested for any blood-borne diseases.
- The blood percentage of the donor must be in the normal range that enables him to donate without causing him any problems.

EER:



Schema:


Donor
Blood Group Gender Name Contact Street City State Zip Quantity_of_Blood Donor ID Date_of_Donation Diseases Age
Patient
Blood Group Gender Name Contact Street City State Zip Age Patient ID Date_of_Intake
Register
Donor_ID Patiet_ID Registration_Date Employee_ID
Blood
Blood ID Donor_ID Blood_Group Patient_ID available Employee_ID
Blood_Bank
Blood Bank ID Name Location Quantity Available_Blood_Group Employee_ID Blood_ID Hospital_ID
Manager
Employee ID Name City Zip State Street
Clincal_analyst_team
Employee ID Name City Zip State Street
Registration_Team
Employee ID Name City Zip State Street
Blood_Request
Blood request ID Date_of_Request Blood_Group Deposited Hospital_ID
Hospital
Hospital ID Name Zip Street State City

- Functions:

✓ Donor Registration:

```
insert into Donor ( Donor_id, Name, Age, Gender, Blood_group,
Quanyity_of_blood, Date_of_Donation, Diseases, phone_number, City, State, Street,
Zip)
values ( 6, Loai, 25, male, A+,  1.5,  13-12-2022, diabetes, 0596783392, Gaza,
Jablia, Aljorn, 00970 )
```

This function is to register a new Donor into the Donor table. The Donor will provide his information to be stored in the database, to make it easier to access his information when donating again.

✓ Show Donor Profile:

```
select *
from Donor;
where Donor_id = 10
```

If the manager needs to view Donor's information with Donor_id=10, they can access data from the Donor table using the select statement.

✓ Edit Donor Profile:

```
UPDATE Donor
SET phone_number = 0598930021
WHERE Donor_id  = 3;
```

To edit Donor information like his phone number or City we use the update method in the Donor table and set the new value for the attributes we want to update.

✓ Show Information about Donors:

```
select  Name, Donor_id
From Donor
WHERE  Blood_group LIKE ' %B+ %';
```

If the manager needs to view Donor's information with a specific Blood_group, he can access data from the Donor table using the select statement.

✓ Blood Bank:

```
select  COUNT (Quantity)
From Blood_Bank
WHERE  Available_Blood _Group LIKE ' %O+ %';
```

If the manager needs to view How many units of blood are left in the bank about specific Blood Group.

✓ Show Patient Profile:

```
select *
from Patient;
where Patient_ID = 7;
```

If the manager needs to view the patient's information with Patient_ID = 7, they can access data from the Patient table using the select statement.

Conclusions and recommendations:

- To provide ideal medical services, the database must be linked to a web page through which the donor can see the number of units of blood he donated that were transferred to the hospital to provide credibility to the donor. He can also monitor his/her health every time he/she donates by seeing the results of the analysis.
- The process of searching for specific blood units can be facilitated for the beneficiary hospital by granting the hospital authority to see the available blood units and their types.
- Create blood donation campaigns on the website by displaying the benefits of blood donation to motivate website visitors to donate blood.
- Granting authority to the beneficiary hospital on the website so that it can send a request with details of the required blood units through the website to the blood bank and store it in the database later.

References:

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