Ihtesham Akbar
Megan Spiers

CMSC 508 Database Project Proposal

Problem Statement:

The database will be used in a blood bank. The blood bank database will contain information about the blood donors who are interested in donating blood voluntarily. The blood donors will be registered by the employees and the blood will be drawn and stored in blood inventory. The *Blood Donor* entity will store information common to all blood donors, and it will include the following information: first name, last name, date of birth, gender, date of donation, address, phone number, and the blood group.

In addition to *Blood Donor* information, blood *Recipient* information will be stored in the database by the employee. The blood *Recipient* entity data will include the first and last name of the blood recipient, the date of birth, the gender of the recipient, date of transfusion, visits, and the blood group. This entity will include general information about the blood recipient, but essentially it will be used to accurately match the blood donor and blood recipient blood groups. The *Blood* entity will contain the following attributes: BloodBagNo, Hemoglobin content, BloodAmount, BloodType, and Cost; the *Employee* entity will contain the following attributes: EmpID, FirstName, LastName, Date of Birth, Sex, Phone Number, Address, and Salary; and the *Blood Inventory* entity will contain the following attributes: BloodNo, Description, BloodType, Order, Quantity.

Additional information will contain the number of times of donation along with date of donation. Only employees will be able to search for a donor with a specific blood group when blood is needed. If blood is able to be obtained from any donor of this system, the receiver information will be recorded in the system along with the blood donation date. Receiver information consists of the patient's first and last name, number which is used to contact the donor, and the date of donation. Only Employees will be able to register or modify the blood donor's information and the blood inventory.

The entity sets that of the database:

- Blood Donor
- Recipient
- Blood
- Blood Inventory
- Employees

The operations to be performed to maintain the database:

- Add or modify the blood donor information
- Add or modify the blood recipient information
- Add the group types to the blood bank
- Enter the group types are added to the blood bank
- Search for a specific blood group

Some queries that could be asked of the database include:

1. What is the current stock of the blood inventory?
2. What is the hemoglobin count of a certain BloodBagNo?
3. What is the gender of the recipient?
4. Which blood donors have a specific blood group?
5. What is the contact information of a specific blood donor?
6. What is the name of a specific blood recipient?
7. How many recipients are waiting for blood donations?
8. What is the list of the patients according to the priority of blood need?
9. Which employee is in charge for which donor and recipient?
10. When was the first time the blood donor donated?
11. What date did the patient receive the blood?
12. Which blood groups are going to expire soon?
13. What is the cost of a blood transfusion?
14. What is the list of all available blood donors?
15. What is the name of the employee that worked with a specific patient on a specific date?
16. What is the address of a certain employee?
17. What is the salary of a certain employee?
18. How many blood donations took place today?
19. How many times has a specific donor donated?
20. How many visits did the blood recipient have so far?