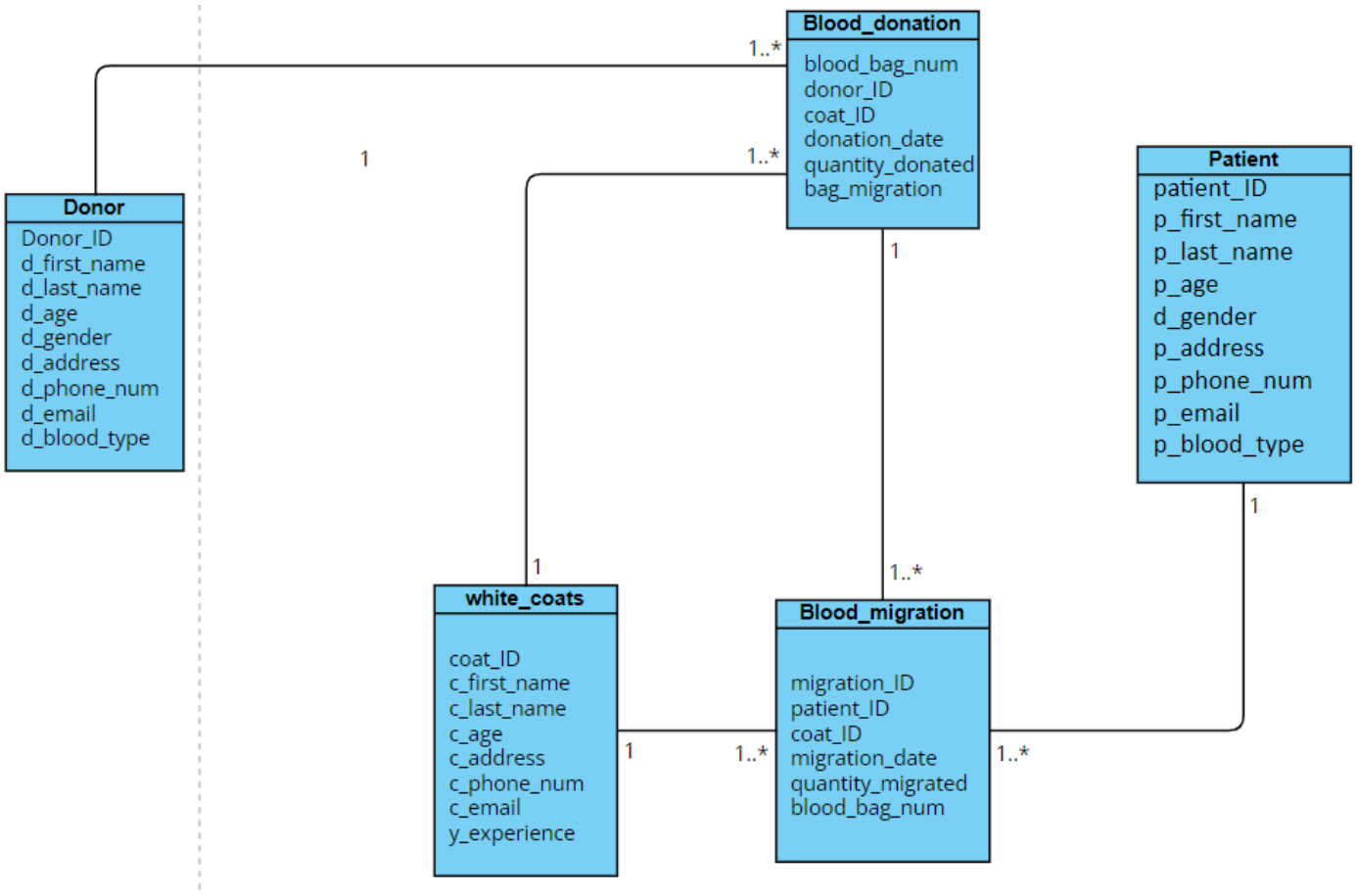
Blood Bank Administration System

Introduction :

My project is based on a database of a blood bank within my hometown (Maamoura/Nabeul). It contains 5 tables containing a maximum of 9 attributes each. It stores data about the **donors**, **patients** and **white coats** (doctors and nurses) by their IDs within that same blood bank as described by the following class diagram and relational schema :

Class diagram :



Relational schema :

Donor (donor_ID, d_first_name, d_last_name, d_age, d_gender, d_address, d_phone_num, d_email, d_blood_type)

Patient (patient_ID, p_first_name, p_last_name, p_age, p_gender p_address, p_phone_num, p_email, p_blood_type)

White_coats (coat_ID, c_first_name, c_last_name, c_age, c_address, c_phone_num, c_email, y_experience)

Blood_donation (blood_bag_num, #donor_ID, #coat_ID, donation_date, quantity_donated, bag_migration)

Blood_migration (migration_ID, #patient_ID, #coat_ID, migration_date, quantity_migrated, #blood_bag_num)

This project is a useful yet a must-have system for the blood bank's administration to visualize their assets and organize their processes depending on their patient's blood types.

In fact, The system also records the processes of **donating** as well as **migrating** blood bags by blood bags' numbers. It contains one major package "blood_bank_pack" containing 6 procedures and 1 function described as followed:

Procedure1: Donor_information: It takes a donor's ID as a parameter and displays all information about that specified donor.

Procedure2: Patient_information: It takes a patient's ID as a parameter and displays all information about that specified patient.

Procedure3: White_coats_information: It takes a doctor or a nurse's ID as a parameter and displays all information about that specified person.

Procedure4: compatible_donors: It takes a patient's ID as a parameter then displays his blood type and lists all potential compatible donors with their blood types within the database.

Note that:

If the patient is	**His compatible donor may be**
A+	A+ A- O+ O-
A-	A- O-
B+	B+ B- O+ O-
B-	B- O-
O+	O+ O-
O-	O-
AB+	ALL
AB-	AB- A- B- O-

Procedure5: total_blood_in_stock: It displays the total number of blood bags (1 bag = 1 leter) in stock categorized by blood type.

Procedure6: blood_in_stock: It takes a blood type as a parameter and displays the number of blood bags available of the specified type.

Function1: blood_expiration: Blood bags can remain in stock up to 42 days. So this function takes a blood bag number as a parameter and returns the remaining period until the expiration date of that specified blood bag. It also handles two exceptions: first, if the blood bag has already been migrated, the function returns a message 'the blood bag has already been migrated', second, if the blood bag has expired, it returns a message saying the blood bag expired and specifies how many days ago.

Dashboard:

Along with the project comes a dashboard (a PowerBI file) containing 4 pages that describe data, transform them into meaningful information and allow the blood bank administration to visualize them to make reasonable decisions.

Conclusion:

I believe this project can be used by any blood bank to organize their assets and keep track of their activities.

Yet, I think it might be more practical if we apply some enhancements such as:

- Implementing a dynamic visualization of blood in stock by blood types.
- Implementing a table where we store equipment and medical tools.
- Implementing a table where we store blood donation campaigns information and visualize their impact of blood donated quantity.

Login and Password :

DBA : login : SYSTEM

Password : IT300

New User : login : NEW_ADMIN

Password : abc