DMDD
Database Design and Initial ERD
Team 27
Members : Gaurao Thakur, Chetan Shirsath

Database Topic:

Blood Bank Management System

Mission Statement:

This project will serve the purpose to develop the database for Blood Bank Management System. It will help to facilitate day to day tasks of various blood banks and associated health clinics. This database will be useful for donors, blood banks and hospitals.

Business Problems Addressed:

- This database system allows to manage blood inventories to tackle the emergency situations.
- It allows hospitals to request the blood units within no time in critical situations by checking the blood availability in blood banks.
- It will help the blood bank to determine the reports about the following information:
    - Particular medical condition per age group and blood type,
    - Amount of blood donated per age group and blood type.
    - Information can be used to estimate the amount of a particular blood type that is available.

Database Entity Details(Key Design Decisions):

Below are some of the main entity types of this database with brief description.

- BLOOD BANK: It is where blood bank inventory is present.
- BLOOD CAMPS: Details about the camps where donors will donate the blood.
- DONOR: The one who volunteers to donate the blood.
- HOSPITALS: Who will put the requests for blood to the blood banks.
- PATIENT: Details of the patients in the hospital.
- STAFF: The one who works at the blood bank.
- STAFF CATEGORY: Categories of the staff e.g., nurse, technicians.
- BLOOD REQUEST: Details of the donation request. Request can be made by an employee who belongs to a particular hospital or clinic.
- DONATIONS: Details of the donation made by the donors.
- MEDICAL CONDITION: Medical condition of the donor.
- MEDICATION: Medication details of the donor.
- ADDRESS: Details of the address of each physical entity.

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Entity Relations:

- BLOOD BANK: Will be related to entities Blood Request,Blood Camps, Donors, Staff by adding primary key as a foreign key.Hospitals can send multiple request to bank.
- BLOOD CAMPS: Bank can arrange multiple donation camps, related by blood bank id.
- DONOR: Multiple donors are also associated with blood bank and related using blood bank id.
- HOSPITALS: Hospitals can raise multiple blood requests. Related to blood request with hospital id. Hospital can have multiple patients. Related to patients with hospital id.
- PATIENT: Patient will be related to hospital using hospital id. Patient will have his own address.
- STAFF: Staff will have categories and related to staff category. Staff will be related to bank using bank id.
- STAFF CATEGORY: Staff category will be related to staff table using category id.
- BLOOD REQUEST: Hospitals can raise multiple blood requests and related using hospital id. And also related to blood bank using blood bank id.
- DONATIONS: Multiple donations can be done by donor as related using donor id as a foreign key.
- MEDICAL CONDITION: It will be related to donor using the table
- DONORS_MEDICAL_CONDITION. Both tables will be connected using donor id and condition id as a foreign keys.
- MEDICATION: It will be connected to donor in a table using donor id and medication id as foreign keys.
- ADDRESS: Each Physical entity will have address. Hospital, donor, blood bank will have address id in the table as a foreign key.