**CS330 Introduction to Database**

**PROJECT REPORT**

**CHARITY ORGANIZATION “TIMW”**

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**1.Introduction**

“This is my way” (TIMW) is an Algerian student charity team that tries through voluntourism and intercultural exchange of scientific and sociologic experiences to enhance the fields of education, health, relief, orphanages and cultural activities in different countries in Africa. The team collaborates with any humanitarian movements; relief campaigns, public and civic institutions, hospitals, institutes and universities…

Our project is to create a full comprehensive database, so they can manage, organize, update, and track their activities. As well as, give the ability to create an interface (website, app, or any platform) so anyone from or outside the company can see, and contribute.

The database contains full information of anything related to the organization, as we collected information about the projects, managers, collaborators, donations, volunteers, volunteers’ contact.

**2.Approach**

First, we collect all the data about the organization and put them in a big table as a UNF. After performing 1NF, 2NF, and 3NF, we came up with the following tables depending on their attributes and functionalities:

1. Projects
2. Donations
3. Volunteers
4. Project\_states
5. Mentors
6. Collaborators\_Info
7. Volunteers\_Info

**3. Details about tables:**

The original table that contains all the data. The attributes are the as follow: Project\_ID, Project\_Title, Project\_Mentor, Mentor\_BOD, tel\_number, Start\_date, End\_date, Project\_stat\_code, Collaborators, Collaborators\_address, Collaborators\_email\_address, Donations, , Project\_Budget, Project\_Type, Country, Address, Project,\_Volunteers, Volunteers\_DOB, and Volunteers\_tel\_number.

**PROJECTS Table:**

This table contains only the following attributes: Project\_ID, Project\_Title, Project\_Mentor, Start\_date, End\_date, Project\_stat\_code, Project\_Budget, Project\_Type, Country, and Address. This would hold general information about all the projects.

* Project\_ID: PRIMARY KEY, type CHAR(5), represents the id of the project.
* Project\_Title: type CHAR(25), represents the title of the project.
* Project\_Mentor: FOREIGN KE, type CHAR(20), represents the manager of the project.
* Start\_date: type CHAR(10), represents the starting date of the project.
* End\_date: type CHAR(10), represents the ending date of the project.
* Project\_state\_code: FOREIGN KE, type INTEGER(1), a code (1, 2, 3, or 4) that tells us the state of the project
* Project\_Budget: type FLOAT, the budget of the project
* Project\_Type: type CHAR(10), states the type of the project.
* Country: type CHAR(10), states the country where the project is done.
* Address: type CHAR(10), states the address of the country where the project is done.

This table can be created by the following query:

CREATE DOMAIN ProjectID AS CHAR(5) CHECK (VALUE IN (SELECT Project\_ID FROM unf\_table));

CREATE DOMAIN ProjectMentor AS CHAR(30) CHECK (VALUE IN (SELECT Project\_Mentor FROM unf\_table));

CREATE DOMAIN ProjectCodeState AS CHAR(1) CHECK (VALUE IN (SELECT Project\_Code\_State FROM unf\_table));

CREATE TABLE PROJECTS (

Project\_ID ProjectID NOT NULL,

Project\_title VARCHAR(30) NOT NULL,

project\_Mentor ProjectMentor NOT NULL,

Start\_date DATE() NOT NULL,

End\_date DATE() NOT NULL,

Project\_state\_code ProjectCodeState NOT NULL,

Project\_Budget DECIMAL(10,2) NOT NULL,

Project\_Type VARCHAR(20) NOT NULL,

Country VARCHAR(15) NOT NULL,

Adress VARCHAR(200) NOT NULL,

PRIMARY KEY (Project\_ID),

FOREIGN KEY(Project\_Mentor) REFERENCES DONATIONS ON DELETE NO ACTION ON UPDATE CASCADE, FOREIGN KEY(Project\_state\_code) REFERENCES PROJECT\_STATES ON DELETE NO ACTION ON UPDATE CASCADE, );

**MENTOR Table:**

This table contains the following attributes: Project\_Mentor, Mentor\_DOB, Mentor\_tel\_number. This would hold all the mentors, their birthday, and their phone number.

* Project\_Mentor: PRIMARY KEY, type CHAR(20), represents the manager of the project.
* Mentor\_DOB: type CHAR(10), represent the birthday of the mentor.
* Mentor\_tel\_number: CHAR(15), represent the phone number of the mentor.

This table can be created by the following query:

CREATE DOMAIN ProjectMentor AS CHAR(30)

CHECK (VALUE IN (SELECT Project\_Mentor FROM unf\_table));

CREATE TABLE MENTORS(

Project\_Mentor ProjectMentor NOT NULL,

Mentor\_DOB DATE() NOT NULL,

Mentor\_tel VARCHAR(15) NOT NULL,

PRIMARY KEY (Project\_Mentor), );

**Volunteers\_Info:**

This table contains the following attributes: Project\_Volunteer, Volunteer\_DOB,

Volunteer\_tel\_number. This would hold all the volunteers, their birthday, and their phone

number.

* Project\_Volunteer: PRIMARY KEY, type CHAR(20), represents the volunter’s name.
* Volunteer\_DOB: type CHAR(10), represent the birthday of the volunteer.
* Volunteer\_tel\_number: CHAR(15), represent the phone number of the volunteer.

This table can be created by the following query:

CREATE DOMAIN ProjectVolunteers AS CHAR(30)

CHECK (VALUE IN (SELECT Project\_Volunteers FROM unf\_table));

CREATE TABLE VOULUNTEERS\_INFO(

Project\_Volunteers ProjectVolunteers NOT NULL,

Mentor\_DOB DATE() NOT NULL,

Mentor\_tel VARCHAR(15) NOT NULL,

PRIMARY KEY (Project\_Volunteers),

);

**Donations:**

This table contains all the donations (amount in US Dollars) the collaborators provided to all the projects in the database, It has the following attributes: Project\_ID, Collaborators and Donations. This would record the amount donated, the collaborator who made the donation and to which project.

* Project\_ID: PRIMARY KEY, type CHAR(5), represents the id of the project.
* Collaborators: PRIMARY KEY, FOREIGN KEY (to Collaborators\_Info table),

type CHAR(30), represents the name of the collaborator.

* Donations: type DECIMAL(10,2), represents the amount donated in USD.

This table can be created by the following query:

CREATE DOMAIN ProjectID AS CHAR(5)

CHECK (VALUE IN (SELECT Project\_ID FROM unf\_table));

CREATE DOMAIN CollaboratorsName AS CHAR(30)

CHECK (VALUE IN (SLECT Collaborators FROM unf\_table));

CREATE TABLE DONATIONS(

Project\_ID ProjectID NOT NULL,

Collaborators CollaboratorsName NOT NULL,

Donations DECIMAL(10,2) NOT NULL,

PRIMARY KEY (Project\_ID, Collaborator),

FOREIGN KEY (Collaborator) REFERENCES COLLABORATORS\_INFO ON DELETE NO ACTION ON UPDATE CASCADE, );

**Collaborators\_info:**

This table gathers the address information of each collaborator that have contributed in any of the projects in the database, It has two attributes: Collaborators and Collaborator\_Address.

* Collaborators: PRIMARY KEY, type CHAR(30), represents the name of the collaborator.
* Collaborator\_Address: type VARCHAR(200), the address of the collaborator.

This table can be created by the following query:

CREATE DOMAIN CollaboratorsName AS CHAR(30)

CHECK (VALUE IN (SLECT Collaborators FROM unf\_table));

CREATE TABLE COLLABORATORS\_INFO(

Collaborators CollaboratorsName NOT NULL,

Collaborator\_Address VARCHAR(200) NOT NULL,

PRIMARY KEY (Collaborators), );

**Project\_states:**

This table contains the following attributes: Project\_state\_code, Project\_state. This is the table key to explain the code used in the PROJECTS table. 1 for “Ready to Start”, 2 for “Fund Raising”, 3 for “Ongoing”, and 4 for Completed.

* Project\_state\_code: type INTEGER(1), a code (1, 2, 3, or 4) that tells us the state of the project.
* Project\_state: type CHAR(10), that tells us the state of the project.

This table can be created by the following query:

CREATE DOMAIN ProjectCodeState AS CHAR(1)

CHECK (VALUE IN (SELECT Project\_Code\_State FROM unf\_table));

CREATE TABLE PROJECT\_STATES(

Project\_state\_code ProjectCodeState NOT NULL,

Project\_state VARCHAR(20) NOT NULL,

PRIMARY KEY (Project\_state\_code), );

**VOLUNTEER :**

This table contains the following attributes:ProjectID , ProjectVolunteer, Volunteer\_DOB,

Volunteer\_tel\_number. This would hold all the volunteers, their birthday, and their phone

number.

* Project\_ID: PRIMARY KEY, type CHAR(5), represents the id of the project.
* ProjectVolunteer : type CHAR(20) , represent Volunteer’s Name
* Volunteer\_DOB: type CHAR(10), represent the birthday of the volunteer.
* Volunteer\_tel\_number: type VARCHAR(15), represent the phone number of the volunteer.

This table can be created by the following query:

CREATE DOMAIN ProjectVolunteers AS CHAR(30)

CHECK (VALUE IN (SELECT Project\_Volunteers FROM unf\_table));

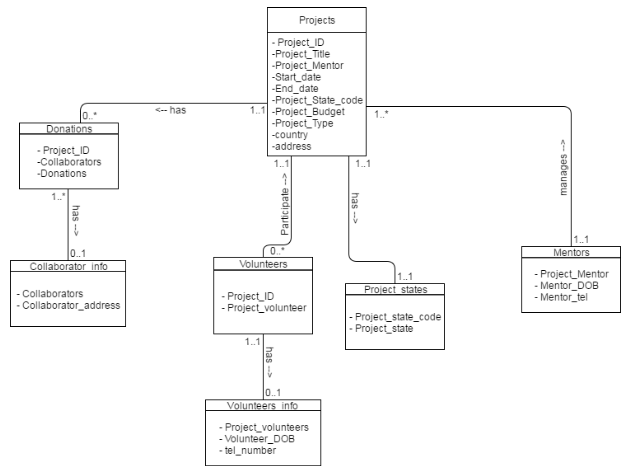
CREATE TABLE VOLUNTEERS(

Project\_ID ProjectID NOT NULL,

Project\_Volunteers ProjectVolunteers NOT NULL,

PRIMARY KEY (Project\_ID, Project\_Volunteers), FOREIGN KEY (Project\_Volunteers) REFERENCES PROJECTS ON DELETE NO ACTION ON UPDATE CASCADE, );

**4.E-R DIAGRAM**



**5. The GUI DropDown Lists Contents:**