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Experiment - 2

Objective: Creating Entity Relationship Diagram on Orphanage Management System using case tools like draw.io.

Theory: The Entity Relational Model is a model for identifying entities to be represented in the database and representation of how those entities are related. The ER data model specifies enterprise schema that represents the overall logical structure of a database graphically.

1. Entity:
An entity may be any object, class, person or place. Rectangle is used to represent an entity.

2. Attribute
The attribute is used to describe the property of an entity. Ellipse is used to represent an attribute.

3. Relationship
A relationship represents the association between entities. Diamond is used to represent a relationship.

Implementation:
This ER diagram models the key entities like Orphan, Staff, AdoptiveParent, Adoption, Donor, Donation, FinancialRecords, MedicalRecords.
System along with their relationships for an orphanage management system. The diagram captures an entire system of an orphanage.

Entity: Orphan
Attributes:
OrphanID (Primary Key)
Name
DateOfBirth
Age
Gender
DateOfAdmission
Status

Entity: Staff
Attributes:
StaffID (Primary Key)
Name
Designation
ContactInformation

Entity: AdoptiveParent
Attributes:
AdoptiveParentID (Primary Key)
Name
ContactInformation
FamilyInformation

Entity: Adoption
Attributes:
AdoptionID (Primary Key)
AdoptiveParentID
OrphanID
Status
AdoptionDate

Entity: Donor
Attributes:
DonorID (Primary Key)
Name
DonationType
ContactInformation

Entity: Donation
Attributes:
DonationID (Primary Key)
DonorID
DonationDate
DonationType
DonationAmount

Entity: FinancialRecords
Attributes:
FinancialRecordID (Primary Key)
Date
Amount
Category

Entity: MedicalRecords
Attributes:
MedicalRecordID (Primary Key)
OrphanID
Medication
Treatment
MedicalCondition

Relationships:

One to One: Orphan to Adoption (One orphan is adopted in Adoption)
One to Many: AdoptiveParent to Orphan (One Adoptive Parent adopts multiple orphans)
One to Many: AdoptiveParent to Adoption (One Adoptive Parent processes multiple adoption)
One to Many: Orphan to MedicalRecords (One orphan has multiple medical records)
One to Many: Orphan to FinancialRecords (One orphan incurs multiple FinancialRecords)
One to Many: Staff to FinancialRecords (One staff manages multiple FinancialRecords)
One to Many: Donor to Donation (One Donor makes donation)
Many to Many: Donation to FinancialRecords (Multiple donation funds multiple FinancialRecords)
Many To Many: Staff to Orphan (Multiple Staff is assigned to multiple orphans)

E-R Diagram of Orphanage Management System using Draw.io