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Databases Project: Phase 2

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Database Project Phase I: **E-R Model Report**

Entities description:

1. Administrators:

   Each administrator entity has a unique id called aid, which serves as primary key. Attributes that will also be stored from each administrator includes the administrator's first name as a string (afirstname), the last name as a string (alastname), the location as a string (alocation), the administrator's age as an integer (a_age) and the administrator's phone as a multi value attribute ({aphone}).

2. Consumers:

   Each consumers entity has a unique id called cid, which serves as a primary key. Attributes that will also be stored from each consumer include the consumer's first name as a string (cfirstname), the last name as a string (clastname), the location as a string (clocation), the consumer's age as an integer (cage) and the consumer's phone as a multi value attribute ({cphone}).

3. Suppliers:

   Each suppliers entity has a unique id called sid, which serves as a primary key. Attributes that will also be stored from each supplier includes the supplier's first name as a string (sfirstname), the last name as a string (slastname), the organization the supplier represents as a string (sorganization), the location as a string (slocation) and the supplier's phone as a multi value attribute ({sphone}).

4. Resources:

   Each resources entity has a unique id called rid, which serves as a primary key. Attributes that will also be stored from each resource include the resources' type as a string (rtype), the brand as a string (rbrand), the number of available resources as an integer (rnumavailable), the price of the resource as a double (rprice), the supplier as a multi value string which is a foreign key that points to the suppliers entity ({rsupplier}) and the location as a multi value string attribute ({rlocation}).

Entities that are childs of resources:

5. Fuel:

   Each fuel entity has a unique id called fuelid and a foreign key that points to the resources primary key (rid).

6. Equipment:

   Each equipment entity has a unique id called eid and a foreign key that points to the resources primary key (rid).

7. Medical Devices:

   Each medical device entity has a unique id called mdid and a foreign key that points to the resources primary key (rid).

8. Food:

   Each food entity has a unique id called fid, which serves as a primary key. Attributes that will also be stored from each food entity include the food's name as a string (fname), the type as a string (ftype), the brand as a string (fbrand), the number of available food as a string (fnumavailable), the price of the food as a string (fprice), the supplier as a multi value string which is a foreign key that points to the suppliers entity ({fsupplier}), the food's expiration date as a string (fexpdate) and the location as a multi value string attribute ({flocation}).

9. Medications:

   Each medication entity has a unique id called mid and a foreign key that points to the resources primary key (rid). The also store the expiration date of the medication as a string (mexpdate) and the class of the medication (if it is an injection, pill, liquid, etc).

10. Clothing:

    Each clothing entity has a unique id called clothes_idand a foreign key that points to the resources primary key (rid). It also stores the piece of clothing as a string (cpiece), for what sex is the clothing meant for as a string (csex) and the size as a string (csize).

11. Water:

    Each water entity has a unique id called wid, which serves as a primary key, and a foreign key that points to the resources primary key (rid). Attributes that will also be stored from each water record includes the water's volume of water as a string (wvolume) and the water's expiration date as a string (wexpdate).

Relationship explanations:

1- Resources being consumed (rconsumes):

A many to one relationship between the resources and consumers entities. The many parts are on the resources side since each consumer can receive multiple resources and resources can only be assigned or sold to one specific consumer. The rconsumes relationship has the price in which the resource was sold, which is zero if it was donated, as a float (rconsume_price), the quantity of it given to the consumer (rconsume_quantity), the date it was provided to the consumer (rconsume_date) and the payment method used by the consumer (rconsume_payment_method).

2- Resources supplies (rsupplies):

A many to many relationship between the resources and suppliers entities. It is Many to Many because there are different suppliers that can supply the same resource. The rsupplies relationship has the price in which the medication was bought, which is zero if it was donated, as a float (rsupply_price), the quantity of it given (rsupply_quantity) and the date it was provided (rsupply_date).

3- Request supplies (request_supplies):

A one to many relationship between the suppliers and the administrators entities. The many part is on the suppliers side since one administrator can request resources to many suppliers. The request_supplies relationship has the type of the request (request_type), the quantity it is requesting (request_quantity), and the brand of the resource (request_brand).