

Team Members:

Alfredo Pomales III 802-12-5615

Jorge Cruz 802-13-1880

David Riquelme Reyna 502-17-3861

For the application we've chosen the following schema and relationships for the operations that are supposed to be supported as specified by the phase 1 project description document.

**Schema:**

- Category - Cid serial primary key, Cname varchar(20)
- Resource - Rid serial primary key, Rname varchar(20), Cid integer references Category(Cid), Sid integer references Person(Pid), Rprice double, Rqty integer, Rregion varchar(20)
- Admin - Aid serial primary key, Aname varchar(20), AlastName varchar(20), user varchar(20), password varchar(150), email varchar(20)
- Person - Pid serial primary key, name varchar(20), lastName varchar(20), gpsx double, gpsy double, address varchar(120), region varchar(20)
- Customer - Pid serial primary key, city varchar(20), region varchar(20)
- Supplier - Pid serial primary key, company varchar(150)

**Relationships:**

- ResourceRequest - Pid serial primary key, Rid serial primary key, RRqty integer, RRDate date
- Reserve - Pid serial primary key, Rid serial primary key, RDate date, Rqty integer
- Announcement - Pid serial primary key, Rid serial primary key, ADate date, APqty integer
- Purchase - Pid serial primary key, Rid serial primary key, Pdate varchar(20), Pprice varchar(20), Pqty integer
- isSubCategory - Cid serial primary key, Cname varchar(20)

The Category entity consists of

- Cid - the primary key
- Cname - the name of the category

Note that this table has a relationship to itself defined as "isSubCategory" to deal with subcategories. E.g. Diesel would be a category and tied to the Fuel category.

The Resource entity consists of

- Rid - the primary key
- Rname - the name of the resource

- Cid - foreign key referencing the Categories entity
- Pid - foreign key referencing the Person entity
- Rprice - the price of the resource
- Rqty - the quantity available of the resource
- Region - region the resource is located

The Person entity consists of

- Pid - the primary key
- name - the person's first name
- lastName - the person's last name
- gpsx - the 'x' coordinate of the person
- gpsy - the 'y' coordinate of the person
- address - the address of the person

The Customer entity, which represents the user who requests resources, consists of

- Pid - primary serial key for Person who is customer
- city - the primary key
- region - region the customer is located in

The Supplier entity consists of

- Pid - serial primary key of the Person who is a supplier
- company - the association or organization of the supplier

The Admin entity consists of

- Aid - the primary key
- Aname - the first name of the admin
- AlastName - the last name of the admin
- User - username of admin
- Password - password of admin
- Email - email of admin

We have identified the following relationships between entities

- 1) The "ResourceRequest" relationship is between a "Customer" (user who requests supplies) and a "Resource" specifically the resource being requested currently. Each "ResourceRequest" will handle on resource at a time.

- 2) The “Reserve” relationship is also between a “customer” (user who requests supplies) and a “Resource” specifically the resource being purchased/reserved currently.
- 3) The “Purchase” relationship is also between a “customer” (user who requests supplies) and a “Resource” specifically the resource being purchased/reserved currently.
- 4) The “Announcement” relationship is between a “Supplier” and a “Resource” entity, specifically the resource being announced as available.
- 5) The “isSubCategory” relationship exists to link subCategories to their main Category.  
E.g. Diesel is a subcategory of Fuel while the resource might be 12 gallon tank Puma.