

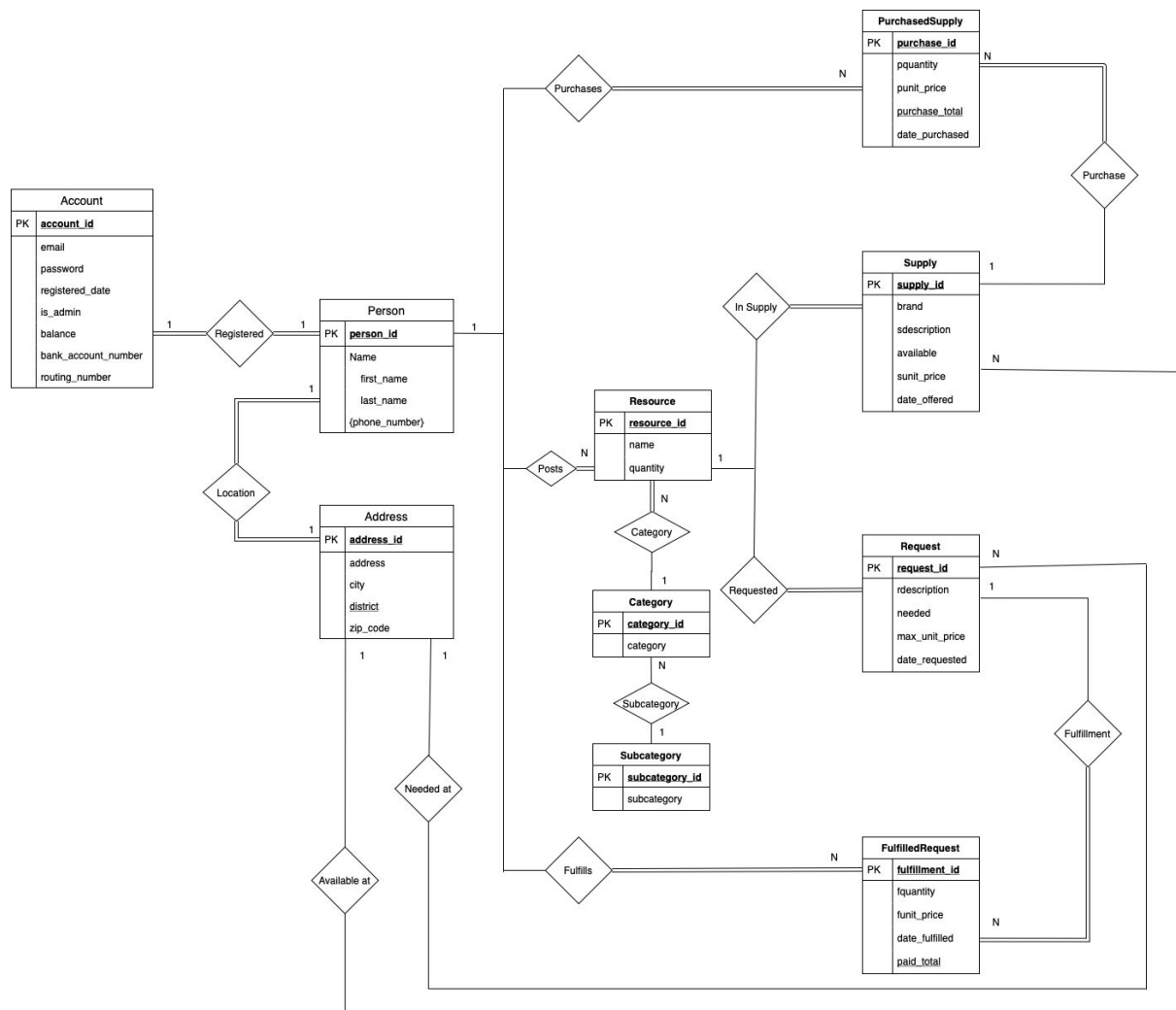


**Department of Computer Science and Engineering  
University of Puerto Rico  
Mayagüez Campus**

**CIIC 4060/ICOM 5016  
Backend System for Disaster Site Resources Locator  
Phase III – Final ER Model Revision and Working  
Back-End**

**Jaime R. Correa  
Aníbal Pagán  
Roberto C. Rivera  
Raúl A. Vargas**

## ER Diagram:



## Description:

### Entities:

#### 1. Account

- account\_id - primary serial key
- email (varchar(35)) - account email
- password (varchar) - account password (authentication purpose)
- registered\_date (timestamp) - date user registered to site.
- is\_admin (bool) - declare you as administrator
- balance (float) - money used to purchase supplies
- bank\_account\_number (varchar(9)) - used to deposit money into the user's bank account from balance
- routing\_number (varchar(5)) - used to deposit money into the user's bank account from balance

2. Person
  - a. person\_id - primary serial key
  - b. first\_name (varchar(35)) - person's first name
  - c. last\_name (varchar(35)) - person's last name
3. Address
  - a. address\_id - primary key
  - b. address (varchar(35)) - first address line
  - c. city (varchar(20)) - city / municipality
  - d. district (varchar(15)) - senate district city belongs to
  - e. zip\_code (char(5)) - zip code of address
4. Resource
  - a. resource\_id - primary key
  - b. name (varchar(35)) - resource name
  - c. quantity (int) - quantity of the resource
  - d. brand (varchar(35)) - resource brand
5. Category
  - a. category\_id - primary key
  - b. category - category of a resource
6. Subcategory
  - a. subcategory\_id - primary key
  - b. subcategory - subcategory of a resource
7. Supply
  - a. supply\_id - primary serial key
  - b. sdescription (varchar(75)) - supply's description
  - c. available (int) - number of units available to purchase
  - d. sunit\_price (float) - supply's price per unit
  - e. date\_offered (timestamp) - time a resource was announced as available.
8. Request
  - a. request\_id - primary serial key
  - b. rcategory (varchar(15)) - type of resource (Water, Medication, etc)
  - c. sdescription (varchar) - request description
  - d. max\_unit\_price (float) - maximum price willing to pay for resource per unit
  - e. date\_requested (timestamp) - time a resource was requested.
9. Purchased Supply
  - a. purchased\_id - primary key
  - b. pquantity (int) - number of items sold
  - c. punit\_price( float) - price each unit was sold at
  - d. purchase\_total (int) - total paid
  - e. date\_purchased (timestamp) - time purchase was made
10. Fulfilled Request

- a. fulfillment\_id - primary key
- b. fquantity (int) - number of items given
- c. funit\_price (float) - price each unit was sold at
- d. date\_fulfilled (timestamp) - time request was fulfilled
- e. paid\_total (int) - total paid

### **Relationships:**

For now we have decided that none of the relationships will be tables, as there are no many to many relationships.

1. Registered - Relation One to One. Every person must have an account. An account can only belong to a single person.
2. Location (Person) - Relation One to One. Default location for supplies or requests a person makes / address of person.
3. Available at / Needed at (Supply and Request) - Relation One to Many. Location of supplies available or of need for resources. Multiple supplies can be at the same address.
4. Posts - Relation One to Many. One person can post multiple resources; whether they are available or in need.
5. In Supply - Relation One to Many. One person can announce the availability of more than one supply.
6. Requested - Relation One to Many. One person can ask for more than one resource.
7. Purchase - Relation Many to One. A person can buy part of a supply's stock, allowing others to buy some of the same supply as well.
8. Fulfillment - Relation Many to One. A person can provide part of the resources needed, allowing others to provide the resource as well.