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# **Phase I – Conceptual Design**

## **Backend System for Disaster Site Resources Locator**

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## ER Diagram:

### *Entities:*

1. Suppliers: consists of all the information regarding the suppliers. The attributes are:
  - a. Key: primary key
  - b. productName: name of the product to be supplied
  - c. supplierID: ID of the supplier which is going to supply the product
  - d. productID: ID of the product supplied by the supplier
  - e. Specs: information specifying the product details
  - f. Price: price of the product
  - g. City: the location of the supplier
  
2. Products: consists of the information regarding the product requested or available.  
The attributes are:
  - a. Key: primary key
  - b. productName: name of the product
  - c. productID: ID of the product requested or available
  - d. City: the location of the product
  - e. Qty: the quantity of products available or requested
  - f. supplierID: ID of the supplier which has the product
  - g. Availability: shows if the product is available or not
  - h. Status: if the product is reserved or for purchase (free resources are reserved)
  
3. Customer: consists of the information regarding the person which buys the product.  
The attributes are:
  - a. Key: primary key
  - b. username: username of the customer
  - c. password: password of the customer
  - d. fname: first name of the customer
  - e. lname: last name of the customer
  - f. city: location of the customer

4. Administrator: consists of the information of the system administrator. The attributes are:

- a. Key: primary key
- b. username: username of the administrator
- c. password: password of the administrator
- d. fname: first name of the administrator
- e. lname: last name of the administrator

5. Cities: consists of the 8 senate regions in PR. The attributes are:

- a. city: city of a specific region
- b. region: where a set of cities are held

6. Request: consists of the product requested by the customer. The attributes are:

- a. Key: primary key
- b. username: username of the customer requesting the product
- c. productName: name of the product being requested
- d. productID: ID of product being requested
- e. Qty: quantity of products requested

7. Purchase: consists of the product being purchase by the customer. The attributes are:

- a. Key: primary key
- b. username: username of the customer purchasing the product
- c. purchaseID: ID of the purchase made by the customer
- d. productName: name of the product purchase by the customer
- e. date: date when the product was purchased by the customer

*Relationships:*

1. Supplies: it relates between suppliers and products because the suppliers are the ones supplies the products to the customer. It is set to a One-to-Many relation because one supplier can supply many products.
2. Makes: it relates customer and request, and customer and purchase. The relation customer and request is made because the customer makes a request for a product. It is a One-to-One relation because one customer can make one request with several product. The same applies to the relation customer and purchase with a One-to-One relation because one customer can make one purchase with several product.
3. Verifies: it relates between request and products, and purchase and products. The relation request and products is verified because a request verifies if the product is available, with this comes a One-to-Many relation because one request can verify many products. The same relation applies to the purchase and product because one purchase can verify if many products are available.