UNIVERSITY OF PUERTO RICO
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DATABASE SYSTEMS
ICOM - 5016 / CIIC - 4060

Phase 1: Report
ER Description

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For:

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I. Entities

A. **User** – represents the users or "clients" of the application.

    1. Admin – a type of user that has access to all the application's data and actions.

    2. Supplier – a type of user that posts resources available for sale or reservation.

    3. Customer – a type of user that requests, reserves and/or orders available resources.

B. **Login** – represents the user's account credentials for access.

C. **Address** – represents the user's location.

D. **Company** – represents a supplying or aiding company that a supplier is working under.

E. **Request** – represents an announcement of a customer's needed resources.

F. **Reservation** – represents that a customer has secured a resource from a supplier.

G. **Order** – represents that a customer has ordered or bought one or more resources from a supplier, using its registered payment method.

H. **Payment** – represents one or more payment methods registered under a user:

    1. Credit Card
    2. PayPal
    3. ATH Móvil

I. **Resource** – represents the disaster aid items being supplied. It is divided into 10 main categories:

    1. Fuel
    2. Food
    3. Medicine
    4. Tools
    5. Medical Device
    6. Water
    7. Cloth
    8. Heavy Equipment
    9. Ice
    10. Power:
        a) Generators
        b) Batteries

II. Relationships

A. User

1. To Login – a user must create a login account for access to the site.
2. To Address – a user can register one or more addresses for localization.
3. ISA – a user can be registered as three types: Customers, Suppliers, and Admins.
4. To Admin – a user can have one or more administrators managing their account.

B. Supplier

1. To Company – a supplier can represent a supplying company.
2. To Resource – a supplier can post one or more resources to be supplied.

C. Customer

1. To Request – a customer can post one or more requests for a needed resource.
2. To Order – a customer can make one or more orders of needed resources.
3. To Reservation – a customer can prepare a reservation to secure one or more resources.
4. To Payment – a customer can have one or more payment methods registered for ordering resources.

D. Admin

1. To User - an administrator must be able to manage one or more users of the application.

E. Login

1. To User – an account must be created by a user to access the site.

F. Address

1. To User – an address or location must be registered under a user.

G. Company

1. To Supplier – a company must be linked to one or more suppliers.

H. Request

1. To Customer – a request must be posted by a registered customer.
2. To Resource – a request must be linked to one or more posted resources.

I. Reservation

1. To Customer – a reservation must be prepared by a registered customer.
2. To Resource – a reservation must contain one or more resources.

J. Order

1. To Customer – an order must be made by a registered customer.
2. To Resource (with *discount* attribute) – an order must contain one or more resources. An order can have a discounted resource price.
3. To Payment – an order must offer or include a payment method.

K. Payment

1. To Order – a payment method can be accessed by one or more existing orders.
2. To Customer – a payment method must be added by a registered customer.

L. Resource

1. To Reservation – a resource can be secured with one or more reservations.
2. To Order (with *discount* attribute) – a resource can be sold by one or more orders. A resource can have its price discounted by an order.
3. To Supplier – a resource must be posted by a registered supplier.
4. To Request - a resource can be requested by one or more customer requests.
5. ISA – a resource can belong to one of 10 main categories (Fuel, Food, Medicine, Tools, Medical Device, Water, Cloth, Heavy Equipment, Ice, Power).