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DATABASE SYSTEMS
ICOM - 5016 / CIIC - 4060

Phase 2: Report
ER Description

From:

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Section: 116

I. Entities

- A. **Users** – 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. **Category** – represents the valid categories of resources accepted by the system.
- J. **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. Users

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 directly make one or more orders of needed resources.
3. To Reservation – a customer can directly 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 Users - an administrator must be able to manage one or more users of the application.

E. Login

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

F. Address

1. To Users – 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 Category (with *request quantity* attribute) - a request must contain one or more resource categories, and the requested quantity for each.
3. To Reservation - a request can transform into a reservation (free resources).
4. To Order - a request can become an order (priced resources).

I. Reservation

1. To Customer – a reservation must be prepared by a registered customer.
2. To Resource (with *reservation quantity* attribute) – a reservation must contain one or more resources, with the quantity for each one.
3. To Request - a reservation can be created from an accepted customer request.

J. Order

1. To Customer – an order must be made by a registered customer.
2. To Resource (with *order quantity* and *discount* attributes) – an order must contain one or more resources, with the quantity for each one. An order can have a discounted resource price.
3. To Request - an order can be created from an accepted customer request.
4. 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.
3. ISA - a payment method can belong to one of three types: Credit Card, PayPal, or ATH Movil.

L. Category

1. To Request (with *request quantity* attribute) - one or more resource categories can be tied to or referenced in one or more customer requests, with the requested quantity for each.
2. To Resource - a resource category can belong to one or more resources in the system.

M. Resource

1. To Reservation (with *reservation quantity* attribute) – a resource can be secured with one or more reservations.
2. To Order (with *order quantity* and *discount* attributes) – a resource can be sold by one or more orders. A resource can have its price discounted by an order.
3. To Category - each request must belong to a valid category. Multiple resources can belong to the same category.
4. To Supplier – a resource must be posted by a registered supplier.

5. ISA – a resource can belong to one of 10 main categories (Fuel, Food, Medicine, Tools, Medical Device, Water, Cloth, Heavy Equipment, Ice, Power).