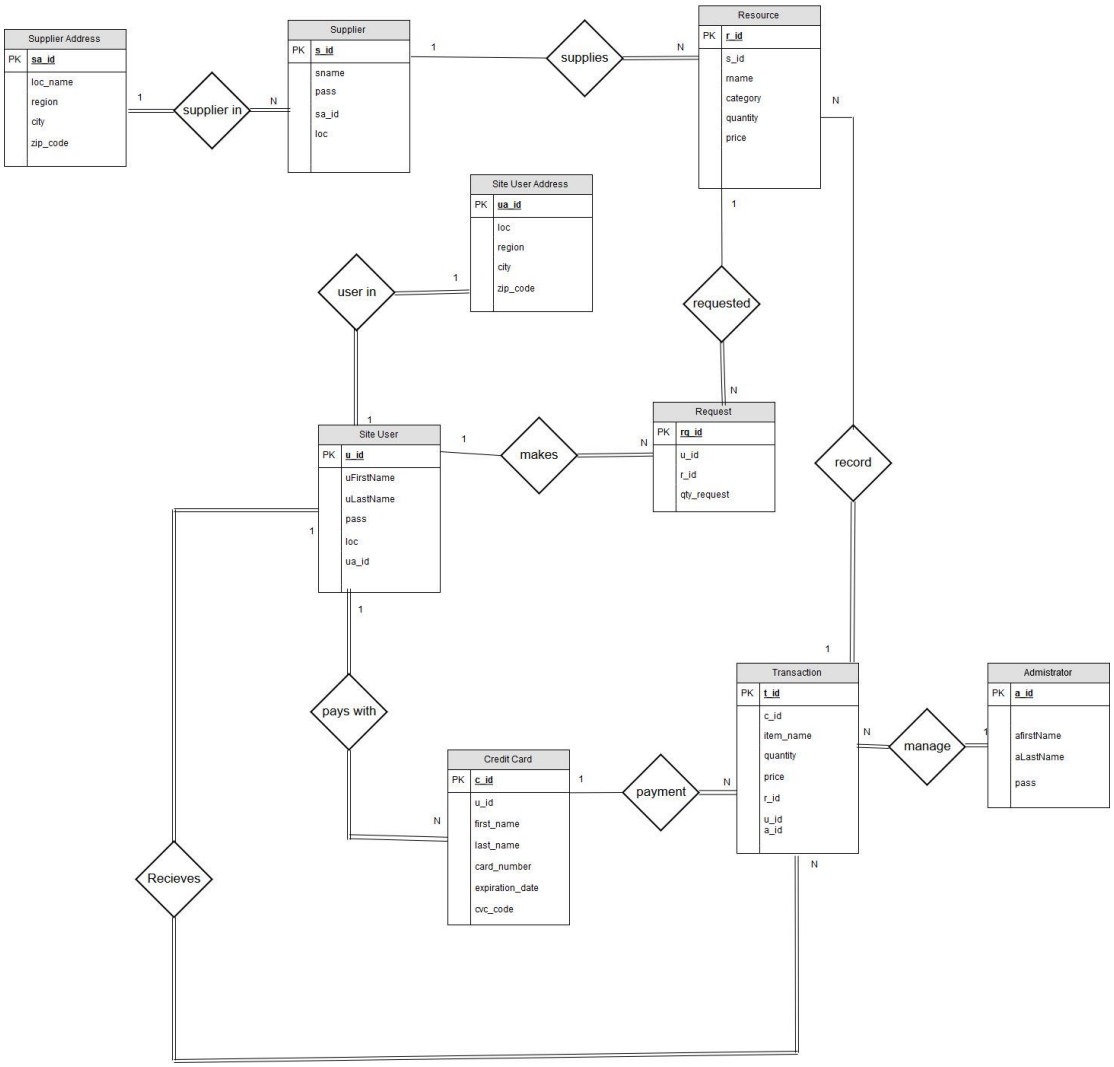
Disaster Site
Entity-Relationship Diagram
Explanation



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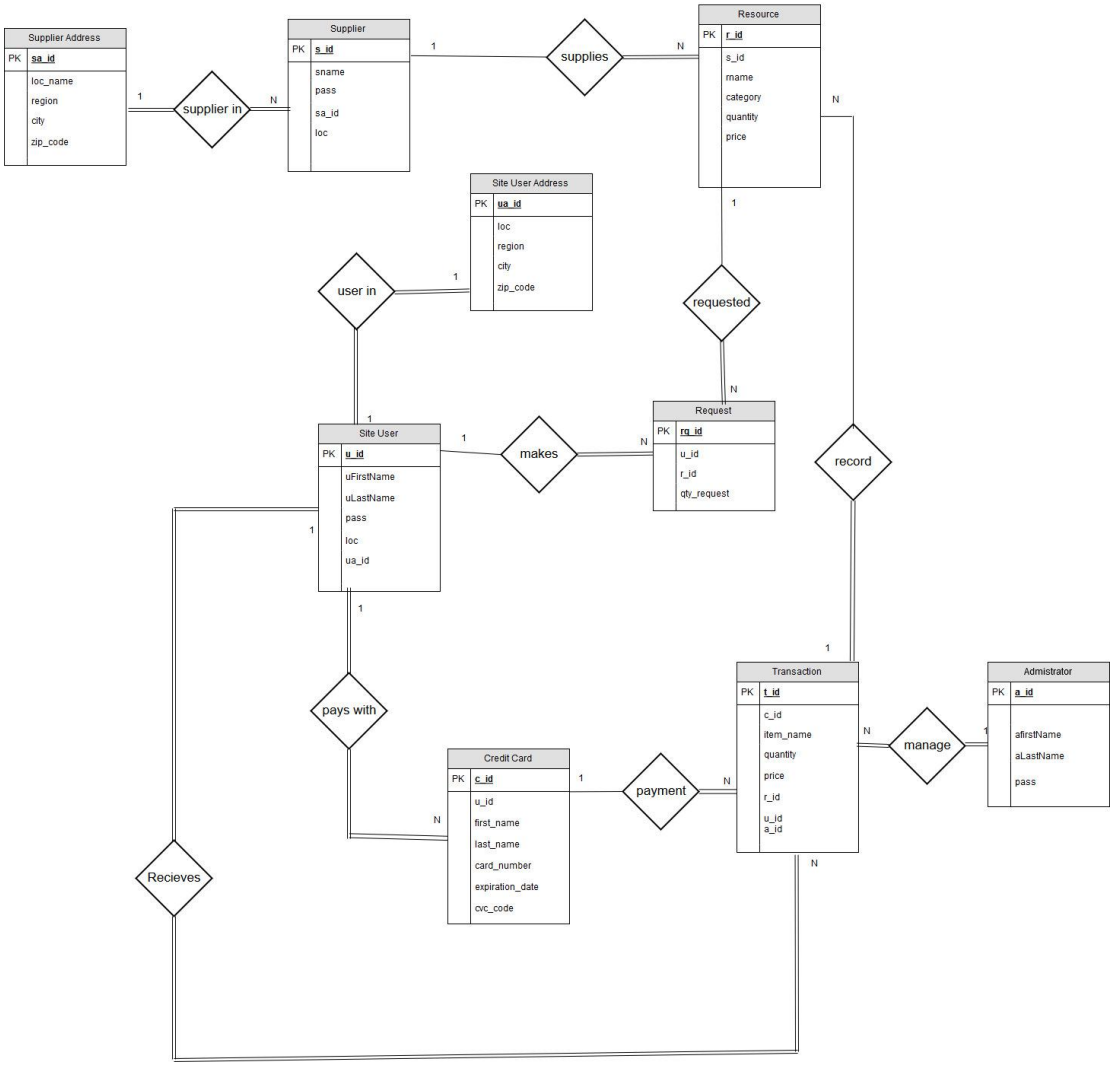

Entities:

1- Supplier- Entity who provides the given supplies used as resources. Entity information includes:

s_id : The supplier identification. It is designated by an integer number.

sname : The supplier name.

pass : A password serving as authentication, that one is actually a supplier. Meant to prevent unauthorized movement of resources.

sa_id : Id for the Supplier Address entity showing where the supplier is stationed.

loc : Municipality where the supplier is stationed.

2- Resource- Contains the resources available for distribution. Entity information includes:

r_id : The resource identification. It is designated by an integer number.
s_id : Identification for the supplier who provided the resources.
rname : The name of the individual resource.
category : The individual category where the resource falls.
quantity : The amount of the resource currently available.
price: The monetary value of the individual resource.

3- SiteUser- This entity relates to the those who have requested resources be made available to them. Entity information includes:

u_id: The identification for the individual making a request for resources for use. It is designated by an integer number.
uFirstName : The first name of the individual making the request.
uLastName : The last name of the individual making the request.
pass : A password serving as authentication, that one is actually a requester. Meant to prevent the requesting of resources in the name of another.
loc : Municipality of the person making the request.
ua_id : Id for the Supplier Address entity showing where the supplier is stationed.

4- Request- The request being made. Entity information includes:

rq_id : The identification for the request made. It is designated by an integer number.
u_id : The identification for the person making the request. It is referenced from the User table. It is designated by an integer number.
r_id : The identification of the resource requested. It is referenced from the Resource table. It is designated by an integer number.
qty_request : Designates the amount of the given resource requested by the user.

5- Administrator- Entity containing all administrators for the system that manage the transaction of resources. Entity information includes:

a_id : The identification for the individual making a request for resources for use. It is designated by an integer number.
aFirstName : The first name of the individual administrator.
aLastName : The last name of the administrator.
pass : A password serving as authentication that one is actually a Administrator. Meant to prevent the unauthorized requesting or distribution of resources.

6- Credit Card- Entity containing the credit card information for the users.
c_id : The identification of the credit card. It is designated by an integer number.
u_id : The identification for the individual owner of the credit card. It is designated by an integer number.
first_name : The first name of the credit card owner.
last_name : The last name of the credit card owner.

card_number : The credit card number. It is designated by an integer number.
expiration_date : The date in which the card is no longer valid.
cvc_code: The cvc security code for the card. It is designated by an integer number.

7- Transaction- Entity containing the information of the transaction of a request for resources.
t_id : The identification number for a transaction. It is designated by and integer number.
c_id : The identification number of the credit card used to pay the transaction.
item_name : The name of the item provided.
quantity: the amount of the item provided in the transaction.
price : How much the individual item cost.
r_id : The identification number for the resource in the transaction.
u_id : The identification number for the site user that made the transaction.
a_id : The identification number for the administrator who handled the transaction.

8- Site User Address : Holds the address information for the Site User.
ua_id : The identification number for the Site User Address. It is designated by an integer number.
loc : The specific street and/or building and/or apartment number.
region : The specific region where of the user address. Example: Barrio Obrero.
city : City or municipality where the site user is located. Example: Arecibo.
zip_code : Zip code for the area.

9- Supplier Address : Holds the address information for the Site User.
sa_id : The identification number for the Supplier Address. It is designated by an integer number.
loc : The specific street and/or building and/or apartment number.
region : The specific region where of the user address. Example: Barrio Obrero.
city : City or municipality where the supplier is located. Example: Arecibo.
zip_code : Zip code for the area.

Relationships

1- Supplier-Resource relationship: A one-to-many relationship total participation on Resource, it designates the connection between the available and/or desired resources and the suppliers for those resources. One supplier can supply more than one resource, but every resource can only have one supplier. Not every supplier has the same resources.

2-Supplier-Supplier Address relationship: A one-to-many relationship with total participation of both sides, it designates that a supplier might have multiple addresses but every address belong to only one supplier.

3- Resource-Transaction relationship: A many-to-one relationship with total participation on the transaction side, it designates that every transaction deals with a resource but not all resources are in the same transaction. Also, though one transaction can handle many resources, resources can only go to one transaction at a time.

4- Site User-Request relationship:A one-to-many relationship with total participation on the request side, it designates that a User can make many separate requests but every request is unique to the person that made it.

5- Site User-Credit Card relationship: A one-to-many relationship with total participation on both sides it designates that a user can pay with many credit cards but each card belong to one user.

6- Credit Card-Transaction relationship: A one-to-many relationship with total participation on the transaction side, it shows that every transaction is paid with a credit card but not every card is used for the same transaction.

7- Transaction-Administrator relationship: A many-to-one relationship with total participation on both sides. It show that all transactions are handled by an administrator and every transaction is handled by only one administrator but an administrator can handle many transactions.

8- Site User-Transaction relationship: A one-to-many relationship with total participation on both sides it shows that every user has a request and can have many of them, but each individual transaction belongs to one user.

9- Site User-Site User Address relationship: A one-to-one relationship, with total participation of both sides, it shows that every site user has an address unique to them.

10- Resource-Request relationship: A many-to-one relationship, it shows with total participation on the request side, it show that a request can be for many resources but every resource goes to individual requests. However, not every resource goes to the same every request.