Project Title:

Fantasy Shop Inventory

Group members:

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Description:

The purpose of this database is to keep track of a store's products. This would include the quantity of each product, the pricing of each product, what type of product it is, and where the product came from.

Our product would be used by store managers in order to keep track of stock, know when to add more inventory, and manage loss prevention. They would also be able to add products, or adjust prices.

Our potential customers would be individuals looking online to see prices and stock of what we have in our store, as well as managers who need an easy way to manage inventory. All our items will be shown to them to give them both an understanding of what we are selling and for how much. Users will be able to look through our stock and sort by various categories and prices. The customer will then be able to decide what they want from our store and have the foreknowledge of the website to be able to shop confidently within our store.

Data requirements of users:

The primary data requirement is the store inventory itself, which will represent all the products, their prices, their quantity, etc. It may also require a table of users. The primary requirements for standard users would be having a decent internet connection, access to a desktop or laptop, and a browser of choice. The primary requirements for an administrator or a manager would be almost identical to the standard user requirements except that they would also require a special URL to make changes to the store inventory.

Functional requirements of users:

The information from the database will be displayed in rows and formatted with HTML/CSS. Along with this we will use PHP to design and create the website. On the side of the screen, we will have a menu that will allow users to sort by item type, quantity, or price. Users will be able to log items that they wish to purchase within the store. This will then be cataloged and then saved, you will then be able to pick up and pay for those items that you saved on the website in our stores location.

Database Relations:

[user]
user_id (**primary**) [int]
first_name [varchar(10)]
last_name [varchar(10)]
email [varchar(20)]
password [varchar(20)]
address [varchar(25)]
city [varchar(20)]
state [varchar(2)]
zip [int(5)]
phone_number[int]

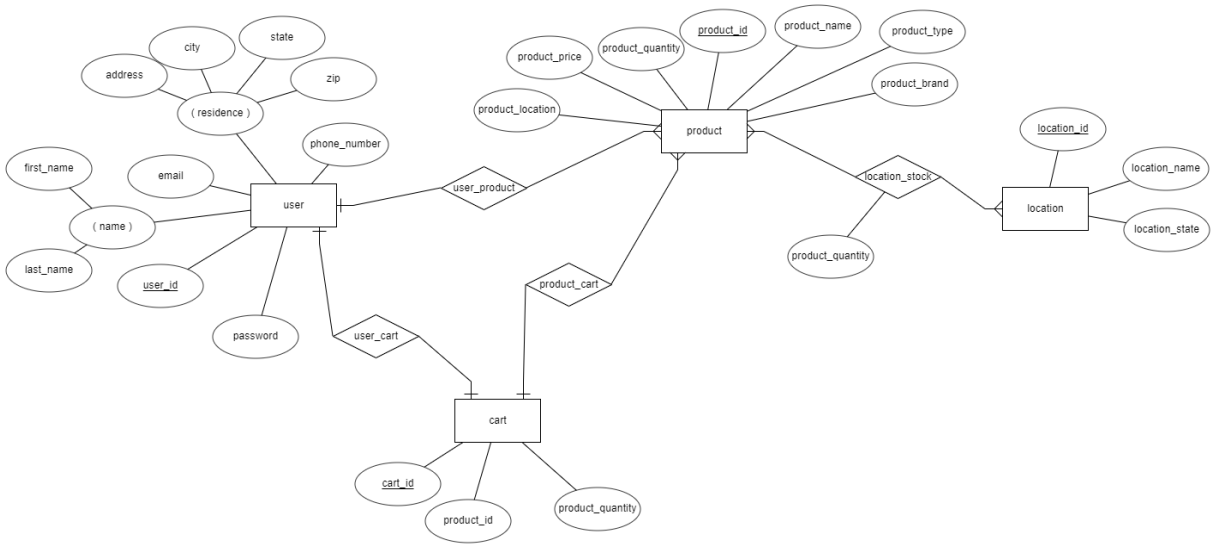
[product]
product_id(**primary**) [int]
product_name [varchar(10)]
product_type [varchar(10)]
product_brand [varchar(10)]
product_quantity [int]
product_price [float(2 decimal places)]
product_location (**foreign key referring to location::location_id**) [int]

[location]
location_id(**primary**) [int]
location_name [varchar(10)]
location_state [varchar(2)]

[location_stock]
location_id (**foreign key referring to location::location_id**)(**primary**)[int]
product_id (**foreign key referring to product::product_id**)[int]
product_quantity [int]

[cart]
cart_id (**foreign key referring to user::user_id**)(**primary**) [int]
product_id (**foreign key referring to product::product_id**)[int]

Draft of ER Diagram



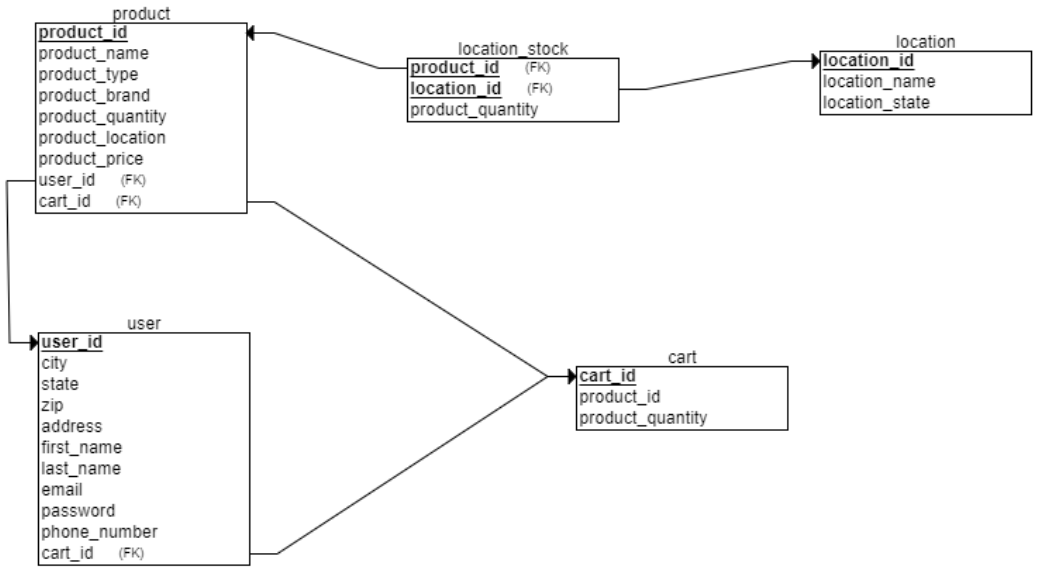
Explanation of Notation for ER Diagram

We have chosen to use horizontal/vertical lines through our connecting relationships to denote the “one” side of relationships. With the opposite relationship (“many”) being denoted by our one relationship line being split into 3 (like a crows foot) to show the relationship for “many”. For example the relationship of user to product is one to many therefore it would be a horizontal or vertical slash then the relationship user_product then the line splits into 3. For user to cart, we would have a horizontal/vertical line, the relationship user_cart then the line connects to cart with a horizontal/vertical line.

Description of 2 relationships of ER DIagram

For the relationship of user to product, each user will be choosing multiple products that means that this relationship must be a one to many relationship, user to product. You cannot have a product have multiple users for example as there may only be one of those items for sale within a store. For the relationship of user to cart, each user will only be able to have one cart to have products to put in it, this means that the relationship between user and cart will be a one to one relationship. We have designed and all online stores have designed their websites to incorporate a one cart per user storage system. This is the reason that the user to cart relationship could not be one to many and why it could not be many to one, as each user has their own cart.

Relational Schema Diagram



SQL Generated

```
CREATE TABLE location
(
  location_id INT NOT NULL,
  location_name INT NOT NULL,
  location_state INT NOT NULL,
  PRIMARY KEY (location_id)
);

CREATE TABLE cart
(
  product_id INT NOT NULL,
  cart_id INT NOT NULL,
  product_quantity INT NOT NULL,
  PRIMARY KEY (cart_id)
);

CREATE TABLE user
(
  city INT NOT NULL,
  state INT NOT NULL,
  zip INT NOT NULL,
  address INT NOT NULL,
  first_name INT NOT NULL,
  last_name INT NOT NULL,
  email INT NOT NULL,
```

```
  user_id INT NOT NULL,
  password INT NOT NULL,
  phone_number INT NOT NULL,
  cart_id INT NOT NULL,
  PRIMARY KEY (user_id),
  FOREIGN KEY (cart_id) REFERENCES cart(cart_id)
);

CREATE TABLE product
(
  product_id INT NOT NULL,
  product_name INT NOT NULL,
  product_type INT NOT NULL,
  product_brand INT NOT NULL,
  product_quantity INT NOT NULL,
  product_location INT NOT NULL,
  product_price INT NOT NULL,
  user_id INT NOT NULL,
  cart_id INT NOT NULL,
  PRIMARY KEY (product_id),
  FOREIGN KEY (user_id) REFERENCES user(user_id),
  FOREIGN KEY (cart_id) REFERENCES cart(cart_id)
);



CREATE TABLE location_stock
(
  product_quantity INT NOT NULL,
  product_id INT NOT NULL,
  location_id INT NOT NULL,
  PRIMARY KEY (product_id, location_id),
  FOREIGN KEY (product_id) REFERENCES product(product_id),
  FOREIGN KEY (location_id) REFERENCES location(location_id)
);
```

Product Makeups
001
Energy Sword
Weapon
Halo
1
$200
1111

002
Keyblade
Weapon
Kingdom Hearts
5
$500
1112

003
Master Sword
Weapon
Zelda
1
$300
1113

004
Blue Shell
Weapon
Mario
15
$200
1114

005
Ray Gun
Weapon
Activision
$450
4
1115

User Makeups
122822
Stan
Lee
StrongestAvenger@yahoo.com
Y1965
1111 brooklyn avenue
New York
10001
718-111-1111

11123
Jimmy
Dean
goodEatz@gmail.com
S3345
545 Pine Island Rd
North Fort Myers
33917
614-559-9931

333124
George
Foreman
GrillinDad434@yahoo.com
G4456
13050 N Cleveland Ave
North Fort Myers
33903
614-443-2251

123423
Jimmy
Buffet
RunningOutOfIdeas331@bing.com
5123453
78223 Goliad rd
43110
614-555-9992

11111
Jimmy
Hendrix
StoneFr33@gmail.com
11112
4529 Obetz Reese Rd
43110
614-222-3344

Location Makeups

1111
Rpg Emporium
Ohio

1112
The Fantasy Corner
Texas

1113
The Hero's respite
Florida

1114
Hero's last stand
Alabama

1115
Potions and curiosities
North Dakota

Location_Stock Makeups

1111
001
1

1112
002
5

1113

003
1
1114
004
15

1115
005
4

Cart Makeups
122822
001

11123
002

333124
003

123423
004

11111
005