Comp 3700 – Assignment 3

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For the first version of the store management system, we want to start with the following user stories:

- As a user, I want to add a new product into the system.

- As a user, I want to add a new customer into the system.

- As a user, I want to record a purchase from a customer into the system.

1. Write a common use case for each user story. Sketch the screens the system should display in each use case.

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| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Add Product”  Main screen: | 2. Display “Add Product” screen  “Add Product” screen: |
| 3. Input data then click “Add”  “Add Product” screen with data: | 4. Hide “Add Product” screen and display: “Add Product Successfully”  “Product Added Successfully” screen: |
| 5. Click “OK” button | 6. Return to “Main” screen |
| **Actor** | **System** |
| 1. Choose command “Add Customer”  Main screen: | 2. Display “Add Customer” screen  “Add Customer” screen: |
| 3. Input data then click “Add”  “Add Customer” screen with data: | 4. Hide “Add Customer” screen and display: “Add Customer Successfully”  “Customer Added Successfully” screen: |
| 5. Click “OK” button | 6. Return to “Main” screen |

|  |  |
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| **Actor** | **System** |
| 1. Choose command “Add Purchase”  Main screen: | 2. Display “Add Purchase” screen  “Add Purchase” screen: |
| 3. Input data then click “Add”  “Add Purchase” screen with data: | 4. Hide “Add Purchase” screen and display: “Add Purchase Successfully”  “Purchase Added Successfully” screen: |
| 5. Click “OK” button | 6. Return to “Main” screen |

1. Draw the entity-relationship diagram for this system. We assume the minimal requirement with two entities: products and customers, and one relationship "a customer purchases a product".

Purchases

Product

Customer

1. Design the database logically, i.e., write the relations, attributes, and define keys.

* Products(**productid**, name, price, quantity, vendor, description)
* Customers(**customerid**, name, address, phone, payment info)
* Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost)

1. Design the database physically using SQL, i.e., write SQL code to create the tables for those relations.

* CREATE TABLE "Customers" (
  + "Customerid" INTEGER NOT NULL,
  + "Name" TEXT,
  + "Address" TEXT,
  + "Phone" INTEGER,
  + "Payment Info" TEXT,
  + PRIMARY KEY("Customerid")
  + );
* CREATE TABLE "Products" (
  + "Productid" INTEGER NOT NULL,
  + "Name" TEXT,
  + "Price" REAL,
  + "Quantity" REAL,
  + "Vendor" TEXT,
  + "Description" TEXT,
  + PRIMARY KEY("Productid")
  + );
* CREATE TABLE "Purchases" (
  + "Purchaseid" INTEGER NOT NULL,
  + "Customerid" INTEGER NOT NULL,
  + "Productid" INTEGER NOT NULL,
  + "Date time" INTEGER,
  + "Price" REAL,
  + "Quantity" REAL,
  + "Total cost" REAL,
  + PRIMARY KEY("Purchaseid")
  + );

1. Insert data into the tables, with at least 5 products, 5 customers, and 10 purchases.

* **Products:**
* INSERT INTO Products(**productid**, name, price, quantity, vendor, description) VALUES (80, Shirt, 29.99, 32, Under Armour, Color: Orange);
* INSERT INTO Products(**productid**, name, price, quantity, vendor, description) VALUES (81, Shorts, 34.99, 24, American Eagle, Waterproof);
* INSERT INTO Products(**productid**, name, price, quantity, vendor, description) VALUES (82, Hat, 19.99, 12, Legacy, One size fits all);
* INSERT INTO Products(**productid**, name, price, quantity, vendor, description) VALUES (83, Hoodie, 39.99, 28, Adidas, Type: Zip up);
* INSERT INTO Products(**productid**, name, price, quantity, vendor, description) VALUES (84, Shoes, 59.99, 36, Nike, Athletic);
* **Customers:**
* INSERT INTO Customers(**customerid**, name, address, phone, payment info) VALUES (125, Alex Bishop, 34 South St, 212-343-2356, Visa);
* INSERT INTO Customers(**customerid**, name, address, phone, payment info) VALUES (126, Emily Stanford, 227 Upton Rd, 243-778-2876, Discover);
* INSERT INTO Customers(**customerid**, name, address, phone, payment info) VALUES (127, Autumn Haley, 49 N Clinton St, 334-276-9087, MasterCard);
* INSERT INTO Customers(**customerid**, name, address, phone, payment info) VALUES (128, David Garrett, 681 Twin Rd, 212-339-9213, MasterCard);
* INSERT INTO Customers(**customerid**, name, address, phone, payment info) VALUES (129, Andy Clark, 54 Jamestown Rd, 334-234-2796, Visa);
* **Purchases:**
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1072, 80, 127, 9/9/19 – 10:30, 29.99, 1, 29.99);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1073, 83, 127, 9/9/19 – 10:31, 39.99, 1, 39.99);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1074, 81, 129, 9/10/19 – 11:22, 34.99, 5, 174.95);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1075, 84, 129, 9/10/19 – 11:25, 59.99, 2, 119.98);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1076, 82, 126, 9/12/19 – 9:12, 19.99, 3, 59.97);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1077, 80, 126, 9/12/19 – 9:15, 29.99, 2, 59.98);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1078, 82, 125, 9/13/19 – 1:02, 19.99, 10, 199.90);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1079, 83, 125, 9/13/19 – 1:07, 39.99, 4, 159.96);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1080, 81, 128, 9/14/19 – 10:48, 34.99, 6, 209.94);
* INSERT INTO Purchases(**purchaseid,** *productid*, *customerid,* date time, price, quantity, total cost) VALUES (1081, 84, 128, 9/14/19 – 10:52, 59.99, 1, 59.99);