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COMP 3700

Due: 11/20/2019

Project 3 Design Document

**Use Cases:**

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

* User inputs a unique ProductID, Product Name, Price, and Quantity into system, or loads an existing product by its ProductID, then updates the product’s fields. Product is added/updated successfully.
* User inputs a nonexistent ProductID to load and edit. User encounters an error message informing them that a product with the specified ProductID does not exist.

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

* User inputs a unique CustomerID, Customer Name, and Phone Number into system into system, or loads an existing customer by its CustomerID, then updates the customer’s fields. Customer is added/updated successfully.
* User inputs a nonexistent CustomerID to load and edit. User encounters an error message informing them that a customer with the specified CustomerID does not exist.

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

* User inputs a unique PurchaseID, CustomerID, ProductID, and Quantity into system, or loads an existing product by its PurchaseID, then updates the purchase’s fields. The system calculates subtotal, tax, and total cost owed. Purchase is added/updated successfully.
* User inputs a nonexistent PurchaseID to load and edit. User encounters an error message informing them that a purchase with the specified PurchaseID does not exist.

**Application Screens**

1. Successfully adding/updating a product

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Products”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Products” screen   “Manage Products” screen: |
| 1. Input a valid ProductID, then click “Load Product” button   “Manage Products” screen with ProductID: | 1. Load data for the product with the specified ProductID   “Manage Products” screen with data: |
| 1. Edit the information for the product and click “Save Product” button   “Manage Products” screen with updated data: | 1. Hide “Manage Products” screen and display “Product Saved Successfully” message   “Product Saved Successfully” message: |
| 1. Click on “OK” button | 1. Display Main Screen |

1. Unsuccessfully loading a product to edit

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Products”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Products” screen   “Manage Purchases” screen: |
| 1. Input an invalid ProductID, then click “Load Product” button   “Manage Products” screen with ProductID: | 1. Display error message with details   Error message: |
| 1. Click on “OK” button | 1. Allow user to correct data entry and try again |

1. Successfully adding/updating a customer

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Customers”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Customers” screen   “Manage Customers” screen: |
| 1. Input a valid CustomerID, then click “Load Customer” button   “Manage Customers” screen with CustomerID: | 1. Load data for the customer with the specified CustomerID   “Manage Customers” screen with data: |
| 1. Edit the information for the customer and click “Save Customer” button   “Manage Customers” screen with updated data: | 1. Hide “Manage Customers” screen and display “Customer Saved Successfully” message   “Customer Saved Successfully” message: |
| 1. Click on “OK” button | 1. Display Main Screen |

1. Unsuccessfully loading a customer to edit

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Customers”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Customers” screen   “Manage Customers” screen: |
| 1. Input an invalid CustomerID, then click “Load Customer” button   “Manage Customers” screen with CustomerID: | 1. Display error message with details   Error message: |
| 1. Click on “OK” button | 1. Allow user to correct data entry and try again |

1. Successfully adding/updating a purchase

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Purchases”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Purchases” screen   “Manage Purchases” screen:  A screenshot of a cell phone  Description automatically generated |
| 1. Input a valid PurchaseID, then click “Load Purchase” button   “Manage Purchases” screen with PurchaseID: | 1. Load data for the purchase with the specified PurchaseID   “Manage Purchases” screen with data:  A screenshot of a cell phone  Description automatically generated |
| 1. Edit the information for the purchase and click “Save Purchase” button   “Manage Purchases” screen with updated data:  A screenshot of a cell phone  Description automatically generated | 1. Hide “Manage Purchases” screen and display “Purchase Saved Successfully” message   “Purchase Saved Successfully” message: |
| 1. Click on “OK” button | 1. Display Main Screen |

1. Unsuccessfully loading a purchase to edit

|  |  |
| --- | --- |
| **Actor** | **System** |
| 1. Choose command “Manage Purchases”   Main screen:  A screenshot of a cell phone  Description automatically generated | 1. Display “Manage Purchases” screen   “Manage Purchases” screen:  A screenshot of a cell phone  Description automatically generated |
| 1. Input an invalid PurchaseID, then click “Load Purchase” button   “Manage Purchases” screen with PurchaseID: | 1. Display error message with details   Error message:  A screenshot of a cell phone  Description automatically generated |
| 1. Click on “OK” button | 1. Allow user to correct data entry and try again |

**Database Design**

﻿ ﻿CREATE TABLE "Products" (

"ProductID" INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT UNIQUE,

"Name" TEXT NOT NULL,

"Price" REAL NOT NULL,

"Quantity" REAL NOT NULL

)

﻿ ﻿CREATE TABLE "Customers" (

"CustomerID" INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT UNIQUE,

"Name" TEXT NOT NULL,

"Phone" INTEGER,

"Address" TEXT

)

﻿ ﻿CREATE TABLE "Purchases" (

"PurchaseID" INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT UNIQUE,

"ProductID" INTEGER NOT NULL,

"CustomerID" INTEGER NOT NULL,

"PurchaseDateTime" TEXT NOT NULL,

"Price" REAL NOT NULL,

"Quantity" REAL NOT NULL,

"Cost" REAL NOT NULL,

"Tax" REAL NOT NULL,

"TotalCost" REAL NOT NULL

)

**Inserting Data into Tables**

﻿INSERT INTO Products

VALUES

(1, '1% Milk', 3.49, 45),

(2, 'Unsalted Butter', 2.49, 100),

(3, 'Cheezits', 5.45, 20),

(4, 'Craft Button Kit', 2.25, 15),

(5, 'Pumpkin Carving Kit', 3.49, 15);

﻿INSERT INTO Customers

VALUES

(1, 'Miles Edgeworth', 3333333333, '123 Mulberry St'),

(2, 'Phoenix Wright', 1111112222, '123 Bulberry St'),

(3, 'Maya Fey', 1234567890, '123 Muffin Ln'),

(4, 'Mia Fey', NULL, NULL),

(5, 'Winston Payne', NULL, NULL);

INSERT INTO Purchases

VALUES

(1, 1, 1, '10-06-2019', 10.99, 4.25, 5.50, 2.50, 8.00),

(2, 1, 1, '10-07-2019', 2.99, 4.25, 5.50, 2.50, 8.00),

(3, 1, 1, '10-08-2019', 3.99, 4.25, 5.50, 2.50, 8.00),

(4, 1, 1, '10-09-2019', 3.99, 4.25, 5.50, 2.50, 8.00),

(5, 1, 1, '10-10-2019', 4.99, 4.25, 5.50, 2.50, 8.00),

(6, 1, 1, '10-11-2019', 5.99, 4.25, 5.50, 2.50, 8.00),

(7, 1, 1, '10-12-2019', 6.99, 4.25, 5.50, 2.50, 8.00),

(8, 1, 1, '10-13-2019', 7.99, 4.25, 5.50, 2.50, 8.00),

(9, 1, 1, '10-14-2019', 8.99, 4.25, 5.50, 2.50, 8.00),

(10, 1, 1, '10-15-2019', 9.99, 4.25, 5.50, 2.50, 8.00);