CPSC 304
Project Part III

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System Introduction

We wrote our software using php and mysql, with a little bit of javascript to make it more interesting. We implemented a user login, a user shopping cart, post/get methods, database search, database insert/update/delete operations, and different levels of data aggregation in custom table queries.

The page is separated in 3 tabs, for *Clerk*, *Customer*, and *Manager*. Each tab contains the operations that the user can do. We included the *Dev* tab to separate out each of our database tables, to demonstrate the table contents at any time.

Schema

Our schema contains the 8 tables as required by the project outline. We utilize foreign key constraints, cascade on delete and update, and auto increment on Order and Return to generate unique, system-determined primary keys. All queries are defined in our php code, with no additional stored procedures or functions in our schema. Please see init_table.sql (included) for a complete database instantiation.

Code

We wrote the server-side code with 3 main layers of cascading calls: a presentation layer, a logic layer, and a data layer.

Our presentation layer contains the login code, the setup for our post methods, the setup for each collection of update, insert, and delete for each of our tables, and the creation of records we use to populate our database.

Our logic layer is the place to sanitize the data and do checks on user input regarding syntax or data type errors, as well as protect against malicious attacks.

The data layer deals with all of our post methods by converting the user input, passed by presentation, to the functions that communicate with the database. We call every function on every table here, simply by passing the converted parameters along.

Each database table is represented by a separate php file, and contains all the operations on that table. In this way, we kept the code compartmentalized and localized to the attributes specific to each table.

Apart from the operations, we have a collection of files that represent each tab on our website. These pages all reference one another, allowing for user navigation on the front-end. At the highest level of orientation, our homepage file instantiates our presentation object, which cascades throughout the code to reach each of the operations on the database tables.

Functions

Register
- ➔ newCustomer(cid,password,name,address,phone)

Login
- ➔ login(cid,password)

Items
- ➔ removeItem(upc)
- ➔ newItem(upc,title,type,category,company,year,price,stock)
- ➔ getItems()
- ➔ deleteItem(upc)

LeadSinger
- ➔ newLeadSinger(upc,name)
- ➔ getLeadSingers()
- ➔ removeLeadSingers(upc,name)

Order
- ➔ newOrder(date,cid,cardNum,expiryDate)
- ➔ updateDelivery(receiptID,deliveredDate)
- ➔ getAllOrders()
- ➔ removeOrder(receiptID)

Songs
- ➔ newSongTitle(upc,title)
- ➔ getAllSongTitles()
- ➔ removeSongTitle(upc,title)

Return
- ➔ newReturn(returnDate,receiptID)
- ➔ getReturn(retID)
- ➔ getAllReturns()
- ➔ removeReturn(retID)

ReturnItem

- newReturnItem(retID,upc,quantity)
- getReturnItem(retID,upc)
- getAllReturnItems()
- removeReturnItem(retID,upc)

Customer

- getCustomers()
- removeCustomer(cid)

PurchaseItem

- newPurchaseItem(receiptID,upc,quantity)
- getAllPurchaseItems()
- removePurchaseItem(receiptID,upc)

Sales Reports

- dailySales(date)
- topSelling(date,n)

File System Hierarchy

```
root    > styles > main.css
        > pages         > clerkHome.php
                        > customerHome.php
                        > developerHome.php
                        > home.php
                        > login.php
                        > managerHome.php
                        > register.php
        > src     > presentation.php
                  > logic.php
                  > data.php
                  > objs  > Customer.php
                          > HasSong.php
                          > Item_.php
                          > LeadSinger.php
                          > Order_.php
                          > PurchaseItem.php
                          > Return_.php
                          > ReturnItem.php
```

Cal’s Music Store

www.cals.com

User Manual

1. Cal’s Customer

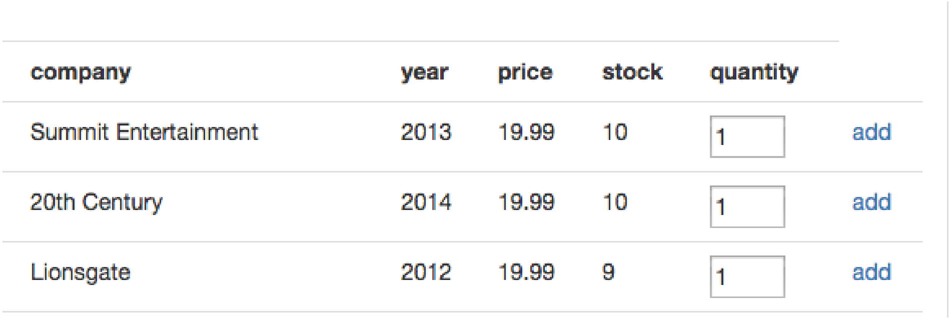
As a customer of Cal’s online music store, you are welcomed to browse our stock and order items at any time.

Here’s how.

1.1. Start by registering for an account with Cal’s. The first time you visit the site, you’ll be asked to create a login and password. We’ll use this identification to maintain your shopping cart and tailor your settings to suit your needs. But don’t worry - we’ll never sell or give away your information to data poachers. Promise.

After logging in, you can perform a number of operations from the *Customer* tab.

1.2., 1.3. Begin by browsing our stock from the *Browse Store* tab, or view all items from the *All Items* tab. Once you see something you like, you can place an order for an item by choosing your desired quantity, followed by the *add* button. Your shopping cart is updated with your selection, and our stock is adjusted accordingly.



company	year	price	stock	quantity	
Summit Entertainment	2013	19.99	10	1	add
20th Century	2014	19.99	10	1	add
Lionsgate	2012	19.99	9	1	add

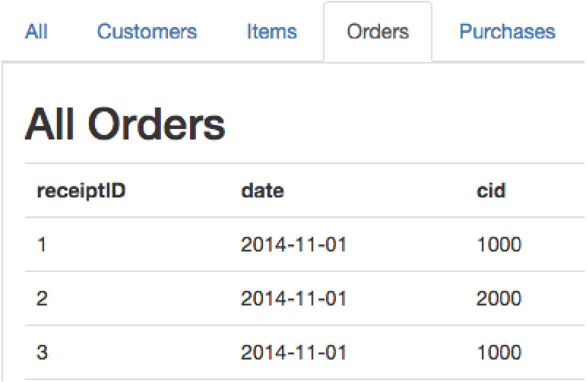
1.4. If you can’t find what you’re looking for, use the *Search* functionality to quickly locate your item. Please use the correct spelling to ensure a speedy search!

1.5. When you’re ready to checkout, simply click the cart icon to view your total selections, and complete your order. Since our items are rare, and sourced from passionate collectors, you can expect a minimum delivery date of 2 weeks. Please contact a manager to track down the delivery date assigned to your order.

2. Cal's Clerk

As an employee of Cal's, your primary focus is on keeping your customers satisfied. As such, you can enter the system and complete a few key operations. In the unlikely event of a requested refund, please choose the *Clerk* tab. Here, you can process a return for a customer if the order was completed less than 2 weeks ago. There are two steps to this process:

2.1. The first step requires that a customer has indeed made an order! You must confirm the order history for your customer by checking the order log, located on the *Dev* tab. Once you locate the order (*receiptID,* as shown below), you can begin the process of generating your customer's return.



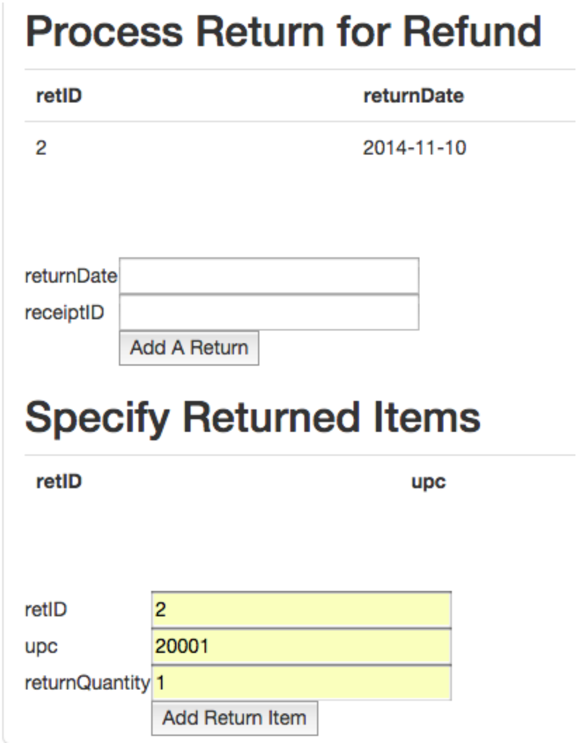
All Orders

receiptID	date	cid
1	2014-11-01	1000
2	2014-11-01	2000
3	2014-11-01	1000

Back on the *Clerk* tab, simply enter in the current date and the order identifier to generate the return.

2.2. Now that you have a return, you can specify the items. We know that a customer may only want to return a part of their order, and the system allows them you to break apart the refund into as many pieces as required.

Be aware that when you add your return items, the quantity of the specified item is added back into Cal's stock.



Process Return for Refund

retID	returnDate
2	2014-11-10

returnDate

receiptID

Specify Returned Items

retID	upc

retID 2

upc 20001

returnQuantity 1

Notice that, from step 1, a unique value is generated for your return (*retID*, as shown above). Please be consistent when adding items to your return, and use the same identifier as was assigned in step 1. This workflow ensures system continuity and reliability.

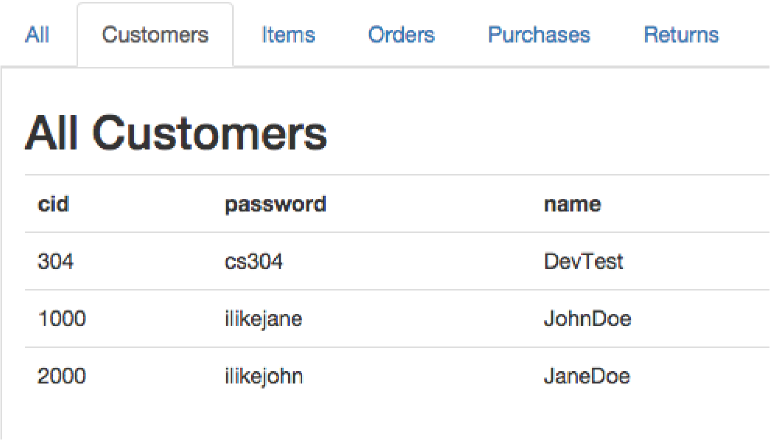
3. Cal’s Manager

What a lot of responsibility is in your hands! As the manager, it’s your job to delegate tasks, oversee operations, process orders, analyze revenue, and keep the stock topped up and relevant.

On the *Manager* tab, you’ll find all the necessary pieces to keep your job running steadily and swiftly.

3.1. You can manage Cal’s items on the *Add Item* tab by following the simple user interface. We’re sure that you know your stock, but just in case, you’ll find that you can’t add an item that’s already in the system.

3.2. You can order an item for a customer on the *Process Delivery* tab. Just enter today’s date, followed by the customer’s information. Please use the customer ID (*cid*, as shown below), which you’ll find on the *Dev* tab under *Customers*.

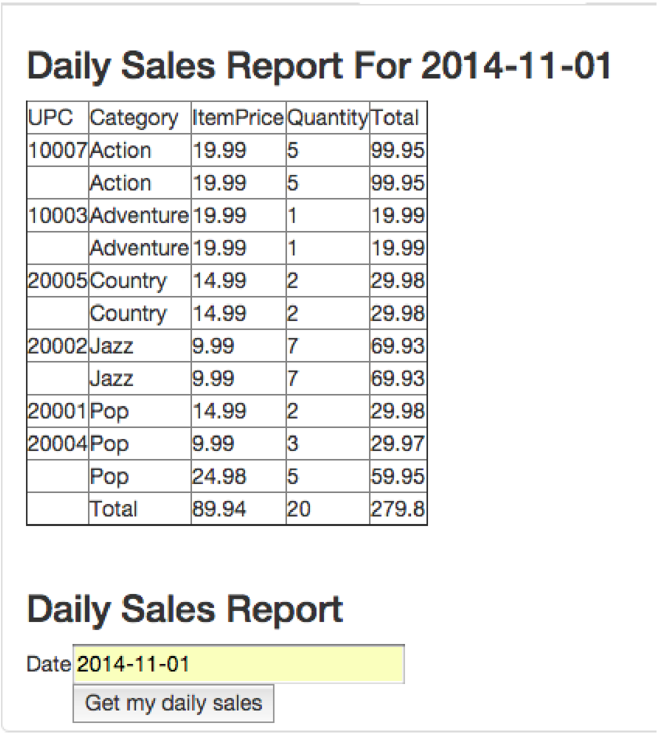


All Customers

cid	password	name
304	cs304	DevTest
1000	ilikejane	JohnDoe
2000	ilikejohn	JaneDoe

3.3 Once the order has been received, you can update the delivery date using the form provided on the *Process Delivery* tab. Simply enter in your order receipt ID to mark the order as received, and notify your customer that the product has shipped.

There are two reports you’ll need to run on a daily basis, as a manager of Cal’s. Each report can be generated by date, as in the example below.



Daily Sales Report For 2014-11-01

UPC	Category	ItemPrice	Quantity	Total
10007	Action	19.99	5	99.95
	Action	19.99	5	99.95
10003	Adventure	19.99	1	19.99
	Adventure	19.99	1	19.99
20005	Country	14.99	2	29.98
	Country	14.99	2	29.98
20002	Jazz	9.99	7	69.93
	Jazz	9.99	7	69.93
20001	Pop	14.99	2	29.98
20004	Pop	9.99	3	29.97
	Pop	24.98	5	59.95
	Total	89.94	20	279.8

Daily Sales Report

Date 2014-11-01

3.4. The Daily Sales report gives you the subtotals for each category of items sold on a given day, and a total of all cummulative sales for the day. This data provides the basis for revenue analysis, trend inspection, and targeted sales by category.

3.5. The Top Selling Items report gives you the highest sales for each item, for any given value. For example, suppose you wish to list the top 10 items sold, across all items. This data allows you to better manage your stock but ensuring that you have the popular items in the warehouse. You can also adjust your marketing campaigns to target popular items, and focus your energy where your customers are most interested.

Much thanks!

Thank you for using Cal's software! We hope the experience is intuitive and pleasurable. For added usability, we're including a few features and quick-start notes.

>> $ProTips:

- ➔ When navigating between sub-tabs, you can refresh your page by choosing the header tab.
- ➔ Clear your browser by navigating back to home.
- ➔ Modify your system settings by choosing *Settings*.
- ➔ Allow cookies on your browser to keep from logging in each time.

Please contact System304 for updates, enhancements, or technical support.