

Understanding the E-commerce Puzzle

So you were hired to create a site and now you're being asked to do a shopping cart. Or you've got a "bricks and mortar" store and your friends are telling you that you just have to sell on the Web, too. Maybe you've asked around a bit and you're hearing that a shopping cart will cost you a not-so-small fortune. Or you're hearing about the Yahoo! store and you *know* that's not what you want. This e-commerce stuff is certainly the latest rage, but it's not easy and you didn't plan on becoming an expert. Well, maybe you won't have to. Maybe a way exists to do e-commerce that's easier and less expensive. By popular request from graphic-artist friends, I've put together this section to lessen the e-commerce learning curve, and to give you an understanding and vocabulary to help you wade the currents of the e-commerce ocean.

If you want to open an online store, or otherwise sell merchandise or services on the Web, you have several ways you can go about it. On the most simple level you can put up pages that display your merchandise or services, and have customers print an order form and mail you a check. The next level up is to provide form-based ordering so the orders are clear, with the aid of a database, so you can track the orders, and a return-e-mail order confirmation, so the customer knows the order has gone through. (More on that later, under "Finding Alternatives to Real-Time Payment Processing.")

Then there's the top level. To complete a sale over the Web, you need to be able to show your wares, collect and tally an order, and then approve the order, collect the money and finally ship the order. GoLive enables you to create beautiful Web pages: the equivalent of a catalog or a store's shelves. But for users to purchase from you they need to place an order and provide you with payment. This calls for three more parts to the e-commerce puzzle—the focus of this appendix.

Selling on the Web

The word out on the Web is often that it is horribly complex, confusing, and difficult. This perspective is not altogether accurate. The fundamentals are simple. A larger business requiring integrated electronic order fulfillment, stock control, and back office administration will need systems integration far beyond the scope of a book on Web site design with GoLive 5.0, and unless you are designing for such a large company, also beyond anything you need for your Web store. If all you want to do is build a Web site with online purchasing capability so that you or your client can sell goods and services on the Web, the solution to the puzzle is far simpler: You need just three things in addition to your site:

- ◆ **A “shopping cart.”** This is the software that usually runs on the server and assembles the customer’s order, holds the merchandise in its database as your visitor selects items for purchase, tallies and computes the variables such as quantity, price, tax or no tax, shipping charges, discounts, and so on, and displays them with their names, numbers, quantities, and prices with a total when requested. When seeking a shopping cart, consider its flexibility. A good one enables a user to change an order by adding or deleting items and changing quantities. A really good one can even show your customer what is *in* the cart while shopping.
- ◆ **A credit card processing service, also called a “gateway.”** A rather self-explanatory name, it is the thing that takes the transaction data from the shopping cart database, processes it through the banking system, and returns an accepted or declined notice to the customer in one manner or another. It then puts the money in the merchant’s business bank account.
- ◆ **An *Internet* merchant account.** This is not a bank account as most people think of one. It is the account that enables you to transact credit card business on the Web. You might think of it more as a membership in the club. It enables you to play the game.



Expert Tip

If you already have a merchant account, don’t assume you’re ready to go on the Web. Be sure to read the fine print on your contract; it may not give permission to use the account for mail-order—and the Web counts as mail-order. Often, you’ll find that your local bank can’t provide an *Internet* merchant account.—*Doug Fairchild, Art Director, eCatalogBuilders*

It is of crucial importance that the preceding three fundamental pieces be seamlessly integrated with each other. Therefore, unless you really know what you are doing, it is wise to make absolutely sure they are fully integrated. If you were buying a car, you wouldn’t buy a Chevrolet body, a Mercedes engine, and a Toyota transmission and drive train unless you wanted to spend the next few months modifying them to work together, and had the tools and the know-how to do so. So my advice is to save yourself grief and get your pieces all from the same source, or make sure they “talk to each other in the same language.” And make sure they are what you need. More on that later.

Putting the Pieces Together

You need a way to collect the money. For this you need a special kind of bank account into which to collect the money. Because bank notes and coins can't be passed through computer appliances (yet), money must be collected via credit card. A bank account that accepts credit card payment is called a *merchant account*. Consider the merchant account an electronic cash register (this is just like in a bricks-and-mortar store). Then you need the equivalent of a store clerk to verify the payment and place it in the cash drawer. This electronic clerk is known as a *transaction processing solution* (also known as a *gateway*). It communicates with all parties concerned — the customer, the credit card company, you, and the bank. Collectively the merchant account and transaction processing solution are called *merchant services*.

When your customer is finished shopping and checks out, the shopping cart needs to pass your information via the transaction processing solution to the bank. Your cart needs a customized interface to communicate with the merchant services you've chosen so it can transfer the funds upon authentication and approval of the user's credit card. This is why it is important that you make certain prior to purchasing the cart and the merchant services that they interface seamlessly with each other. The transaction processing solution actually provides several phases of communication: First, it checks with the buyer's credit card issuer that the card is authentic and that the funds are available (the user is not over his or her limit). Then, if all is well, it transfers the funds to your bank. It also sends a reply back to the buyer reporting success or failure. Depending upon your gateway provider, you may be able to customize the look and message sent upon success or failure.

The transaction processing solution is provided by a company independent of the merchant account bank, but working along with it. The transaction processing solution provides software that resides on *their* server (not your server) and a secure connection so the information being transferred is secure.

You have a few options to choose from when picking a transaction processing solution. You can choose from real-time processing, batch capture, preauthorization, recurring debit, and more. With real-time processing, the transaction takes place immediately. With batch capture, the orders are saved up and run through in batches when you want to do it. Preauthorization is the act of ensuring that the cardholder has sufficient funds available against his or her line of credit. An "affirmative authorization" results in an authorization code being created, and those funds being set aside. The cardholder's usable credit limit is reduced by the authorized amount. Recurring debit sets up a periodic debit of the customer's credit card or bank account, which is useful in collecting monthly fees and other charges.

Determining Where to Start

In my research, one well-known bank selling merchant accounts and a transaction processing solution (gateway) advised me that the merchant account be bought first because that way you can find the best fees, monthly minimum charges, and other financial or contractual issues. Whereas that is probably sound advice for a company expecting to transact business in large amounts of dollars per month, the differences may be inconsequential for a small startup Web business. It is a business decision — a matter of judgment. A typical transaction fee (the amount charged by the processing company per transaction) may be around 40 cents, and discount rates for Visa and MasterCard (the percentage of the price collected for the credit card transaction) might be in the neighborhood of 2.50 percent. At low volume, a difference of a few cents in transaction fees or a fraction of a percentage point in discount rate cannot add up to very much. Unless the sales volume is high enough to make a real difference in profitability, or the average order amounts are so small that forty cents is a fairly large percentage of the sale, good service and convenience might be more important considerations.

From a Web designer's point of view, the choice of a shopping cart might be a better place to start, because the cart interface is what you will be working with. A lot of carts are available on the Web. Just do a search and you will find them. Although they all serve essentially the same purpose and work similarly, they are not all alike. Some are tied to only one transaction service. Some can only be used on the hosting service where they are found. Some carts place limitations on the page designs, and some give the designer considerable aesthetic freedom. Some allow only a specified number of products, and charge more if you wish to add to your line. They also vary considerably in power and flexibility. Some are expensive and some are not. Some are easy to set up, some are difficult. Some require the designer to learn a proprietary scripting language. If you have specific requirements for your online store, it is a good idea to decide what your requirements are and compare before you buy. If the descriptions on their Web sites do not make it clear, then list your questions and get them answered before purchasing.

Here are some details to consider when shopping for an online shopping cart:

- ◆ Does the cart do what you want it to?
- ◆ Is the price consistent with its quality and performance?
- ◆ Does it force business decisions on you or your client by placing a limit to the number of products you can put on it, so that you are penalized for business expansion?
- ◆ Are you paying for things you don't need? Just because a cart has features you aren't going to be using right now, doesn't mean you are being charged extra for them. However, a well-designed cart will offer a full range of features at a reasonable price, and should leave you room for plenty of expansion and

redesign in the future, so you may want those extra features someday. But if you do not need high-end features such as a searchable, database-driven Web site with inventory and sales reporting, yet must pay for them anyway in order to have the cart, you might want to look for something simpler that still does what you want.

- ♦ On the other hand, do you need more advanced features such as the preceding ones, and if so, will the cart handle them, and how well, and how easily?
- ♦ During the expected life of your site, can the cart be upgraded or can it migrate to a more advanced shopping cart system with customizable back-end management systems, and so on, without an extensive redo? Can you just use GoLive's Global Search and Replace to change the purchasing interface to the new one, or will that require hours and weeks of work?
- ♦ Does it interface with a transaction processing and merchant account that you want to use?
- ♦ Will it run on the kind of server your site is hosted on? If not, are you willing to host on a server where it will run?
- ♦ Is it easy to design your site with? Does it let you use drag-and-drop from the GoLive palette in building your product pages, and does it offer a full range of purchasing options, including everything you might need now or in the future, such as quantity, size, color, style, accessories, image-map purchasing, multiple purchase from a page, such as might be needed for parts and supplies, and so on? Does it offer the option of letting the customer buy without interrupting the buying mood by sending him to checkout every time he makes a purchase? Can you set some pages to do that and others not to? Does it in any way make the customer jump through hoops in order to buy something, or is buying as easy as falling off a rolling log? In other words, does it encourage sales or discourage them?
- ♦ Is it simple and easy to install on the server, or arcane and difficult? Does it come with an installer that the ISP might not want to run on its server, or is there a simple upload-to-server option?
- ♦ Is there something else you need your cart to do that isn't covered in the preceding questions?

Think about these and other questions that might be important to you, in the light of what you wish to accomplish in your e-catalog, and then look for the cart that comes closest.

Setting up your shopping cart

I can't give you a set of hard-and-fast steps for setting up a shopping cart, because every cart is different. However, certain similarities apply to all of them. The cart goes on the server in its directory, your site goes in its own directory, and they are

linked together so that when the customer clicks a button or link, items are put in the cart along with description, stock number, price, tax info, quantity, size, and so on, as needed. So we'll demonstrate with a cart that caught my eye because it is so intuitive for Web designers and is integrated with Adobe GoLive 5.0 through the Objects palette. It is called CatalogBuilder Cart. The designer's front end for it is in the CatalogBuilderGoLive5.0ToolKit folder on the CD-ROM that comes with this book. This folder contains the Extend Script and images to make an e-commerce Objects palette tab. It also contains a CatalogBuilder Model Site that you can use over and over for your model e-commerce site structure so that everything in the online store you build is all linked and ready to go when you upload it to your server.

So let's play with it and learn how to set up a product page for a shopping cart. Here's what to do:

1. Copy the CatalogBuilderGoLive5.0ToolKit to your hard drive.
2. Open the folder and familiarize yourself with the contents. Notice that it contains two folders: CatalogBuilder Cart and CBModel.
3. Move the CBModel folder with all its contents into the Site Templates folder located within the GoLive application folder. (See Chapter 5 to learn more about starting a site from a template.) Put it wherever you like. It is a site template for e-commerce Web sites using this cart, and also contains documentation and sample e-commerce product files. You can also design your own site. This one is arranged so that the pages you create and save into it are already linked to the cart and no further coding is required.
4. Move the CatalogBuilder Cart folder with all its contents into the Extend Scripts folder, which is inside the Modules folder in the Adobe GoLive 5.0 application folder. This is the folder and Extend Script that creates the BuyObjects palette, which is the front-end interface for the shopping cart.
5. Launch or relaunch GoLive.
6. Look at the Objects palette. You'll see a new, bright green tab in it with the letters "CB."
7. Open the Test.html file in the HTML folder inside the CBModel site, or create your own page (File ⇨ New) and save it into the HTML folder in the CBModel site. Make it look realistic by adding a graphic and some descriptive text.
8. Then go to the CB tab and drag and drop one of the CB BuyObjects on the grid. Make sure "Show Invisible Items" is selected in the Edit menu.
9. You will see several hidden field icons. Select each of them and look in the Inspector window to see what they are.
10. Select each hidden field in turn and enter the item number, product description, price (no \$ or other monetary symbol), tax (yes or no), and quantity if you want more than one or no quantity text input field exists; one is default.

Leave the CustID field blank. The cart assigns random customer IDs itself. (The remaining four hidden fields are for the GoShip shipping service and are benign unless you subscribe your site to it. We won't get into that here.)

11. That's it. You have made an e-catalog product page that is already linked to the cart so that someone can buy the products on that page. Add as many BuyObjects to the page as you like. Each one is contained in its own form field. You'll find more documentation in the kit and on the CatalogBuilder Web site at www.catalogbuilder.com.

Installing the cart on your server

Installation of the cart is similarly straightforward and simple. You simply upload your template site named "CBModel" that comes with the toolkit, to the server and put the CatalogBuilder Cart in the directory named Cart. (An installer version also exists, but installers make some ISPs nervous because they never know what is being put where in their servers.) Then you have your ISP make you an ODBC Datasource for the cart and give you the path to link to it. You link to it by entering that path into one of the files in the cart. CatalogBuilder Cart comes with an interface template for AuthorizeNet transaction processing, or with Cardservice International transaction processing. A merchant account comes with both of these. Integration with your merchant services is therefore simple and straightforward. You can find full information on the www.catalogbuilder.com site.



Expert Tip

Businesses with existing merchant accounts and card processing for their brick-and-mortar stores usually want to use them for the Web, too. In many cases their merchant services contract prohibits it, but technical issues are also involved. Card processing solutions designed for regular stores are usually not integratable with real-time Web site transaction processing, and even if it were possible, the cost of programming to accomplish it would be prohibitive. It is much easier and far less expensive to purchase a new set of merchant services for the site. Cost varies but good processing with a merchant account can be had for around \$500. However, one situation exists in which it might be the best choice to use existing merchant card services. If the nature of the business is such that real-time processing is not needed, then it is possible to configure some shopping carts to store the orders in a database, and download them periodically for manual processing, just as in the main street store. —*Doug Fairchild, Art Director, eCatalogBuilders*

What are the transaction processing options?

Transaction options for the Web include real-time processing that occurs while the customer is there at the site, and what is called "batch" processing where the orders are collected during the day and all run through in a batch. These are usual and standard services. In addition to the usual credit card transactions, one can get ACH (automated check handling) or electronic checks where the money is debited

from the customer's checking account; get "recurring debits" where payments are captured periodically for subscription, membership, and other recurring payment situations; and get various back-office accounting services that provide transaction records and other data useful to the merchant. Each card processing service will have its own policies for these needs, so you should check with them for details.

Merchant services are marketed in many different ways. Some are incorporated in Web malls, some are leased, and some are sold outright for a flat price. Deciding which is best for you is a matter of personal requirements and judgment. Generally speaking, however, you will save money and have more freedom to do things the way you want to do them if you opt to purchase your own merchant services for a flat fee and handle the hosting of the site yourself. This does not mean you shouldn't get the cart and merchant services from the same place to ensure integration, but that, if it is tied to hosting, you sometimes find your choices limited, so consider that.

Some merchant service providers lease their services or charge on a monthly basis instead of selling them for a flat fee. This can be a way to start if you can't afford to buy the services outright, but it can also mean that you never quit paying for them, or that by the time the lease term is over, you have paid three or four times what it would have cost you to purchase them outright, and it isn't that much money for a business expense.

Ongoing merchant service charges

Just as doing any other business has ongoing costs, a number of ongoing costs are related to merchant services. Here is an outline of typical charges for a typical merchant account and credit card processing service:

- ◆ **Discount rate — 2.55%.** This is what Visa or MasterCard will subtract from your sale price. From their viewpoint, they are getting a discount for the money they are paying you for the sale, and for which they will collect from the cardholder later.
- ◆ **Transaction fee — \$0.40.** This is a per transaction fee.
- ◆ **Monthly gateway fee — \$25.** You pay this every month.
- ◆ **Monthly minimum — \$25.** If you have at least 63 transactions during the month at 0.40 each, your transactions fees will add up to \$25.20 or more, taking care of the \$25 minimum. If you have less than that, you pay \$25 anyway.
- ◆ **Monthly statement — fee \$10.** Like your checking account bank statement fee.

So you are going to be paying regular monthly fees of \$25 for the gateway fee, the \$25 monthly minimum, and the \$10 monthly statement fee, for a total of \$60 in fixed fees. In addition to that, you will have the costs of the transaction fees and discount

rate charged for the actual sales, which will vary according to your sales and dollar volume, and the statement fee and any other charges on your business banking account where the funds are deposited by the transaction processing company. To that you should add the cost of e-commerce site hosting.

International credit card transactions

At this time, credit card processing is easier to get in the United States than in most other countries. Some American banks are now offering services in the United States for foreign companies. These services are somewhat more limited than those available to companies based in the United States, but might be suitable in some cases. AuthorizeNet and Cardservice International offer such international transaction processing.

An alternative is the payment processing service. With this arrangement the details of each transaction are handled by the service in exchange for a small percentage. Then, each month, the service sends you a check for your sales. Kagi.com is an excellent example of this type of service. You can learn more about Kagi and its payment processing at www.kagi.com. In fact, I highly recommend them.

Hosting for E-Commerce

Technically, you could probably host your e-commerce site anywhere that has adequate hosting for your shopping cart, but you will also want a secure server for your credit card or electronic check transactions. Although controversy remains about whether or not online card transactions really are much of a risk, it is a fact that the public perceives it to be dangerous. Therefore, a secure server is a must.

When you choose hosting, make sure that you are getting your cart, checkout, and any other pages requiring security on a secure server, and that the price you are quoted includes it. Some hosting services require the site owner to procure a secure certificate from VeriSign or another secure certificate vendor. Some companies supply the secure certificate for you on a monthly basis. In this case, it might be less costly than buying your own certificate, because you may not need a private one. You can ask at the ISP or hosting service, or visit the company's site at www.verisign.com.

You will also want e-mail forwarding so that your orders can be sent to you. This is usually part of the e-commerce hosting package. At this writing, a usual price for merchant hosting with a secure server is about \$60 per month, although some charge less and some charge more.

Finding Alternatives to Real-Time Payment Processing

Perhaps you don't actually need real-time online processing or even a payment processing service. If you're already set up as a shop and already have a merchant account and credit card machine, then all you need to do is collect the order, customer and shipping info, and customer's credit card information. You can then process the purchase internally, just as you process your in-person orders. In this case, you can actually use e-mail to collect orders.

**Note**

If you have many products you'll still want a shopping cart to keep track of orders as your customer shops. If you have just a few products you may not need a fancy shopping cart.

The first issue is to get past security. Because your customers are sending you their names, addresses, and credit card information, you'll want to be able to protect this sensitive information. It's actually fairly simple to encrypt specific form fields as they are passed into e-mail form. Several Perl scripts will do this for you. In addition, you may also want to host the order page on a secure server.

Your next consideration is to ensure that when you receive an e-mailed order, you can easily read it and process it. You'll want to respond to the customer to confirm the order, enter the sale into a database, record the customer's information, and so on. Typically, an order sent via e-mail ends up as a string of information that's hard to make sense of and break up. And, even if it can be read, your office staff would have to move all that information into a database, which takes time and introduces the possibility of typos and other errors. Historically, in order to have form data land in a database, you needed to have the database running on the Web server. (That brings up issues of database and server platform compatibility, as well as access to the database.) However, Document Express enables you to use e-mail as your ordering system and still have the benefit of a database. Document Express provides a ready-to-customize database that resides on your own office machine where you have full access to it. The form action you enter in your form sends the order form's data to a specially formatted e-mail message and, in turn, the database picks up the e-mail and creates a customer record for you. Once the data arrives in the database, Document Express can do any type of processing and generate any type of response for you. For a bit more information on Document Express, see the accompanying sidebar.

**On the CD-ROM**

You'll find a demo version of Document Express, along with a full set of form templates that are ready for your customization, on the CD-ROM that comes with this book. These templates are all created in GoLive and are easy to alter within Layout mode. You can also learn more about Document Express at www.documentexpress.com. (As of this writing Document Express is out only on the Mac but by the time you read this it should be available for Windows as well.)

Relationship Management and E-Marketing

Technical shopping-cart and money issues aside, you should consider other matters before putting a business online.

Say you've got a customer at your site. Getting a person to your site to consider buying from you is your first success. But then the customer has questions. Perhaps someone wants to know if you'll be getting a certain size T-shirt in stock. Or maybe your potential customer (like me) wants to feel more in touch with you – to sort of feel and see you to know you're real. How will you handle that? You may want to set up a mechanism for customer service.

Now say you've successfully made the customer feel comfortable and made a sale. Do you want to send a thank you letter?

One way to do this kind of tracking is with an *online* database to collect orders and customer requests. But hosting a database online is costly and requires access to the database, or having the database export its new or recent records regularly. Fortunately, there's a less expensive and (I think) better way.

Document Express enables you to post all sorts of customer service forms that come right to your (or your client's) e-mail so you don't have to work with an online database. Then the details of the enquiry import right into Document Express's database, saving valuable time. It then sends the various staff members involved a message about the customer request so the right staff member can immediately get to work. When it's time for you to send out customer notices or announcements, the customer information is right there in the database – which merges the data you select into a customized e-mail announcement.

Don't forget that getting a person to buy from you once is only part of a business. It's important to keep in touch with your customers, too. E-mail works, but it keeps you, your staff, or your client's staff busy if the site is a success. And, with plain e-mail, how will you file and track the correspondence? To be effective and efficient, you'll use forms and a database to manage this communication.

Now, consider the customer who requests notification when you put a certain item on sale. Or the possibility that you'll want to send out coupons once in a while. If you're using Document Express, you already have the mechanism in place – customized finds, sorts, and merges all waiting for you. Or, if you don't need the incoming customer messages (maybe you have an 800 number and full-time staff tending to incoming calls), another excellent software for sending out customized customer notices is eMerge (www.galleon.com).



