Select Reads

Designing effective Web sites, testing on a budget and more

Review by Eugene Chen

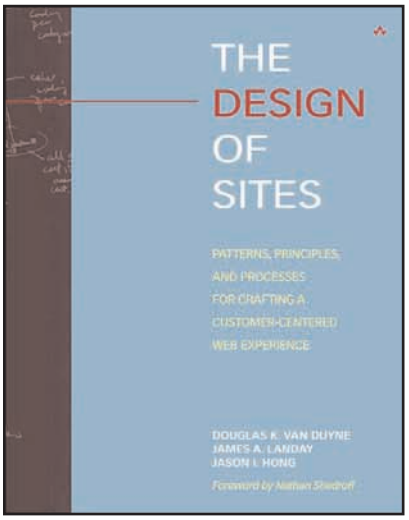
Web design professionals spend considerable time keeping up with the latest micro-trends and new conventions. Does Amazon make users register before they check out? How does Orbitz link to advanced search options? When are stretchy (liquid) Web pages better than fixed-width Web pages?

The World Wide Web is very much a public space. In the physical world, we have architectural codes and manufacturing standards. Following design conventions lets users move around a site without thinking, just as trains move from track to track by virtue of standard rails. Emerging conventions are highly important for meeting users' expectations as they "channel surf" the Web.

The Design of Sites: Patterns, Principles, and Processes for Crafting a Customer-Centered Web Experience, by Douglas K. Van Duyne, James A. Landay and Jason I. Hong (Addison-Wesley, 2002, $54.99), is a compendium of today's emerging conventions and best practices in Web design. This book is *not* an introduction to or an overview of Web design; rather, it's an encyclopedic reference for the serious practitioner.

The Power of Patterns

Christopher Alexander first introduced the powerful notion of patterns to the world of architecture in 1977 with his book *A Pattern Language: Towns, Buildings, Construction. Design of Sites* takes the approach further, making use of design patterns in structuring design guidance. In doing so, it aims to create an inventory of proven solutions to design problems that occur again and again.



The world needs patterns because they fill a gap between principles and style guides. While principles (such as "recognition rather than recall") are very abstract, patterns describe real, proven solutions. Compared to style guides that describe exact appearance and behavior, patterns are easier to adapt to a new situation.

Design of Sites contains all the key elements to be considered. Here is an excerpt from one of the patterns:

Pattern name: SHOPPING CART

Background: A successful PERSONAL E-COMMERCE site will show customers CLEAN PRODUCT DETAIL and provide them with a SHOPPING CART

Problem: Customers want to purchase several items in one transaction

Solution: Let customers continue to shop; give details in the cart; set expectations about availability; store carts for later; cross-sell, and many other details

Examples: Screen shots showing the shopping carts of Amazon, CDNow and other great e-commerce sites

Related patterns: QUICK-FLOW CHECK-OUT and EASY RETURNS

One of the compelling benefits of patterns is their potential to provide a *lingua franca* for collaborating team members. Imagine design, marketing, engineering and even user representatives sharing a common user-experience vocabulary. Memorable pattern names, like the familiar "Wizard," help designers efficiently communicate complex interaction concepts.

Too often, the answer to most design questions is "it depends." Through a description of the problem context and the forces within it, patterns provide a rationale for their solution. This context allows designers to intelligently select and apply the appropriate patterns for each situation.

The patterns in *Design of Sites* are not invented by the authors, but rather identified within the vernacular in practice. The book is richly stocked with screen shots of today's best sites to illustrate each pattern. Because varying examples are shown, simple information architecture diagrams are provided that abstract the principle of the solution.

Design solutions are often interdependent—a choice of one solution may require another to support it or rule out certain other possibilities. Likewise, patterns exist in a network of relationships. For this reason, each pattern ends with hypertext-like pointers to related patterns. This structure organizes design solutions into modular building blocks. The advantage is that you don't have to agree with every pattern. "How to Use the Patterns" (page 25) suggests finding a problem statement that matches your problem. For example, if your testing showed that customers were having problems navigating your Web site, you would consult the "Making Navigation Easy" pattern group.

Consultant In a Box

Ninety patterns are organized into 12 color-coded categories, hierarchically organized from high-level patterns ("Site Genres") to low-level patterns ("Speeding Up Your Site"). In addition, the book contains a good overview of the customer-centered design process and usability testing as a warning to all who might think they can produce a usable design merely by mimicking the examples in the patterns.

At its best, *Design of Sites* is like a consultant in a box. You could use it to perform a competitive analysis of your site against the current best-of-breed. If you find a pattern that matches your own problem, you can get some very detailed advice. For example, the "Web Apps That Work" pattern (page 174) cautions that although removing the browser chrome gives users more room in which to work, it also "eliminates the browser feedback showing that a command is in progress, such as Internet Explorer's spinning globe." Advice like this could only come from authors who have spent many hours personally watching usability tests.

Detail is *Design of Sites*' greatest strength. The "Quick-Flow Checkout" pattern, for instance, reminds the reader that users may want to ship to "Multiple Destinations" and use a "Guest Account" rather than being forced to register to the site. Both of these features are then detailed in lower-level patterns.

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Written by authors with academic backgrounds in computer science and human-computer interaction at Berkeley, *Design of Sites* was rigorously researched. At times, one begins to feel that the authors don't know when to stop. The book weighs in at 762 pages, with 30 pages of references. Six pages alone are devoted to detailing how to write a proper privacy policy.

Fortunately, they take a practitioner's approach to balancing business goals, aesthetics and technical constraints. The book has ambitious scope, attempting to address issues of content, information architecture, page layout and even HTML coding. Many people will find only a portion of the book pertinent to their job, but may still admire the attempt to synthesize all the concerns that ultimately create a single user experience. It's worth getting this book just for the screen shots—from every conceivable angle—of great Web sites. Together, these form a valuable snapshot in time.

Some people will find the pattern-based approach of the book to be an overly structured maze of topics, but information-design junkies will love it. At times, the network of related patterns leads to a feeling that "there's no *there* there." Patterns on Web applications are noticeably few, given the huge growth in this area and the need for good standards. But because it often suggests features as well as design, this book is appropriate for Web site managers as well as designers.

However, not everyone will actually enjoy it: This is a very dense book that reads in some ways like a requirements document. Just as with many a consultant, it requires a lot of work to get to the most relevant solution.

The Web is clearly still increasing in diversity and complexity. The patterns introduced in this book can help in navigating some of that complexity. Pattern names can serve as memes that help communicate through the evolution.

BOTTOM LINE: If you can lift this one-ton tome, it may help *you* help the Web become a saner place to surf.

PATTERNS OF SUCCESS

More information on the subject

Christopher Alexander co-authored a set of 200 architectural patterns in *A Pattern Language: Towns, Buildings, Construction* (Oxford University Press, 1977, $65). He then described the theory of patterns in *A Timeless Way of Building* (Oxford University Press, 1979, $55).

The power of patterns was next applied to object-oriented programming—another example of complex systems constructed by multiple people—in the influential *Software Design Patterns* by Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides (Addison-Wesley, 1995, $55).

Patterns are relatively new to the world of user-interface design, but the analogies to architecture are obvious. The seminal work was Jennifer Tidwell's *Common Ground* in 1999. It's available as a public Web site at http://www.mit.edu/~jtidwell/common_ground.html.

Tom Erickson maintains the Interaction Patterns Home Page at http://www.pliant.org/personal/Tom_Erickson/InteractionPatterns.html. — *E.C.*

Help for Handheld Design

Scott Weiss, in his book *Handheld Usability* (John Wiley & Sons, 2002, $55), has created what he describes as a "practical, hands-on guide to designing applications for handheld electronic devices." Each chapter in the 271-page book stands on its own.

The first half of the book discusses components and features of phones, pagers and PDAs as well as an overview of wireless communication standards. Weiss

notes the pros and cons of developing in different environments, driven not only by the device limitations—such as battery life and lack of standard button arrangements—but also by external forces, such as unclear revenue strategies and service provider limitations.

The second half of the book focuses on information architecture processes and practice, such as the importance of scenario development, paper and online prototyping, and user testing. Weiss describes characteristics of different users and dynamics of the players (the marketers, information architects, graphic designers and engineers) needed to develop usable applications. Weiss also provides a handheld history with links to more information and a usability study for a cellular service provider.

While specific designs may be difficult to nail down, Weiss attempts to capture the big picture by bringing the reader back to the basics, not only showing how far we have come in the design and usability of handheld device applications, but more importantly how far we have yet to go. — *Sarah Craighill*

BOTTOM LINE: There are some goodies for those interested in this subject.

Budgeting for Success

Peter P. Mitchell's *Usability Testing on a Limited Budget: A How-to Manual* (Ergo Research, Inc.; 2002; $59.95; ergo9.com) provides a comprehensive overview of the usability testing process. It includes detailed descriptions of pitfalls and common problems along with solutions through the testing process. By using the information in this book and avoiding such problems, the reader will reach results that are more reliable and help increase buy-in by others who are skeptical about the benefits of usability testing.

Although overall Mitchell does an excellent job of describing the steps, documents and resources needed to conduct a successful usability test, his book does have some weaknesses. Its length (96 pages) forces oversimplification of complex tasks that are required to design a test and this may invalidate test data. Some bullet points contain information that is critical, but since everything is in bullet form and every bullet has bolded words, the relative importance of items can be missed.

Mitchell stresses a team approach to usability testing, emphasizing the importance of buy-in from management as well as team members. He is also careful to state that those who are highly involved with the creation of a product will not be able to objectively run a test. Although the book defines everything necessary for a novice to run a usability test (including templates for documents used during testing, a list of professional usability testing consultants and a list of research facilities that conduct testing), it does not discount the value that usability professionals bring to the process of usability testing. — *Dawn Bourbina*

BOTTOM LINE: A slim volume packed with big but usable ideas.

Eugene Chen is the director of design and analysis at AM+A (Aaron Marcus and Associates) in California. He can be reached at Eugene@AMandA.com. (Note: Aaron Marcus is a Contributing Editor of this publication.)

Sarah Craighill is a human factors engineer in the UI design group at Kyocera Wireless Corp. in San Diego. She can be reached at ciaobella2k@yahoo.com.

Dawn Bourbina is a user-interface design specialist at State Farm Insurance Companies. She can be reached at dawn.bourbina.jjqn@statefarm.com.