chapter 2

# First Principles

Some rules of thumb, and some thumbing of rules.

blueprint is just good thinking written down. You have to do the good thinking part first and the writing down second. One of the many secrets of good thinking is to learn from those who have suffered before you. Over time, design, architecture, software engineering, and usability have all developed many good rules of thumb to help us avoid making the same dumb mistakes our predecessors did. This chapter covers a few that I've found relevant to information architecture. As you design and read about design, you'll add your own to this list. But let's begin with these eight principles.

### Principle #1: Design for Wayfinding

A few years back, I read an interesting study<sup>1</sup> that showed that women navigate through the world by landmarks (turn right at the Quickie Mart, turn left at the white house) and men navigate by their sense of direction and space (go five miles east, then two miles north).

<sup>1.</sup> Georg Grön, Arthur P. Wunderlich, Manfred Spitzer, Reinhard Tomczak, and Matthias W. Riepe, "Brain Activation During Human Navigation: Gender-Different Neural Networks as Substrate of Performance," Nature Neuroscience 3, no. 4 (April 2000): 404–408.

Or in English rather than scientist-ese:

<sup>&</sup>quot;Study: Sex Affects Navigation. Men Find Their Way More Easily in Unfamiliar Settings." Available Online at http://www.abcnews.go.com/sections/science/DailyNews/ brain000320.html.

On the web, everyone's a woman. You cannot use your sense of direction; it's a physical attribute, and physically you haven't moved an inch from your monitor, no matter how many web sites you've journeyed to.

To assure that people can return to items of interest, and also to assure that they can find new ones, Information Architects can borrow from an architecture discipline called *wayfinding*.



Wayfinding is typically employed in disorienting places such as malls, airports, and subways to help people get from one point to another. The goals of wayfinding are to let people know

- Where they are
- Where the things they're looking for are located
- How to get to those things they seek

Wayfinding does this using not only signs, but also architectural cues and interior design choices. Think of an airport: Main corridors are wide not only to let masses of people through, but also to let you know that's where you should go;

access to employee areas is provided by small corridors tucked into corners. The design is finished with an "Employees Only" sign; but if the design is good, you will never find yourself facing that sign. On Amazon, the main section of the page is devoted to the bulk of the customers. Down along the bottom is a small link, Associates, which is for those folks who sell items for Amazon. A normal book buyer would not accidentally trip over the sign in Figure 2.1.



### FIGURE 2.1

Amazon provides the employee entrance at the bottom of the page, out of the way of the customers.

You want to let visitors to your site know the same things that the visitor to the airport needs to know...

### Where They Are

Time to use the big "You are here" sign as well as subtle design clues to indicate location. Logos remind people whose site they are on; headers, breadcrumbs<sup>2</sup>, a navigation bar that shows where you are, and color-coded sections are all proven ways to orient a user within the site (see Figure 2.2).

<sup>2.</sup> Breadcrumb is the term for the navigation that lets you move up and down a hierarchically organized collection of stuff. You probably first saw it on Yahoo when you were researching Jane Fonda's breathtaking performance in Klute and followed this trail:

Home > Entertainment > Movies and Film > Titles > Drama > Suspense

And you found Klute just like Hansel and Gretel following breadcrumbs to their parents' home. It's a useful tool that allows users to widen their search.



PC World uses a colored tab to let you know what section you are in, breadcrumbs so that you can move up the hierarchy, and colored numbers to show the page you're on.

### Where the Things They're Looking For Are Located

As you prepare to design your navigation system, take a moment to consider, "What do the bulk of the visitors coming to my site want?" And ask yourself a follow-up question, "What do I want them to be able to find easily?" Once identified, you want to keep these items in front of your site's visitors as they travel throughout the site.

A software site, for example, usually needs to offer product information, downloads, and support. It is useful to allow users to always be able to find their way easily to these key places. This can be done a number of ways, although global navigation is the most common.

*Global navigation* is a set of navigation tools that are consistent throughout a web site. Here you see three software companies' global navigation: Apple, CoffeeCup, and Adobe. CoffeeCup is a tiny software maker, Adobe is a major graphics software maker, and Apple is Microsoft's only known rival. All sport prominent links to Products—it's the one thing they all want you to find. It doesn't matter if you're a big company or a small one. If you've got something to sell, you had better get it in front of your potential customer or you are in trouble.



FIGURE 2.3 Global navigation for Apple.

It takes a lot of Caffeine molecu to make the perfect cup \* CoffeeCup Software You're strange Margaret \* D -Order Software | Download Software | Get Help | Contact Us | Web Hosting Wobsite Design Software Special Deal ! Unlimited Web Hosting Submit to 3000 Search Engines The Big Cup Coupon Get Free Software \$300 in Software When you Host ! Save over \$100 on Our Software ! Click Here Click H SubmitFire.com will Submit Your Website to over 3000 Search Engines & get you listed in 48 hours, Guaranteed. WOW ! Download or Order our Award Winning Web Design Software now. See why over 8,000,000 humans already have ! You've created a Great Website. Now Host with us and get All of our Software FREE, and No Setup Fees either - Cool I Software Info 📏 More Information (>) Hosting Info > CLICK HERE for Thousands of FREE scripts, images, and more great T 0 0 L S !

Live Help | About Us | Site Map | Copyright & Legal | Privacy Statement | Make Money @ 1998 - 2002 CoffeeCup Software, Inc. - an Internet 600 Company FIGURE 2.4

Global navigation for CoffeeCup.

dobe Products	Resources	Support	United States Purchase
Acrobat family     Adobe Accelio solutions     Digital imaging     Digital video     Web publishing     Print publishing     All	<ul> <li>Government</li> <li>Education</li> <li>Partners &amp; developers</li> <li>Adobe Studio</li> <li>Events &amp; seminars</li> </ul>	Download Acrobat Reader     Other downloads     Support home     Training     Forums	<ul> <li>Adobe Store</li> <li>Volume licensing</li> <li>Other ways to buy</li> </ul>
	features. No     "     FrameMake     authoring an     processing w     "     Acrobat win	the File Browser, Healing Brus w, get the details. T.O. now available. Enterp d publishing combining the sin ith the power of XML. In S Best of 2001 award. Edit sise document review and form	rise-class aplicity of word

### FIGURE 2.5

Global navigation for Adobe.

www.coffeecup.com

### How to Get to Those Things They Seek

"How to get there" is achieved through intelligent navigation design. In good navigation design, links look clickable. They have clear labels that set expectations of what lies beneath, and they are grouped with similar options so that they gain meaning through context. Macintosh as a link means something very different when placed next to London Fog Trenchcoat or Jonathan Apples or IBM Think Pad. Navigation can be tricky. That's why this book has a big section on navigation in Chapter 8, "Eat Me, Drink Me, Push Me."

### Principle #2: Set Expectations and Provide Feedback

On the web, you don't know what to expect when you click a link, submit a form, or push a button. It is the designer's job to set expectations for every action and clearly present results of those actions. There are many little ways you can keep people in the loop.

For instance, you can let folks know it hasn't happened until it's happened. The Snapfish web site allows user to store, edit, and print their personal photos. The tool for cropping keeps a small image of the original photo in the corner of the page while you edit, to assure you that your original photo is still intact, and you can start over at any time (see Figure 2.6). Photos are precious to people, and this can provide the level of comfort needed to allow people to edit unafraid.

You can also remind people where they are in a process. Drugstore.com's shopping bag is always on the left side of the page, letting you know how much you've spent and what you've selected to buy (see Figure 2.7).

Occasionally, the server has to run a long process that takes some time. To let people know it isn't *their* computer that is running along sluggishly, you can display a message letting folks know what's going on. Animation is key to this—movement gives a sense of activity. A still screen is worrisome...Has my computer died? Have I lost the connection? Is their server down?



On the left, you can see a small version of the original photo along with an invitation to start over.



### FIGURE 2.7

www.drugstore.com

On the left, you can see the shopping bag with all your items.

Expedia animates a series of small dots to let you know they are searching for flights (see Figure 2.8). The users can't tell how long the search will take, but at least they know everything is working.

Flash movies often take a while to load. Egreetings handles potential user anxiety by displaying both a message that the card is coming and a status bar that slowly fills with red as the animation loads (see Figure 2.9).



www.expedia.com

### FIGURE 2.8

If I could only animate paper, you'd see this line of dots are flickering, letting the user know the process hasn't stalled.



### FIGURE 2.9

www.egreetings.com

### As the Flash movie downloads, the status bar slowly fills with red.

### Principle #3: Ergonomic Design

When you're designing in digital spaces, remember an often forgotten fact human beings have bodies, and these bodies vary widely. In the real world, it's easier to remember; Herman Miller went to the bank when he tripped over this fact and his designers created a chair that could be adjusted endlessly the Aeron.



www.hermanmiller.com

Herman Miller designers Bill Stumph and Don Chadwick took the humble chair to a new pinnacle of comfort by designing the Aeron chair—endlessly adjustable for the wide variety of human bodies.

But tall and short doesn't mean much on the web. On the web, the body parts engaged are hands, eyes, and ears.

### Hands

When designing for hands, consider such things as scrolling distances and scrolling frequency. Think about designing shortcuts for people with repetitive stress injury (RSI). When Razorfish Germany redesigned the Audi site<sup>3</sup>, they did extensive testing of navigation on the right side of the screen with potential web site visitors (see Figure 2.10).

<sup>3. &</sup>quot;Challenging the Status Quo: Audi Redesigned" James Kalbach tells the story of how a web design firm, Razorfish Germany, redesigned the Audi web site to be as innovative as the product they sell (see http://www.boxesandarrows.com/archives/002695.php).



The redesigned Audi site, sporting a racy right-side navigation toolbar!

www.audi.com

This was an innovation. Almost all web sites have gone to navigation on the top and/or left side of the screen. In user testing, Razorfish discovered that not only did the users not mind the change, but it provided easier access to the scrollbar for faster navigation and made it easier to concentrate on the content.

### Eyes

When designing for eyes, consider blindness, color blindness, nearsightedness, and farsightedness.<sup>4</sup> PeopleSoft designed its site with very small, elegant type— so small and elegant, it's too small to read if you don't see very well, which often happens as one grows older.

PeopleSoft might want to ask itself who tends to have a need for financial software? Teenagers with perfect eyesight? Or people in their forties and fifties those lovely years when reading glasses and bifocals go on the shopping list?

A tool that comes built in to the browser enables you to resize the text size. Many with poor eyesight eventually discover it.

<sup>4.</sup> To learn more about attending to the needs of the blind, the color-blind, and the girls who wear glasses, please check out the wonderful Americans with Disabilities Act web site at **http://www.ada.gov** (though, no, they can't help with the "seldom make passes" part).

### Chapter 2 First Principles

However, the person who writes the code for the site can disable it. This means no matter what your users do, they can't read about your wonderful products.

Ele Edit View Favorites Iools Help 🛛 Links 🙆 Post to MT Blog 🙆 Windows 🔊 Dreamhost 🛞 AsilomarWiki Asil	omarWiki 🔬 Validate pi	age (W3C) **
🕒 😋 Back + 🕤 - 🖹 📓 🏠 🔎 Search 🤺 Favorites 🚷 Media 🛞 🔗 چ 🔟 - 🛄 🖃	🐴 • 📦 🕞 Fok	ders
Address a http://www.bm.com	Largest	▼ 🗲 G0
Google - 💽 🚱 Search Web 🔍 Search Site   PageRark 🚯 Page Info - 🚔 Up - DHighlight:	Larger     Medium	»
	Smaller	
	Smallest	

Tool used to resize text.

PeopleSo	$\mathrm{ft}_{\circ}$	
Home	Find Products : Product Lines : Financial Management Solutions	istomers + Partners LOG IN
Enterprise Strategies Assess Your Needs Consulting + Hosting	General Ledger	
Find Products	Product Module	Related Suites
→ <u>Product Lines</u> → <u>Industry Solutions</u> → Education + Gov/t	General Ledger	General Ledger is part of the Financial
→ <u>Small + Mid-Sized</u>	Features Teoh. Info Next Steps	Management Solutions product line. It is also a
→ <u>Case Studies</u> → <u>Technology</u>	Part of our new PeopleSoft 8.4 Financial Management Solutions release	part of these suites and solutions:
→ Product Index A-Z Implement	PeopleSoft General Ledger delivers an extensive financial management solution that goes beyond traditional ledger functions. Our Pure Internet Architecture™ enables users to manage global financial performance on a browser.	In Enterprise Service Automation » <u>Grant Management</u>
Support Training Search	Demos: > PeopleSoft General Ledger Features List	In Financial Management Solutions * <u>Einancials</u> In Industry Solutions * <u>Station</u>
Search Tips   Site Index	<ul> <li>Flexible accounting structure: Define how you want to capture and access your financial information based on your unique requirements. Go beyond tratitional accounting information to include actuals, budgets, attestistics, and forecasts to support the demends of your organization's</li> </ul>	In Solutions for Small to Mid-Sized Organizations * <u>Accelerated</u> <u>Financials</u>
Find What You Need About PeopleSoft Investor Relations Events Careers Document Archive PeopleStore	financial reporting. Global organizations can use multiple Generally Accepted Accounting Principles (GAAPe) with the same accounting system. • Comprehensive journal processing: Collect and control data efficiently ingoit high volume journals from spreadiments. Create templates for recurring transactions. Record transactions within business units and between multiple independent business units.	Related Modules Product modules in the Financial Management Solutions product line: » Antivity@precej
	Accept accounting entries from other PeopleSoft applications. Summarize accounting data from PeopleSoft or third-party systems.	Management Analytic Exception

### FIGURE 2.11

This is PeopleSoft at a default text size setting of Medium.

PeopleSo	ft。	
Home	Find Products : Product Lines : Financial Management Solutions	stomers + Partners LOG IN
Enterprise Strategies Assess Your Needs Consulting + Hosting	General Ledger	
Find Products		1
→ Product Lines → Industry Solutions	General Ledger	Related Suites General Ledger is part of the Financial
→ Education + Gov!t → Small + Mid-Sized → Case Studies	Features Tech. Info Next Steps	Management Solutions product line. It is also a part of these suites and
→ <u>Case Studies</u> → <u>Technology</u> → <u>Product Index A-Z</u>	Part of our new PeopleSoft 8.4 Financial Management Solutions release—now generally available.	solutions: In Enterprise Service
Implement Support	PeopleSoft General Ledger delivers an extensive financial management solution that goes beyond traditional ledger functions. Our Pure Internet Architecture™ enables users to manage global financial performance on a browser.	Automation > <u>Grant Management</u>
Training Search	Demos: » <u>PeopleSoft General Ledger</u> Featurns List	In Financial Management Solutions
⇒ SEARCH Search Tips   Site Index	<ul> <li>Flexible accounting structure: Define how you want to capture and access your financial information based on your unique requirements. Go beyond traditional accounting information to include actuals, budgets,</li> </ul>	<ul> <li><u>Staffing</u></li> <li>In Solutions for Small to Mid-Sized Organizations</li> <li><u>Accelerated</u> Financials</li> </ul>
Find What You Need About PeopleSoft Investor Relations Events Careers Document Archive	Accepted Accounting Principles (GAAPs) with the same accounting system. Comprehensive journal processing: Collect and control data efficiently, Import high volume journals from spreadsheets. Create	
PeopleStore	business units and between multiple independent business units. Accept accounting entries from other PeopleSoft applications. Summarize accounting data from PeopleSoft or third-party systems.	Solutions product line: > Activity-Based <u>Management</u> > Analytic Forecasting

### FIGURE 2.12

This is PeopleSoft with the text setting changed to Largest. Notice that only the space between the text has grown larger.

www.peoplesoft.com

THM.	United States	Search
	Home   Products & services   Support & downloads   My account CALL:	1-877-477-1255 ext. MBC
→ Select a count <del>ry</del>	Medium Business Center > Industries >	
	Financial services	
Medium Business Center		
Solutions	The financial-services industry faces tremendous change through deregulation, a flurry of merger activity, pressures on profit margins, globalization, and intensified	Questions?
Industries	competition from traditional and nontraditional providers of financial services.	Call me now
· Retail	Much of the change is driven by e-business and e-commerce, which are vital differentiating factors for future survival and competitive readiness.	Chat online
· Wholesale distribution		1-877-477-1255
<ul> <li>Financial services</li> </ul>	In this competitive marketplace, the networked world — which provides instant access to customers and competitors — is disrupting traditional business	Priority Code: MBC
· Industrial	models, which have been geographically focused, product-oriented and based	
· Service industries	on controlled growth strategies. How networked is your company to win market share and define your growth strategy for the future? We can help.	SIA Technology Mgt Conf 2002
<ul> <li>Life sciences</li> </ul>	entre and come jed grent entreg for the later. He can help.	
<ul> <li>Healthcare</li> </ul>	Why IBM for the financial industry?	Linux 💡
Products	As financial-services companies face their future, IBM and key IBM Business	New Worki
Services	Partners provide the expertise, services and products that financial institutions need for success, no matter how large or small your industry may be. IBM can	IBM Linux Encounter, NYC
Training	heed for success, no matter now large or small your industry may be. IBM can help you anticipate your business needs and create specific end-to-end	June 19, 2002
Resource center	solutions tailored to your individual business needs and successfully implement projects which, whether delivered by IBM alone or with our partners, provide	Financial services
Newsletter	efficient, effective seamless integration throughout your organization.	resource center
Events	Our solutions address these key business elements of the financial industry.	→ First National Bank of North Dakota
Contact us	<ul> <li>Risk management</li> </ul>	→ Farm Credit Services
	New revenue     Value	→ Censio, AG
Related links: Warranty info	Value     Customer loyalty     Organization	→ Chesapeake Display and Packaging
	Mergers and acquisitions (M & A)     Technology	→ First National Bank of Abilene
Small Business Center	Marketplace     Culture     Products	→ TransactTools, Inc.
Financing	Process	- Couthorn Brograce

IBM also uses an annoyingly small font size.



### FIGURE 2.14

However, because they have coded the site to resize, those folks who set their browser to "Larger" get larger text. Just as God and Bill Gates intended.

### Ears

When designing for ears, remember not only deafness, but also people who may be listening in public spaces. Who hasn't been in a quiet office when suddenly loud music floods the room from a nearby cubicle? Background music on your site sounds like a good idea in a design brainstorm, but it will annoy people surfing at workplaces that use cubicles rather than offices.

The body, and the world the body inhabits, matters even in the digital realm.

### Principle #4: Be Consistent and Consider Standards

Your web site is probably not the first web site your visitors have ever been to. This means that the moment someone types your URL into their browser window, they've got some expectations of what you will give them.

For example, it's a common web convention that a link to the jobs available area is in the navigation on the bottom of the site. This is where job hunters will look first. You can see that these three companies follow that convention on their web sites.

Before designing a site, take a tour of competitors' sites and related web sites. Look for best practices patterns you can adopt.

Do be thoughtful, though. You don't have to slavishly copy what sites are doing; rather, try to see why they have done what they've done. Is it a best practice? A common practice? An idle whim?

Your repeat visitors also have expectations. Did you call the help section "Information Support" on the home page? It had better not be called "Help" in the interior pages, or confusion ensues. Consistent labeling and design also gives an air of professionalism; it doesn't look like you've got 30 interns running around building web pages without talking to anyone.

Nember of the Week		
Premier of the week         Bealizonships         Page Culture           Kristine (F/USA)         The Love Test         Which "Friend" Are You?           "I found your site on accident about the months age and mabaletely hob/de off ever run in ad understand more and more shout myself. It's mostly top, which is prenet Search Test         What Your Morie Med Tonight?           Earcer         Health         Earcer         Health           Disc. Search Test         The Casher Matchmaker         Earcer         Health           Disc. Search Test         Mice Trainer Matchmaker         Health         Earcer           Disc. Search Makesver         Earcer         Health         Earcer           Disc. Search Makesver         The Casher Makesver         Health         Health           Are You, A Markal Lader?         Which Trainer Material?         The Sace Material         Health           person and have to as' Why?'s for more. THAMSK FOODE!         Are You A Material?         Are You A Material?         Are You A Material?		
Tests for Teens Whick Your Inner Rock Starz Are Your Saker? What's Your Saker?         Tests for Noms Your Inner Mom Your Shooing Style? Are You Ready to Be a Mom? Which Movie Parent Are You?           Explore Your Future!         Explore Your Future!         Explore Your Future!		
Career Opportunities   About Us   Contact Us   Privacy Policy   Business Solutions / Media Kit   Affiliate Program		

FIGURE 2.15 Career Opportunities is on

the bottom navigation bar.



### For Small Businesses and Webmasters Submit your Web site to the LookSmart network and reach 77 percent of US Personals already in LookSmart' Undate your existing isting. LifestViel Books, Fashion, Eood A onware Global Directories Sports All Sports, Baseball, Basketball, Football, News & Scores, Olympics, Outdoor Australia <u>Canada</u> Hong Kong Malaysia Netherlands Netw Zealand Singapore United Kingdom Recreation Lifestyle Books, Fashion, Food & Wine, Gardening, Hobbies, Pets & Animals Travel Activities, Destinations, Lodging, Reservations, Transportation, Trip Planning Travel Deals Online Special Online Deals **City Directories** Library Education, Humanities, Reference, Sciences, Government & Politics, Society Personal Family, Health, Home, Kids, Relationships, Religion & Belief Chicago Denver For Investors Los Angeles Miami New York San Francisco and <u>nearly 70 more</u> Visit Resource Centers Auctions, Automotive, Beauty & Fashion, Careers, Gifts, Horoscopes, Insurance, News, Personals, Real Estate, Shopping, Iravel, Weather, Yellow/White Pages Find an Article Search for news and magazine articles on any topic at <u>FindArticles.com</u>. Build the Directory Join the Zeal community and <u>have fun while building the</u> LookSmart Directory. About Us, Submit a Site, Jobs, Privacy Policy, Terms of Service, Help Build the Directory © 2002 LookSmart, Ltd. All rights reserved. NING Stopp

### FIGURE 2.16

Jobs is located at the bottom of this site, too.

www.looksmart.com



www.walmart.com

### FIGURE 2.17

Notice where Jobs at Walmart.com is located.

As you design, you need to keep track of conventions that have arisen over the previous few years and break them with caution. You also need to keep a running style guide of your own decisions to ensure that your own design is consistent.

### Principle #5: Provide Error Support— Prevent, Protect, and Inform

Life is hard. People make mistakes. People then feel stupid. To avoid contributing to this sad state of the world, try to keep errors to a minimum by

 Preventing. Use clear, brief, conventional language in your instructions and dialog. Figure 2.18 shows a good example of this.



www.live365.com

### FIGURE 2.18

Live 365 lets people joining their service know what rules they have for choosing a password.

Protecting. Save user-entered information. Nothing is more frustrating than writing a long e-mail and then losing it. Right now, because of limited web technology, there are very few ways to protect information entered into forms. However, you can still offer features such as Yahoo! Mail's "Save Draft" to let savvy users protect themselves (see Figure 2.19).

7711001	Yahoo! Mail for cwodtke@yahoo.com	Yahoo! - My Yahoo!	Options - Sign Out - Hel
S Mail	powered (b)	Mail 52 Addresses	
Mail Home	9 42		
Check Mail	Send Save Draft Spell Check Cancel		
Compose	Insert addresses from <u>Address Book</u> or enter <u>nicknames</u> (separated by commas)		
	Te:		
E Folders	Subject:		
Addresses	Ce: Bee:		
Search	Send via free ZixMail.net* What's this?		
Options	Switch to Plain Version Send an Invite or a Greeting Card		
Mail Add-ons	Paragraph Font Size View HTML Source		
Help Desk			
Sign Out	X B B I U B X U B 3   ≡ ≡ ≡   ⊟ ⊟ ⊑ ⊑ ⊠ ©		
Alert me when I get new mail			
I get new mail			
Send a Greeting			
Send \$\$ to a Friend			
Insurance			
Get Quotes			
FREECredit Report			
	Use Signature		
	Attachments: (None) Add/Delete Attachments		
	Video: (None) Add NEW! What's this?		
	Send Save Draft Spell Check Cancel		
	* Your amail measure and attachments are transmitted to ZirMail net if "Sand via free ZirMail net" how is	charked More Informatio	0

Notice that there is a Save Draft button on the Yahoo! Mail compose page.

Informing. If an error occurs, tell users exactly what's happened, use a nonjudgmental tone, and try to help them recover. For example, Expedia.com explains why the search was not successful and helps users avoid further error by providing a drop-down list of potential choices (see Figure 2.20).

Expedia.com*	Soak up the sun, snorkel, hike, an	d go on a luau
	lights hotels cars vacation cruises deals guides maps	husines
nome	Ingints Hoters Cars packages cruises dears guides maps	
	We need you to correct or provide more information. Please s	
Flight Wizard 🕨	We need you to correct or provide more information. Please s	ee each marked section.
Fare Compare	Roundtrip search	
Fare Calendar		
Timetable Search	$\Im$ $m{\circ}$ Roundtrip $\cap$ $m{\circ}$ One way $\cap$ $m{\circ}$ Multiple destinations	
Flight Status Airline Fare List	1 Where and when do you want to travel?	
Flight Price Matcher	Milere and Wiler do you want to haven	AIR DEALS
Light Price Matchel	Leaving from Ban Francisco, CA (SFO-San Francisco Intl.)	New! Web fares:     Fiv for less!
BRITISH AIRWAYS		- View top air deals
165 destinations.	More than one airport matches 'paris'. Please type a new airport name or code, or select an airport from the list.	For all destinations.
Now boarding.	Going to:	• Expedia Bargain Fares
	paris	Save up to 60% on flights.
	Paris, France (CDG-Charles de Gaulle) Paris, France (ORY-Orly)	
San Francisco	Paris, France (PAR-All Airports)	
Cool city, great deals	Departing (MMDD/YY)	
	6/5/2002 Anytime	
TRAVELER TOOLS	www.coc	
* Flight Status	Please check your date. Type all dates Month/Day/Year using	
* Airport Information	numerals or, to select a date from a calendar, click the Calendar	
* Fare Tracker	button. Returning (MMDD/YY)	
<u>Currency Converter</u> <u>Driving Directions</u>	Anytime •	

### FIGURE 2.20

There is a lot right with Expedia's error messaging: it is polite, the errors are shown in red next to the area that needs correction making them easy to spot, and advice is given on how to correct the problem.

www.expedia.com

### Principle #6: Rely on Recognition Rather than on Recall

Most humans have dicey memories. Not only do we forget to pick up bread from the store on the way home, we have trouble remembering long phone numbers, the address of our dentist, or that word for when you think you've seen something before but you haven't. Research has told us even more about human memory abilities. Familiar items are easier to remember than unfamiliar, short words easier than long, and it's easier to remember in no particular order than in a particular order.<sup>5</sup>

Unlike humans, computers are pretty terrific at remembering long strings of characters. So why make people remember something if the computer can do so instead?

Mapquest takes advantage of this by storing addresses you've typed into their search box and then displaying them in the driving directions tool (see Figure 2.21). Not only does that save lazybones from having to type, and reduces errors caused by typos, it saves users from having to drag out their address books to look up the information.

Recognition also means that you should be always seeking ways to keep information before the visitors' eyes. Figure 2.22 shows the control panel for DreamHost, a company that provides hosting for web sites. It's the place where web site owners should be able to manage their web sites.

Let's say you want to see, by checking the log files, how many people are coming to your site. So where is that link? You look at the log's previous month...Is it under Domains? Goodies? Users? Nope, it's under Status (see Figure 2.23).

<sup>5.</sup> A. D. Baddeley, "The Magical Number Seven: Still Magic After All These Years?" Psychological Review 101 (1994): 353–356.



FIGURE 2.21 Notice the stored addresses.

www.mapquest.com

Billing
Domains
Users
Mail
Goodies
Status
Support
 www.dreamhost.com

FIGURE 2.22

DreamHost's control panel.

JDrea	mHost	Web Admin Pane
	[Edit Profile ] [Log Out ]	Support Forums / Knowledge Base
Home		
Billing	STATISTICS	
Domains		
Users	Edit Statistics	
Mail		
Goodies Status	Please dick on the domain nam	e below to go to its stats page.
Overview	Users: add or modify users who can a	arross statistics
Announcements		
System Status	Customize: set options for the statistics reports generated for each domain.	
Statistics 4	Days: specify how long you'd like to retain statistics.	
Bandwidth	bays speary non-long you o me con	
Disk Usage Mysol Usage		
Support	Domains	
aupport	Domain	Action
ctive Domain 🛛 🖣	boxesandarrows.com (http)	[Users][Customize][Days]
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op Questions:	sarrazin.org (http) stylewithsubstance.com (http)	[Users][Customize][Davs] [Users][Customize][Davs]
What can my site stats tell me?	stviewithsubstance.com (http)	[ Users ] [ Customize ] [ Davs ]
Where can I view my stats?		
Using the web panel to customize stats reports		
What does 'floor value' mean?		
Adding stats report users		
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### FIGURE 2.23

Statistics is under Status on the control panel.

### Chapter 2 First Principles

Admittedly, the labels are a big part of the problem. The label Status does not connote Statistics, and it fails as a memory trigger. But rather than struggling to find a label that will work, why not simply display the links? Showing all the links avoids forcing users into this game of hide and seek. Although listing all the links will cause the page to scroll, scrolling is still much faster for users to do than clicking each option, then the Back button, and then another option as they try to find where the log files are hidden.

Anytime that you can take the burden off the user's poor overtaxed memory and place it on the computer, you are making your site just a bit more valuable to your customers.

### Principle #7: Provide for People of Varying Skill Levels

A web site user is a beginner only for a short time. By approximately their third visit to a site, they've become an intermediate. They stay this way for a very long time, perhaps never advancing to expert; they don't need to. Intermediate use means they can accomplish nearly everything they want and have no desire to learn anything beyond that. Experts are much less common. Experts continue to learn how a web site or piece of software works until they use the power features. Yet we design simple sites for beginners and then build shortcuts and special features for experts. We are spending all our time designing for the least common users.

It's time to consider "the user" as a person in motion, in time, changing and learning all the time. Your design should assist users in moving to a level of accomplishment that is satisfactory. You don't need them to become experts just design the interface to help move people to a place where they are happier with their results.

The *International Herald Tribune* is a great example of a site that caters to intermediate users (see Figure 2.24).



The site looks like a typical newspaper site. It is simple to use; you learn the interface as quickly as you learn to read a paper. After reading a few articles, you start to notice the gadgets. You play. Intermediates quickly learn how to adjust font size or column layout. It's located conveniently next to the Next Page link. Experts eventually find the clipping service. But those experts are few; and the special features never get in the way of the daily reader, which is the role most of us will stay in.

### Principle #8: Provide Meaningful and Contextual Help and Documentation

Help is consistently poorly offered around the world. Your VCR manual has been translated from Swedish into English by someone who speaks neither well. Your software manual was written by an engineer who wanted to knock it out so he could get back to coding. When you need help while writing, you find yourself stalked by a menacing paper clip in MS Word. The Help section on a web site... well, you've probably never looked at it because how could it possibly help? Every other time you looked at a manual, it just confused matters.

Meanwhile the kind of "help" people do think might actually help, such as phone assistance, is expensive for the company and often annoying to the caller. "Press 1 for Spanish, press 2 for Chinese, press 3 for French, press 4 for Laplander..."

People doing any kind of vaguely complex task will inevitably require help—and resist asking for it. What you can do as a designer is offer the right help at the right moment in the most unobtrusive way possible. Place information in clearly labeled locations, rather than grouping it all under the generic and menacing "Help."

Figure 2.25 shows a page from the Schwab stock analyzer, with which I'm trying to evaluate IBM. I'm financially clueless, and this page offers me explanations of the mysterious language of the stock market. Schwab teaches how to evaluate stocks while you analyze the stock. Thus learning is far more relevant because it is tied to an important task. Schwab's Help is relevant and meaningful.

Perhaps in the future, the Help section will again seem helpful; for now, don't just say Help—be helpful.



### FIGURE 2.25

Charles Schwab Stock Analyzer provides a Financial Fundamentals section.

## "This Chapter Will Self-Destruct in Five Seconds"

Remember what I said about memory? About it being dicey? You do remember, right? Yep. That's what I thought.

These principles are best used if you can manage to get them off the paper and into your head. Because when you're in a project, you're going to be hit with so much information that your brain is going to want to make some room. And what I've explained in this chapter could go up in a puff of smoke.

I guess it would be easier to remember if I said, "Just put seven links on a page and all will be fine." But it wouldn't be fine. Humans are just too complicated.

Beware of easy-to-get, easy-to-remember answers.