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chapter 7 |

# Idea #3: Cook Up Hot Links



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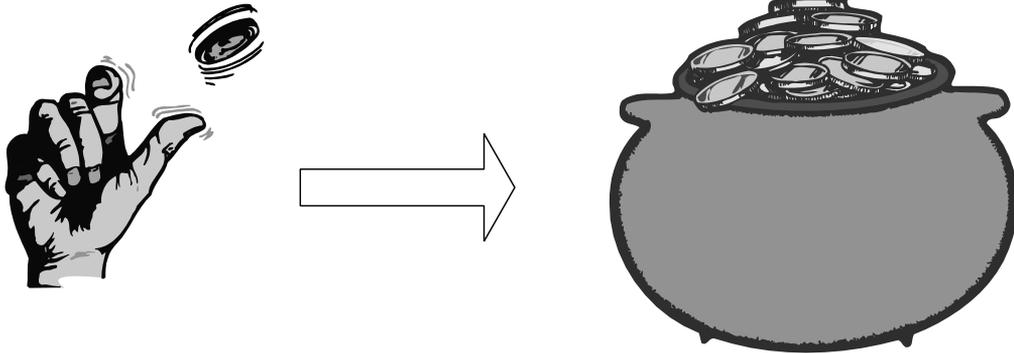
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## Make Clear What the User Will Get from a Link



### BACKGROUND |

### Give me enough information so I can skip the link

The ideal link is one that users can get **real information** from—enough so that some folks realize they don't need any more.

Write links that don't have to be followed.  
(Bricklin, 1998)

Even the inventor of the Web, Tim Berners-Lee, urges charitably informative links. “When you make a reference, qualify it with a clue to allow some people to skip it.”

### Pop up a description

Javascript rollovers let you save space by popping up a sentence describing the target of the link. Users are less likely to waste their time going down a false trail, and someone following a good link can more easily understand the point of the destination page upon arrival.

Of course, the user has to guess that the description exists, and move the mouse over the link to get this extra info.

*Descriptiveness aids prediction.*

*Differentness aids navigation.*

—Jared Spool, 1997

## Short link, big explanation

Instead of making a whole long phrase into a link, write a brief link and supplement it with an explanation. Put the explanation in its own paragraph or column in a table, so guests can skip it easily. (This approach works well in lists).

This strategy often allows for more attractive visual design than is possible with lengthy links. Furthermore, it gives users the option of skipping the supplementary text if the link gives them enough information about the destination. (Farkas and Farkas, 2000)

## Match the target

To avoid confusing the user, make the link text match the title of the target page. It's not always possible to do this exactly, but you can write link text that uses keywords from the title or similar concepts.

Avoiding the problems associated with inconsistencies between link labels and where they lead is difficult. (Rosenfeld and Morville, 1998)

## Difficult, yes, but worth trying

The ideal is, of course, that the very same title object appears as the link, so that if you change the title, the link changes too. But this utopia makes for ungainly link text, unless you craft your titles for both locations.

## Include a relevance rating

As in the best search results, give users some idea how relevant the target pages may be, so users can decide how much they really want to download a page that may be off topic. Examples:

- \*\*\*\*\* [How to Choose the Right Paper](#)
- \*\* [Photographic Papers: Glossy vs Matte](#)
- \*\* [Notecard Papers](#)
- \*\* [Large size Papers](#)
- \*\* [Tyvek and Cloth for Printing](#)
- \* [Inks Available by Printer](#)

## EXAMPLES

### Before

[Aussie Birds](#) and [Ixnest](#) may offer other information.

### After

If you are planning a visit to bird sanctuaries in Australia, you may want to learn to recognize typical species through photographs of the birds in flight and at rest, as shown in [Aussie Birds](#). The ornithologists at [Ixnest](#) also offer nesting information on all the birds of Australia.

### Before

Click [here](#) for results.

### After

62% of users found the new interface “an improvement,” but significantly, 20% found it “confusing to learn,” according to our [Beta KM Product Usability Test Results](#).

### Before

Non-imaging detectors have also [been developed](#).

### After

To prevent proliferation of **nuclear weapons**, we need to use detectors that do not rely on imagery. We track the movement of clandestine nuclear weapons by identifying the weapon’s signal in the middle of a noisy background. These non-imaging detectors depend on [sophisticated tracking algorithms](#).

### Before

[DeMaupassant’s](#) writing reflected many of [Monet’s](#) experiences.

### After

DeMaupassant published *Bel Ami* in 1885, the same year that he visited with Monet near Etretat. At the time, Monet was painting the tall, jagged rocks of that coastline facing the Bay of Biscay, in the [Manneporte series](#). DeMaupassant’s novel describes a journalist on the make in Paris, clambering out of the poverty that Monet had known so well for years. In fact, Monet’s experiences during the previous 25 years were reflected, obliquely, in several of DeMaupassant’s [scenes](#).

## Before

[Next](#)

[Previous](#)

[Up](#)

[See Also](#)

## Before

[Next](#)

[Previous](#)

[Up](#)

[See Also](#)

## After

[Next: The Unfolding of XML](#)

[Previous: How HTML grew out of SGML](#)

[Up: Why We Use Tags](#)

See Also:

[How Hot Lead Turned into Cold Type](#)

[The First Typesetting Tags](#)

## After

[Next: The Role of Gamma-Ray Detectors in Counter-Proliferation and Treaty Verification](#)

[Previous: How Gamma Ray Detectors Grew Out of Astrophysics](#)

[Up: Research into Gamma Ray Detectors](#)

See Also:

[Counting Warheads Remotely with Gamma-Ray Imaging Spectrometer \(GRIS\)](#)

[Seeing Behind Shielding with GRIS](#)

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

The more text, the merrier. Long explanations of links form part of the entertainment on this page, and let users choose whether or not to go on.

TO LEARN

You can make clear what the relationship is between the target page and the one I am reading now. Educational.

TO ACT

Very helpful to let me know ahead of time where I am going and why. For instance, if you want me to buy something, alert me that I am about to go to your super secure server.

TO BE AWARE

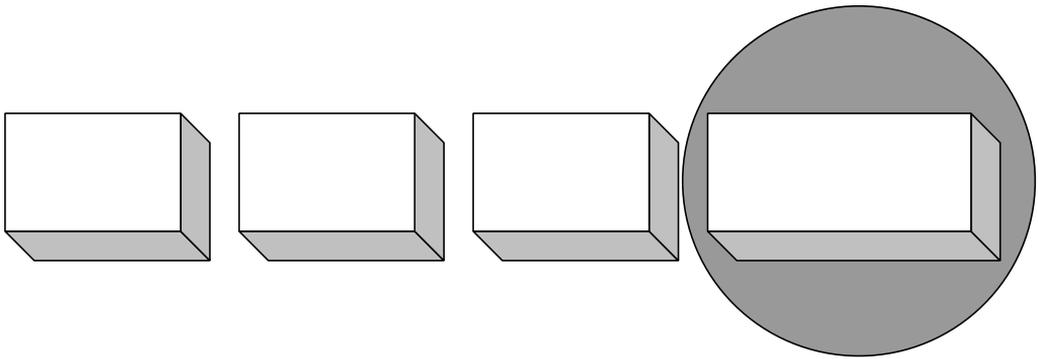
Sensitive Web writers let users know where they are going—ahead of time.

TO GET CLOSE TO PEOPLE

Yes, in your enthusiasm for a particular link, take the time to describe it before just dropping it in.

**See:** America Online (2001), Apple (1997), Berners-Lee (1998), Bieber et al (1997), Borges et al (1998), Bricklin (1998), Farkas and Farkas (2000), IBM (1999), Levine (1997), Microsoft (2000), Nielsen (1995, 1998, 1999e, 1999f), Nielsen & Morkes (1997), Rosenfeld & Morville (1998), Spool (1997), Spyridakis (2000), Sun (1998), Tchung (1998b), W3C (1999).

## Within a Sentence, Make the Link the Emphatic Element



### BACKGROUND |

#### **Put the most important item last**

If you are embedding links within your text, rather than gathering them into lists or menus, then you face the challenge of writing the actual sentences that contain the links. In an English sentence, we habitually stress the last phrase. So put your link last where it plays a double role as a link and a clincher.

There are three ways to revise a first draft to make the key idea end the sentence:

- Trim the end, getting rid of unnecessary rambling.
- Move less important information to the left.
- Move the important stuff to the right.

Of course, on the Web, the important information is the link.

The hyperlinks stand out by virtue of being colored, so they should be written to do double duty as highlighted keywords. Highlight only key information-carrying words. (Sun, 2000)

*Putting important words in positions in a sentence that normally get relatively heavy stress can help provide emphasis; so sometimes can repetition and redundancy.*

—Kenneth Wilson, *The Columbia Guide to Standard American English*

## Don't disrupt your sentence

Because any link draws attention to itself, a link placed in the middle of the sentence tends to take over, rendering the continuation of the sentence ineffectual.

If authors want to place links inside sentences, they should place them at the end of the sentence where they will least disrupt the syntax of the sentence. Notice how the embedded link...immediately grabs the reader's attention. (Spyridakis, 2000)

## Move links to the beginning or end of the paragraph

"Too many links within a block of text can disrupt continuity and understanding," notes IBM in its Web guidelines. Solution: move links to the beginning or end of the paragraph.

If you put the link at the start of the paragraph, consider the rest of the paragraph a gloss on the target, explaining what it offers. Otherwise, put the sentence with the link at the tail end of the paragraph and make the link its last phrase.

## EXAMPLES

### Before

As a member of this discussion list, you have legal rights, and so do other members, so you may not defame, abuse, harass, stalk, threaten, or otherwise violate their rights.

### After

As a member of this discussion list, you may not defame, abuse, harass, stalk, threaten or otherwise violate another person's legal rights.

### Before

You can personalize your welcome page by clicking the Personalize button at the top right, and then entering your ZIP code and favorite stocks, to get headlines for your area, and the latest prices. This personalized information appears in the center of the page.

### After

You can personalize the center of your welcome page by adding headlines for your area and the latest prices on your stocks. You just need to tell us your ZIP code and favorite stocks. Ready to personalize?

## Before

The Knowledge Schema is a list of particular topics relating to the effort to re-engineer our business processes. The schema, then, is a set of categories of information—broad topics of interest to change managers. For instance, the topics of benchmarking, change management, leadership, and teamwork appear within the Knowledge Schema as individual categories in the List of Topics.

## After

When you want to look up information about a particular topic relating to the effort to re-engineer our business processes, you should turn to our Knowledge Schema. The schema is a set of categories of information—broad topics of interest to change managers. For instance, the topics of benchmarking, change management, leadership, and teamwork appear within the Knowledge Schema as individual categories in the List of Topics.

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Hey, breaking up a sentence with a link might be a kick. Then again, why throw people out of your sentence before you're through?

TO LEARN

Good practice, just because this way your links are less distracting. Also, students don't leave the room until they know what the link will contain.

TO ACT

Users have itchy click fingers. Make sure they know what the link will do before you give them something to click.

TO BE AWARE

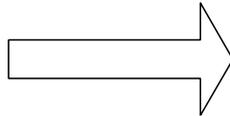
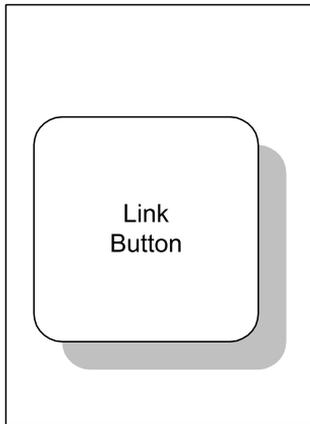
This approach is calmer than throwing links into the middle of the sentence, so take a deep breath and rewrite.

TO GET CLOSE TO PEOPLE

This way of handling links seems natural, so in an e-mail or discussion message you might just end your sentence, press Return, and put the link in its own line. Then it's easier to copy and paste into the address line of the browser or to click as a separate hot spot.

**See:** Bricklin (1998), IBM (1999), Levine (1997), Nielsen (1997b), Spyridakis (2000), Sun (2000), Williams (1990).

## Shift Focus from the Links or the Linked-to Documents to the Subject



### BACKGROUND |

*Electronic text is the first text in which the elements of meaning, of structure, and of visual display are fundamentally unstable.*

—Jay David Bolter, *Writing Space*

### Don't point out your links

Sure, when you first create a link, you want to tell everyone, “Hey, this is a link.” But now that you have created hundreds or thousands of links, you don’t have to keep reminding the user that you have, in fact, provided links. Assume the links. Shift your attention to the subject and let the links grow out of your meaning.

The frustrated creator of the Web, Tim Berners-Lee, says, “Use links, don’t talk about them.”

He particularly hates expressions like “Click here.”

He pleads with Web writers, “Let me urge you, when you construct your HTML page, to make sure that the-thing-you-click is actually some kind of title.”

### Ignore the apparatus

You don’t have to tell people to “surf on over,” or “point your browser.” You don’t have to emphasize that you are offering a link.

In fact, you don't have to alert visitors that a link will take them to another page or site. They get it.

Forget all the hard work you put in creating the link or the list of links. Concentrate instead on saying something meaningful about the subject, and you'll soon see which word or phrase to make hot. Just let links appear.

Write about your subject as if there were no links in the text. (Levine, 1997)

## EXAMPLES

### Before

Click [here](#) to go to the Ecommerce Statistics Page, a listing of the most recent survey information in that area.

### After

George Kennedy collects the most recent survey information in the field and publishes that on the [Ecommerce Statistics Page](#).

### Before

Click [here](#) for the tutorial.

### After

Step-by-step instructions for using the Parameter Hunter appear in the [tutorial](#) (which takes half an hour) and the [online manual](#).

### Before

We have some wonderful [links](#) we have discovered for national parks.

### After

The National Park Service describes every park in its system, giving information on campsites, utilities, stores, trails, and weather in its enormous [Park List](#).

### Before

After a lot of surfing, I have made up a list of [cool Web sites](#) dealing with the founders of pattern research.

### After

The founders of the pattern movement were tentative, open, and quite flexible in their thinking when creating their original articles and books:

- [Design Patterns](#)
- [Thinking in Patterns](#)
- [Patterns as Breakthrough](#)

- [“A Joint Report on Patterns”](#)

## Before

One [site](#) offers a lot of information on nonproliferation research.

## After

To verify arms control treaties and help detect the clandestine production of weapons of mass destruction such as nuclear, chemical, or biological weapons, we must turn to [laboratory research](#).

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Unless you are indulging in self-referential post-modern whining (always amusing), follow this guideline and let the links take care of themselves.

TO LEARN

Students understand how links work. No need to distract them from your ideas by waving your hands around, pointing out the mechanism behind the screen.

TO ACT

Keep your focus on the action the user wants to perform. Make the whole mess of Internet protocols invisible.

TO BE AWARE

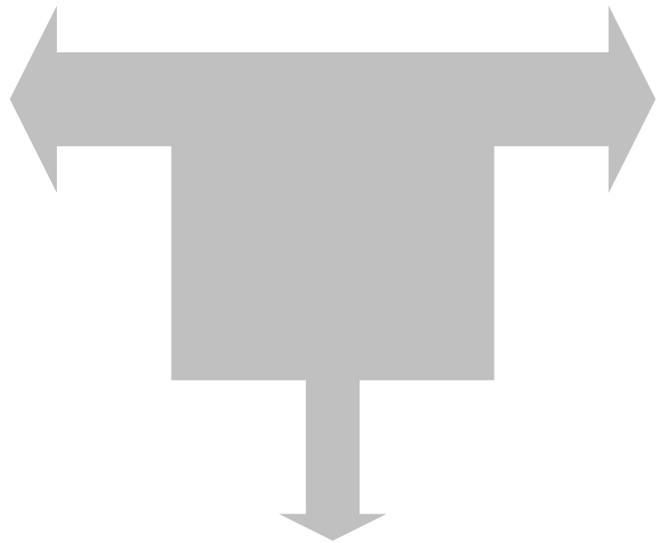
Unless you are dealing with absolute newbies, who find the Internet and computer an exciting new world, follow the guideline.

TO GET CLOSE TO PEOPLE

It's acceptable to boast about discovering a site you want your community to check out, and you may even admire your own links, without upsetting other people too badly. On the other hand, you could be polite and say something intelligent about the topic.

See: Arthur (2000), Berners-Lee (1995, 1998), Levine (1997), Nielsen (1997b).

# Provide Depth and Breadth through Plentiful Links to Related Information within Your Site



## BACKGROUND |

*In everything, no matter what it may be, uniformity is undesirable. Leaving something incomplete makes it interesting, and gives one the feeling that there is room for growth.*

—Yoshida Kenko

## Be generous—offer more information

Gather the key ideas on the first page about a topic. Then, to satisfy a range of audience needs, provide links to background, context, and amplification. Take visitors to other pages with information such as:

- **Examples** that tell a story, showing what someone wanted, what they did, and what the results were.
- **Scenarios** in which users can imagine applying your ideas, products, or services to their own situation.
- **Tutorials** in which the user does some simple work you provide, just to learn the concepts or procedures.
- **Case studies** showing how your product or service worked for a particular customer.

- **White papers** summarizing an industry with examples and research.
- **Full reports** on the ideas you have just summarized (complete proposal, full manual, developer notes).
- **Background information** (history, archives, specs, company personnel).
- **Low-decibel information** “of interest to a minority of readers (that) can be made available through a link without penalizing those readers who don’t want it.” (Nielsen, 1999f)
- **See-also information** (lists of related topics) because “Users rarely land directly at the desired page, especially when using a search engine.” (Nielsen, 2000a)
- **Shortcuts** “to important nodes located deeper in the hierarchy.” (Farkas and Farkas, 2000)
- **Spur-of-the-moment**, one-of-a-kind links to related topics.

All but the last item should be used systematically, that is, over and over, on every similar topic.

Essentially, you summarize your conclusions on your first page and then use links to take people to the details. In some ways writing like this is easier because you don’t have to wonder how much to cover, worrying that you may be cheating the reader with too little information or overwhelming the unwilling reader with too much.

The combination of **concise summaries** and **great detail** is one of the ways that a Web document can be much better than a paper document. (Bricklin, 1998)

## Plan, don’t improvise

Whatever links you create to supplement a particular type of information, offer those links on every page of that type.

Once people have used that set of links to details about one product, they expect to find the same kind of links on every product page. If you play this hit or miss, you disappoint users. Planning ahead lets you be consistent: Think, “every time I write this kind of article, I plan to include this set of links.”

## Be wide and shallow

Reporting on many years of research, user interface guru Ben Shneiderman says, “The evidence is strong that breadth should be preferred over depth” (1998).

Does your site have enough information for each **niche audience**?

Your site should have enough breadth to be relevant to more than a niche audience. (Microsoft, 2000)

Add plenty of major topics at the top levels, so people can make more accurate choices right away, rather than going down a series of stairs, only to discover that the target is not what they sought.

Then offer extra details if users want them. Your page ought to offer plenty of information, and if that’s enough, fine. But if users want more info, the links give that to them.

Most people have difficulty recalling more than three or four levels when they drill down, down, down. Result: they may feel lost if you take them down ten or twelve levels.

If you are going to offer half a dozen links from each major topic, display all those links at once, rather than forcing people to go down a level to another page to see one other link, following that down to see another link, and so on. That’s building unnecessary basements.

## Don’t break up a coherent story

When Apple was first creating hypertext, using the earliest versions of HyperCard and Guide, Jonathan went overboard on chopping manuals into tiny pieces. His model was the index card that Bill Atkinson was using as the metaphor for HyperCard, a hypertext program that was still being developed back then. Plus, Jonathan hated scrolling, so he wanted a bunch of very short segments. He figured all these different pages would live on a hard disk, so download times would not be a problem.

Now that we are serving up pages on the Web, where some people face very slow download times, we’ve learned to live with scrolling pages that contain a lot of text—five, ten, twenty index cards worth.

*Electronic links connect lexias “external” to a work—say, commentary on it by another author or parallel or contrast texts—as well as within it and thereby create text that is experienced as nonlinear, or, more properly, as multilinear or multisequential.*

—George P. Landow,  
*Hypertext, The Convergence  
of Contemporary Critical  
Theory and Technology*

Don't break up a coherent page just because you think you ought to have more links. Having to jump from page to page just to read another paragraph gets tedious pretty fast.

Hypertext should not be used to segment a long linear story into multiple pages. (Nielsen, 1999f)

Remember: you're creating links to additional material, not carving up a single article just to have a bunch of links.

### **Be cautious with links within a page**

Many users think that every link takes them to another page. When they click a link that takes them down the same page, as in a FAQ, they report being puzzled, because when they scroll up or down, they encounter text they already read "on that other page."

If you have a sophisticated audience, internal links won't be a problem. But if you have relative newbies, you can be sure they will be confused by links down to anchors within the page, even if you include all the usual apparatus, such as arrows pointing up, and buttons marked **Go to Top**. "Top of what?" they ask.

## **EXAMPLES**

### **Before**

#### **How to use our electronic library**

We have organized our electronic library catalog around authors, titles, and subjects—just like the card catalogs of old. To find one or more books, here's what you do. You choose a category, such as author, words in a title, exact title, or subject, by clicking one of the items offered in the Category List. In a moment you see a new screen, asking for a little additional detail about the kind of books you are after.

### **After**

#### **How to use our electronic library**

We have organized our electronic library catalog around authors, titles, and subjects—just like the card catalogs of old. To find one or more books, here's what you do.

1. You choose a category, such as author, words in a title, exact title, or subject, by clicking one of the items offered in the Category List.

In a moment you see a new screen, asking

In the [Detail screen](#), you type in the text that you hope will lead you to the books you are after.

You click the giant red Search button. If you are lucky, you get a list of authors, titles, or subjects that might be relevant like that in our [Sample Results](#). If you aren't so lucky, you're told that the catalog doesn't have anything with that text as part of an author's name, title, or subject. So you have to try again.

## Before

Here are some examples of the way you might use our genealogy information.

If you are interested in locating people who have been researching your family, or some branch of your family, you can find e-mail addresses and Web sites in our database of surnames.

Just want to check up on a specific ancestor or line, when you know where they lived? You can use our services to check out Church and Parish Records, Town and City Records, County Records, State and Province Records.

For dates, addresses, and incomes, we have a full set of the Census Archives.

for a little additional detail about the kind of books you are after.

2. In the [Detail screen](#), you type in the text that you hope will lead you to the books you are after.

3. You click the giant red Search button.

If you are lucky, you get a list of authors, titles, or subjects that might be relevant like that in our [Sample Results](#).

If you aren't so lucky, you're told that the catalog doesn't have anything with that text as part of an author's name, title, or subject. So you have to try again.

## After

### Wondering where to start?

Here are some examples of the way you might use our genealogy information.

If you are interested in locating **people who have been researching your family**, or some branch of your family, you can find e-mail addresses and Web sites in our database of [Surnames](#).

Just want to check up on a **specific ancestor or line**, when you know where they lived? Check out [Church and Parish Records](#), [Town and City Records](#), [County Records](#), [State and Province Records](#).

To get dates, addresses, and incomes, visit the [Census Archives](#).

## Before

### Case Study: Using our Photo Exchange

Geraldine took some wonderful pictures on her vacation, and brought them to her local photo shop for development. They told her that if she wanted, she could have her pictures posted on the World Wide Web in her own Photo Exchange page, and have prints made on paper.

- That way, she could send the images to her relatives along with her e-mail.
- Plus she could just tell people her personal address for a Web site within the Photo Exchange, and they could go there to view the entire set of pictures.
- And she could describe the pictures for visitors by adding captions.
- If she only wanted certain people to visit, she could also protect her site by creating a password.

Geraldine agreed. In one week, she had her prints in hand, and the pictures were up on the Web. She e-mailed everyone with one picture, and the address of her site on Photo Exchange. Her family got to see the whole tour, including tourist sites, their car, and their motels.

Her Mom said it was like a slide show at her own pace.

## After

### Case Study: Using our Photo Exchange

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## AUDIENCE FIT

**If visitors want this...**

**How well does this guideline apply?**

TO HAVE FUN

Links to discussions, controversy, pro and con, all add value to your opinion piece. Add audio, animation, and video clips, too.

TO LEARN

Keep your hierarchy clear, letting students focus on your main message before offering them the supplementary materials. In general, move your links to the end of sections, so people get the full details before leaving.

TO ACT

Embedding links allows people to backtrack, jump ahead, and carry out the task they just couldn't figure out before.

TO BE AWARE

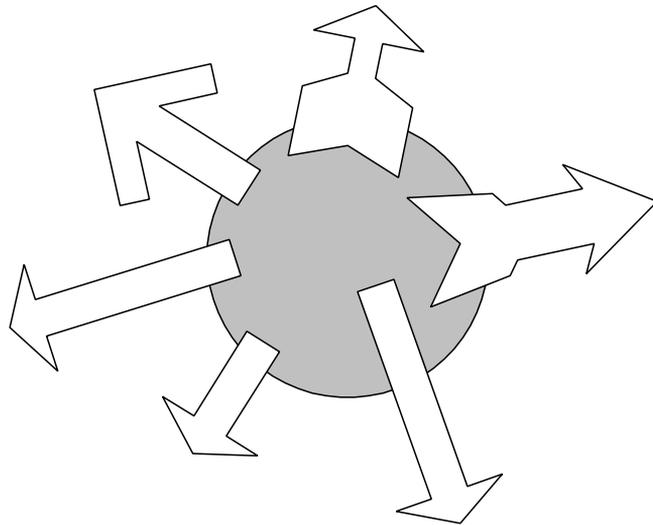
You want people to immerse themselves in your ideas, no? But unfold gradually, with secondary links.

TO GET CLOSE TO PEOPLE

Politeness suggests that you allow people to decide whether or not to look at the secondary information. Don't pour it on them all at once.

**See:** Ameritech (1997), Apple (1997), Berners-Lee (1998), Bricklin (1998), Farkas and Farkas (2000), Gagne & Briggs (1979), Horton (1990), Levine (1997), Microsoft (2000), Nielsen & Morkes (1997), Nielsen (1999f, 2000a), Reigeluth et al (1980), Robinson & Knirk (1984), Sheetz et al (1988), Shneiderman (1998), Sun (2000).

## Establish Credibility by Offering Outbound Links



### BACKGROUND |

### People may be suspicious of you

Many visitors do not know you, your organization, or your qualifications. They wonder if you are hiding something from them, if you are reliable, or if you are part of a larger community they trust. Oddly, you can increase your credibility by linking to other sites on the Web.

“Not being afraid to link to other sites is a sign of confidence,” Nielsen says (1999a), because the other sites are seen as giving you credibility. Plus, as one test subject told Nielsen and Morke, “Links are good information. They help you judge whether what the author is saying is true.”

Presenting different points of view through links shows that you are not afraid to be compared with the other sites, and that you believe they will back you up. Refusing to link out of your own site makes you look selfish, withdrawn, and a bit paranoid.

*Hyperlinks subvert hierarchy.*

—Rick Levine, Christopher Locke,  
Doc Searles, and  
David Weinberger,  
*The Cluetrain Manifesto*

*We are concerned with whether people can author and construct text that allows rich multiple paths that are sufficiently well ordered and comprehensible. We are concerned about whether the protocol of reading from a text that tempts users to go off in many diverse directions at multiple points will be a well functioning cognitive tool.*

—Thomas Landauer, Dennis Egan, Joel Remde, Michael Lesk, Carol Lochbaum, and Daniel Ketchum, **Enhancing the Usability of Text Through Computer Delivery and Formative Evaluation: the SuperBook Project, in McKnight, Dillon and Richardson (editors), *Hypertext: A Psychological Perspective***

The Web spirit is **openness**. By linking to the rest of the Web, you show that you have some trust in those other sites, and suggest that your own site is trustworthy.

## Link to reviews

Don't retype someone's review of your product and post it on your own site. Link to the actual review. That way users know that you haven't doctored the text like a movie ad.

A few hyperlinks to other sites with supporting information increase the credibility of your pages. If at all possible, link quotes from magazine reviews and other articles to the source. (Sun, 2000)

Just as footnotes allow a scholar to make sure you aren't distorting the original author's meaning or research, these outbound links show your confidence that the target pages will make you look good.

## Outbound links add value

Links are information. Sometimes all a user wants is a list of links. When you provide real links to substantial information, you are being generous, and people appreciate that.

Of course, the more links, the more maintenance you face. Link rot can set in, and you may begin to get e-mail from frustrated users. So run a link checker regularly.

## EXAMPLES

### Before

Our JuicyJuicer has won critical acclaim around the world. One article comparing juicers awarded us the palm for "the simplest setup by far." Another called the JuicyJuicer "the fastest and most powerful" juicer around.

### After

Critics love the JuicyJuicer:

- "The simplest setup by far"  
—[Consumer Reports](#)
- "The fastest, and most powerful"  
—[Veggie Times](#)

## Before

For many of us, the current rapid-application tools automate the creation of the user interface, plus some code connecting that to an underlying relational database through SQL operations. But as soon as we want to conduct business, not just access data, we run into a problem. How do we create the business logic and rules that determine exactly how we process the data, and handle transactions? Yes, upper-CASE tools help us create exact requirements, define entities and relationships, and even figure out the business rules. But then what? None of these tools, until recently, have been able to turn those rules into code.

What we need is an environment in which we can build a business model in the abstract, and have it turned into business rules that then control the actual definition of objects and their methods. A number of vendors of object-oriented development tools now claim to offer this capability. In this white paper, we will analyze three leaders in the field—Ellipse, from [Price Information Systems](#), Force from [Force Software](#), and Toby Vision from [Toby](#). In our [appendix](#) we describe all the other competitors in this emerging market.

### Summary of Before's outbound links:

- [Price Information Systems home page](#)
- [Force Software home page](#)
- [Toby home page](#)
- [List of competitors, with links to home pages](#)

## After

For many of us, the [current rapid-application tools](#) automate the creation of the user interface, plus some code connecting that to an underlying relational database through SQL operations. But as soon as we want to conduct business, not just access data, we run into a problem. How do we create the business logic and rules that determine exactly how we process the data, and handle transactions? Recent articles in [Datamation](#), [Re-engineering](#), and [DBMS](#) all point to the difficulties that programmers experience when they face this question.

Yes, [upper-CASE tools](#) help us create exact requirements, define entities and relationships, and even figure out the business rules. But then what? As pointed out in reviews in [KM](#), [DBMS](#), and [Re-Engineering](#), none of these tools, until recently, have been able to turn those rules into code.

What we need is an environment in which we can build a business model in the abstract, and have it turned into business rules that then control the actual definition of objects and their methods. A number of vendors of object-oriented development tools now claim to offer this capability. In this white paper, we will analyze three leaders in the field—Ellipse, from [Price Information Systems](#), Force from [Force Software](#), and Toby Vision from [Toby](#). In an [appendix](#) we describe all the other competitors in this emerging market.

### Summary of After's outbound links:

- [List of all current rapid-application tools. Each tool is linked to its vendor's home page \(In appendix\).](#)

- *Datamation* article by David Baum
- *Re-Engineering* article by George Popadopolos
- *DBMS* article by Rich Coulombre
- Review in *KM*
- Survey review in *DBMS*
- Omnibus review in *Re-Engineering*
- List of all current upper-CASE tools linked to vendors' home page
- Price Information Systems home page
- Force Software home page
- Toby home page

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

If you can stand letting go of your visitors, you'll earn a return visit. Outbound links amuse the game players, tease the serious, and build your street credibility.

TO LEARN

If the other sites have significant information, go for it.

TO ACT

Not always relevant, in a call to action, or a FAQ about your own site. But if you need some credibility, include links to places that vouch for your privacy policy, honesty, or customer ratings.

TO BE AWARE

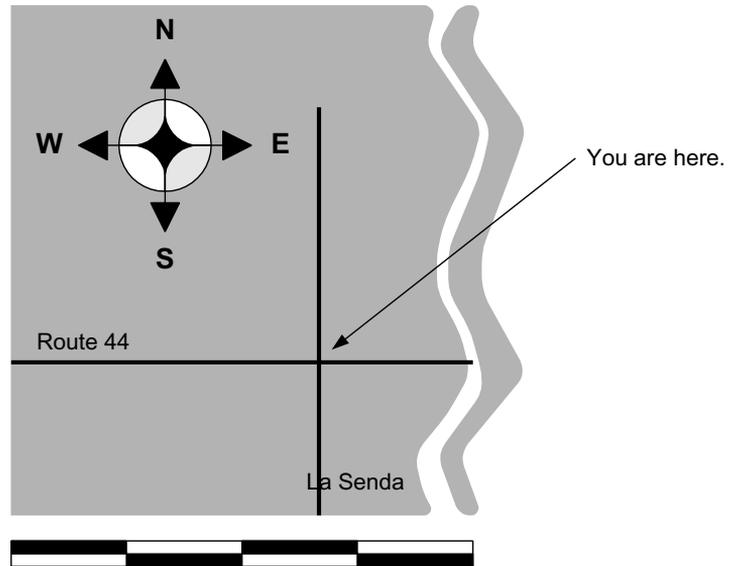
Yes, be an honest broker, and link to related sites even if you don't agree with everything they say.

TO GET CLOSE TO PEOPLE

Part of sharing is posting links. Just make sure that you copy the URL completely, so it works.

**See:** America Online (2001), Berners-Lee (1995), Levine et al (1999), Lynch (2000), NCSA (1996), Nielsen (1999a), Nielsen & Morkes (1997), Spyridakis (2000), Sun (2000).

## Show Where We Are



### BACKGROUND |

*A hypertextual essay in the computer is always a dialogue between the writer and his or her readers, and the reader has to share the responsibility for the outcome.*

—Jay David Bolter, *Writing Space*

### You are here

When people land on your page, they may be arriving after navigating a series of menus, leaping from a list of search results, or simply jumping helter-skelter from some other location on the site. They do not know where they are in your structure, and, generally, they do not make any conscious effort to figure that out. So you have to work hard to give them context.

If your interface allows, signal the location in the main menu.

Show the users where they are. One way to do this is to highlight the current location in a table of contents that shows the main levels of your site. (Apple, 1997)

Or display breadcrumbs—a list of the pages the users would see

if they actually came down from the home page all the way to this one, using menus.

Of course, that may not be the exact path a user took coming here, but the breadcrumbs show the location of the page within the site's hierarchy. Showing how the page is nested within the site helps users interpret the page better. "You don't just know that you are looking at product 354, you also know that it belongs to the widget product family." (Nielsen, 2000a)

Plus, each item in the trail is hot, so a user can zip back up the structure using these links.

## No Up buttons

Every time we have tested an Up button, taking people up one level, the users cry out in agony. They become surly and suspicious. Only programmers get the idea.

Ordinary people, having never seen the next level up, wonder why this strange Up arrow takes them there. Many users develop a superstitious dread of the Up button, and refuse to go near it.

## Branding gives context

Identify your site on **every page**—that's a minimum.

Make sure that visitors can see, from a quick glance, that they are still on the same site.

## Lost in hyperspace

Knowing where I am within the overall structure of a site, or part of a site, helps me understand what I am looking at. I don't feel so lost, and I can build a conceptual model of your site.

But most sites prevent users from understanding their location within the structure because:

- The site has been **poorly organized**, growing like tumbleweeds over time.
- The **page design hides** any evidence of the larger structure, and the position of this page within that structure.
- The **browser** doesn't have any mechanism for displaying structure.
- Users get so **frustrated** that they refuse to take the time to study the site's structure.

*There are three rules for writing the novel. Unfortunately, no one knows what they are.*

—W. Somerset Maugham

*...we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity, and replace them with ones of multilinearity, nodes, links, and networks.*

—George P. Landow, *Hypertext, The Convergence of Contemporary Critical Theory and Technology*

## Consider a clickable map

Consider having a picture, to supplement the text version of your site map. Make a diagram showing how you have organized your site. Just don't make this too complicated. When artists get carried away trying to represent every department as a different building in a perspective drawing of a town, many users find the drawing hard to interpret because they wonder how much meaning to read into the color of the walls or the arrangement along the streets (is this a sequence I have to follow?). Go for simple blocks arranged in a single hierarchy.

Image maps with organizing layouts can help the reader understand and use the document's structure.

(Bricklin, 1998)

## EXAMPLES

### Before

#### About our Interface

Our interface is not an afterthought. We work just as hard developing an interface as we do developing the combinatorial math that underlies the feature set. We see the interface as a kind of artistic environment. The user is visiting us for the first time, and we want to show that we encourage exploration. Everything is one click away. Click and go. For us, if you can't play when you're making art, you should go into accounting.

## After

The screenshot shows a website navigation menu with a star icon and buttons for HOME, SITEMAP, BUY, INDEX, and SEARCH. Below these are buttons for GRAPHIC APPS, CLIPART, GAMES, and EDUTAINMENT. The main content area features a sidebar with a list of categories under 'GRAPHIC APPS', including Schmoozer, Whingding, Fabulossy, Sprinkles, and Sand Storm. Under 'Sand Storm', there are links for Overview, Interface, Screenshots, and Specs. The main text area is titled 'Sand Storm: Interface' and contains a paragraph of text.

## Before

### Original menu

Overview

Background

Problem Analysis

Requirements

Proposed Solution

    Design Phase

        Design Phase Deliverables

        Design Phase Schedule

    Implementation Phase

        Implementation Phase Deliverables

        Implementation Phase Schedule

    Maintenance Phase

        Maintenance Phase Deliverables

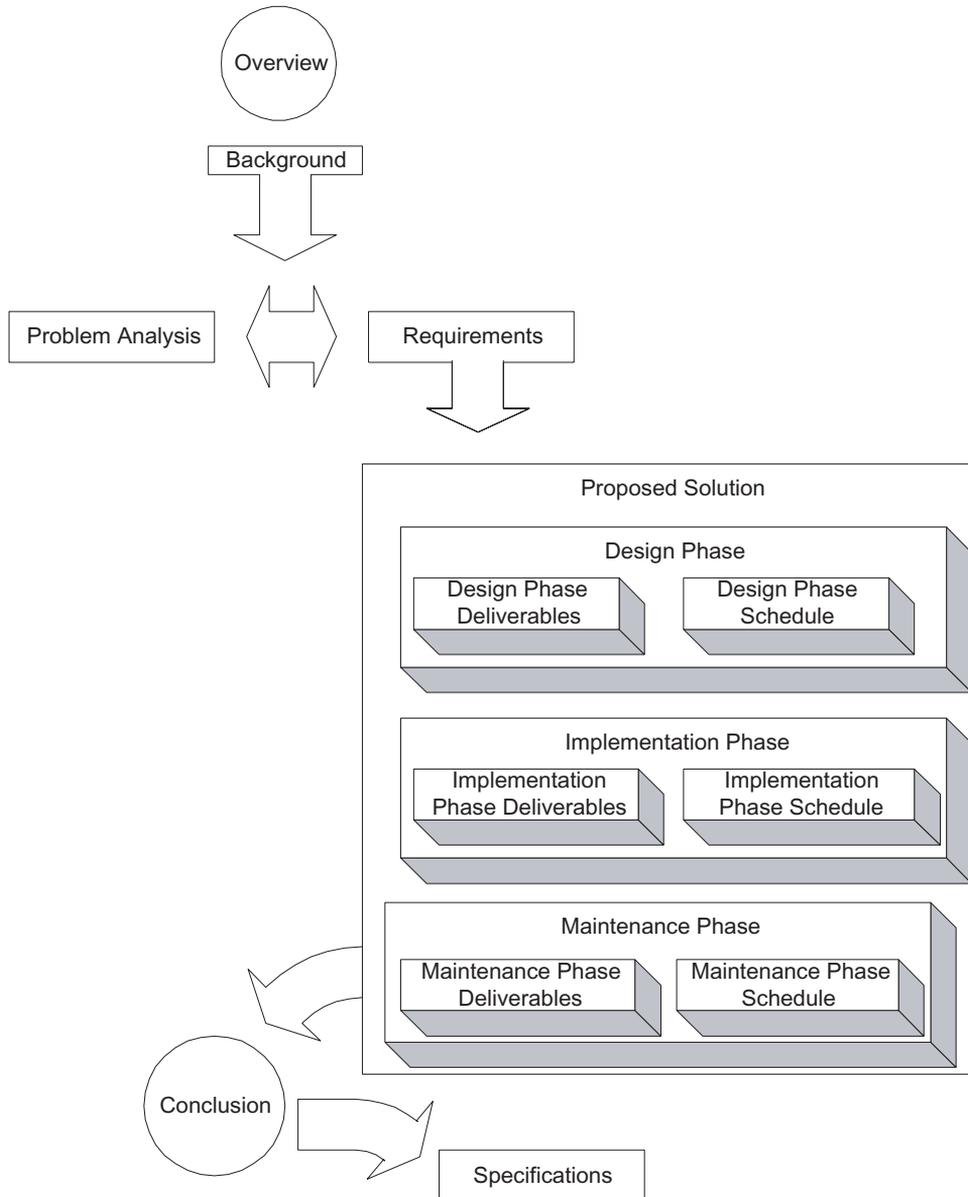
        Maintenance Phase Schedule

Conclusion

Specifications

## After

(Revised menu as clickable image map)



## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Game players like the challenge of a confusing interface and deceptive organization. All others like to navigate with confidence—tell 'em where they are.

TO LEARN

The more clearly you outline your structure and the place each page occupies in that structure, the more quickly and solidly students will learn your model.

TO ACT

Very helpful. Think how many people get lost with their shopping carts, because they do not understand why they are moving from one page to another.

TO BE AWARE

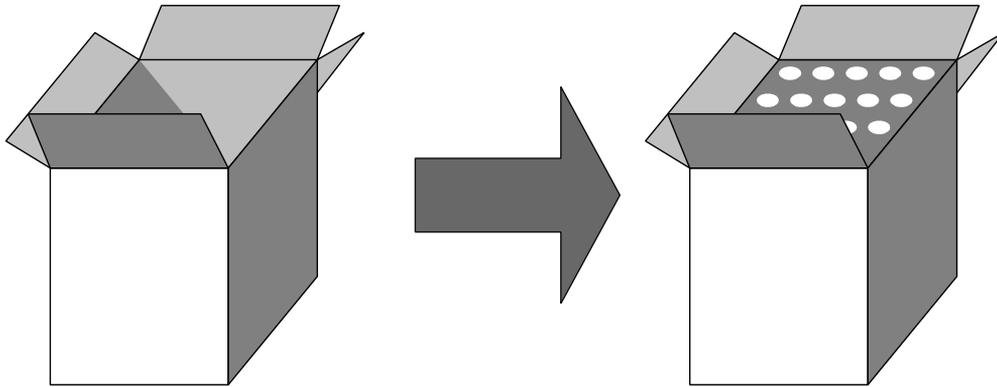
Sure, even someone who is grounded likes to know where the feet are placed.

TO GET CLOSE TO PEOPLE

Yes, telling people where they stand inspires confidence.

**See:** Apple (1997), Bricklin (1998), Conklin (1987), Nielsen (1995, 1996, 1997b, 1997d, 2000a), Utting & Yankelovich (1989), Zimmerman (1997).

## Make Meta Information Public



### BACKGROUND |

#### Show what's inside the box

The worst online stores refuse to give out a **phone number**. Customers can't reach them. Even the e-mail address is general; visitors know the webmaster isn't going to be very interested in their little problems.

So open up. On every page tell guests who made the page, when, and how to reach you. At a minimum, put your **name** and **logo** on every page.

Other **meta information** (info about the info) helps visitors put your page in a larger context, too—gauging its timeliness, its source, and its level of openness.

#### Bring 'em back alive

Some folks print out your page and then want to return, but their system does not include the URL on the printout. These people may never find the page again.

So include the URL at the bottom of every page. If your site is so scripted that you can't legitimately include the URL for this page because it will not be valid tomorrow, then put the URL for the home page.

*All knowledge is of itself of some value. There is nothing so minute or inconsiderable, that I would not rather know it than not.*

—**Samuel Johnson**, quoted in **Boswell's Life of Johnson**

## State the status

Tim Berners-Lee, reflecting his background in the scientific community, urges that you “declare the status of the information: i.e., draft, final, in progress, for comment” (1995).

If your material ages like this, definitely alert the user to the current status.

**Date your pages, too.** Telling people how current the information is lets them evaluate its relevance. (You should, of course, set up some system for deleting old material gracefully).

## Admit who you are

Put your name on the page and give your real e-mail address. Act as if a human being wrote the page.

Provide an e-mail address and telephone number, or a conspicuous Contact link to this information, on every page of the site. The contact opportunities you provide customers reflect the value you place on customer service. (IBM, 1999)

## EXAMPLES

### Before

#### Original page ending:

And so, in conclusion, the committee has voted to prepare the standard for publication, with a target date of January, 1999.

### After

#### Revised page ending:

And so, in conclusion, the committee has voted to prepare the standard for publication, with a target date of January, 1999.

[Overview](#) / [Rationale](#) / [Recommendations](#) / [Conclusion](#)

Copyright 1998 W8Org  
Free to copy with credit  
Contact: [Jonathan Price](#)

This page:

<http://www.w8.org/reports/schema98>

**Posted July 1999**

**Formal Report (Archive version; will not be updated)**

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Sure, why not?

TO LEARN

Helpful for those who get lost, wonder how current your material is, or need to get in touch with you.

TO ACT

Critical.

TO BE AWARE

Think of this as an exercise in honesty.

TO GET CLOSE TO PEOPLE

Following the guideline may seem tedious, but you open yourself up to your visitors.

**See:** Apple (1997), Berners-Lee (1995), Cook (1997), IBM (1999), Levine (1997), Lohse & Spiller (1998), Lynch & Horton (1997), Nielsen (1999d), Spyridakis (2000), W3C (1999).

## Write URLs That Humans Can Read



### BACKGROUND |

*Detached from the materiality of the codex book, the text escapes to the other side of the computer screen.*

—Christopher J. Keep, “The Disturbing Liveliness of Machines” in *Cyberspace Textuality*

### Keep it short and predictable

Wondering where a link will take them, users count on interpreting the address of the target page. If you throw up the confetti of a URL made up on the fly by your content management software or database, or if you just allow totally cryptic addresses, you frustrate some users.

Because we know that users try to understand URLs, we have an obligation to make them understandable. (Nielsen, 1999f)

So keep the URL short enough to read. Make it **predictable**, too. If your company is called IBM, people expect your site to be found at [www.ibm.com](http://www.ibm.com). Getting an expected domain name is worth millions of bucks.

In general, don’t make up a name with half a dozen words and underscores just because you won’t buy the rights to a reasonable name. If you must put words together, don’t use hyphens, underscores, or a bunch of dots because users don’t try those at first.

Avoid special characters. And remember, zero is a weird character because people just type a capital O and don’t find

*As readers move through a web or network of texts, they continually shift the center—and hence the focus or organizing principle—of their investigation and experience.*

—George P. Landow, *Hypertext, The Convergence of Contemporary Critical Theory and Technology*

you, if your name starts with a zero. (Of course, your URL will show up at the top of most search lists if you start with a real zero).

## Don't shuffle your pages

Leave those addresses alone. If you switch pages around, every customer who bookmarked the old pages will get an annoying message saying the page is unavailable. That doesn't look good. If you redesign your site, set up redirects on your server so people who click old links out there on the Web can get to the new pages.

## EXAMPLES

### Before:

<http://ad.doublesnit.net/jump/clubelectric.newsletter/news.iss34.???=mar10-4;sz=120x90>

### Before:

<http://ad.doublesnit.net/clk;2572368;5624853;r?http://www.buyandsellit.com/Buy32?request=rr.refBy&ref=CLUBidiotW12>

### After:

<http://www.clubelectric/newsletter/Issue34>

### After:

<http://www.buyandsellit.com/offer32>

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

TO LEARN

TO ACT

TO BE AWARE

TO GET CLOSE TO PEOPLE

### How well does this guideline apply?

Why confuse them?

May not matter. Depends on how suspicious your users are.

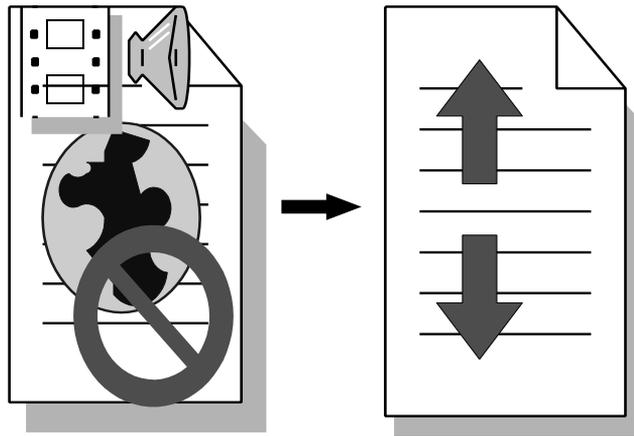
Keep it simple, if you really want people to go where you point them and do what you suggest.

Why not?

Make it look as if your site was created by a human being.

**See:** IBM (1999), Nielsen (1999f).

## Make Links Accessible



### BACKGROUND |

#### **For people with special needs, label the media contents**

For users who are visually handicapped, hearing impaired, or disabled, provide text equivalents for any sounds, animations, image maps, and images.

In general, avoid using images as bullets, spacers, and decoration. If you do put them in, take the time to add alternate text versions, to explain what they are doing.

Separate content from format by creating a stylesheet, so that the disabled can have their browsers display the page appropriately. Use conventional H1, H2, and H3 tags so blind users can have the top level headings read aloud, allowing them to skim through long pages.

Making the Web more accessible for users with various disabilities is to a great extent a simple matter of using HTML the way it was intended: to encode meaning rather than appearance. (Nielsen, 1999f)

Move to the eXtended Markup Language (XML) as fast as you can, because its tags indicate content and structure, and let you move formatting rules into a stylesheet, separate from the main document. Use the mathematical markup language, MathML, not graphics, to display equations for the visually impaired.

## Make links in text

Don't rely on an image or button as a link. Add alternate text explaining what the link is, including the actual URL, so a person who cannot see the image can still hear what it would do, and take action.

Use relative, not absolute font sizes, so a browser can enlarge the text for people who are visually impaired.

Give the full term, not an abbreviation or acronym, as the text in the link, because the shorter version may get misinterpreted by software as a real word, or mispronounced by the machine.

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Barriers to access are no fun.

TO LEARN

Confusing people doesn't help them learn anything.

TO ACT

Clarifying what you're offering helps people with special needs follow your links, vote, and buy.

TO BE AWARE

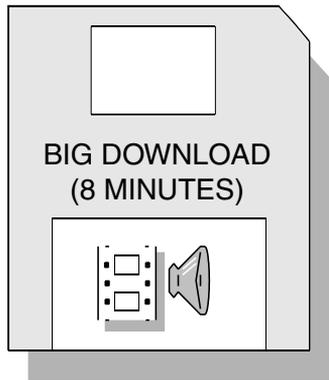
Accessibility shows your own consideration, and lets visitors avoid becoming angry.

TO GET CLOSE TO PEOPLE

Making these adjustments to your site shows you want to invite everyone in.

See: Nielsen (1999f), W3C (1999).

# Tell People about a Media Object Before They Download It



## BACKGROUND |

*Good manners are made up of petty sacrifices.*

—Ralph Waldo Emerson,  
*Letters and Social Aims*

## Let the user decide whether to wait for the download or pass

You've probably had it happen. You click a link, and suddenly you enter download hell. A dialog box shows you that you have 10 minutes to wait, no, 13 minutes, no 45, and so on. Slow downloads make people feel trapped.

So let them decide ahead of time whether to turn their computer over to your download. To make that decision, they must ponder their expectations about the value of the content, its relevance to their needs, and the possible complexity of the process of downloading, uncompressing, launching, and eventually reading or printing. Be straight with users, letting them know what they are about to get into.

Include the file size, the media type, and a description of the subject matter. (IBM, 1999)

## Warn people before—and during—downloads

Attention may wander during delays as brief as one second. Delays of more than 10 seconds will almost certainly lead to attention loss. (Microsoft, 2000)

If you can get a programmer to help you, provide a status indicator showing how much longer the download will take.

### EXAMPLES

#### Before

Find out more about our [business process](#).

#### Before

Plutonium [recovery](#).

#### After

[Business Process White Paper](#). (2.5 MB PDF file, 38 minutes at 56K, requires Acrobat Reader 4.0 or later)

#### After:

[Diagram of the hydride/dehydride process for plutonium recycling](#). (8 MB PhotoShop image in BMP format, takes 2 hours to download at 56K, requires paint program to display).

## AUDIENCE FIT

### If visitors want this...

TO HAVE FUN

### How well does this guideline apply?

Nothing ruins the fun like an eternal download.

TO LEARN

Interrupting a lesson for a half-hour download is a sure way to lose your students.

TO ACT

Unless your only goal is to get people to download your white paper, warn people up front; then they can download later, if necessary, rather than starting the download and then canceling it altogether.

TO BE AWARE

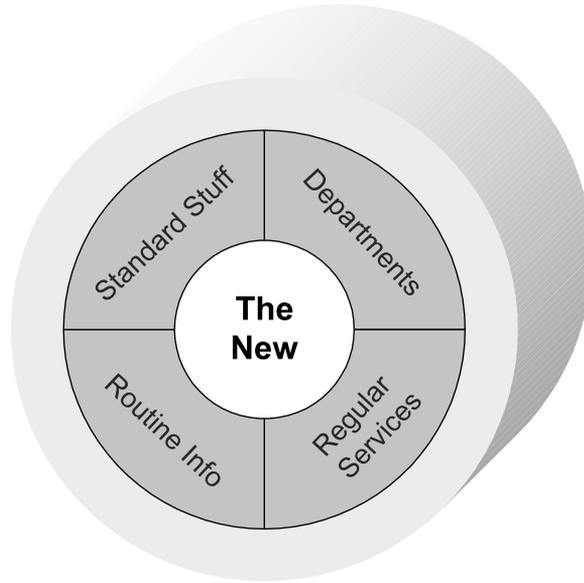
Show you're aware of their feelings and schedule.

TO GET CLOSE TO PEOPLE

Giving this kind of information is a simple courtesy.

See: IBM (1999), Microsoft (2000), Nielsen (1999f), W3C (1999).

## Announce the New with Special Links



### BACKGROUND |

*Nothing is news until it has appeared in The Times.*

—Ralph Deakin, Foreign News Editor, *The London Times*

### You want repeat visitors, don't you?

If someone comes to your site and thinks you haven't posted anything new, they may leave and never come back. On the Web, nothing looks as bad as cobwebs.

Statistics, numbers and examples all need to be recent or credibility suffers. (Sun, 2000)

So, on pages that don't change much over time, indicate new items with a little "new" glyph.

And **stress** dates. You can get across the message that you are always up-to-date by date-stamping every page and highlighting upcoming events with the dates.

## Advertise content changes

You've put in all that work to create new content. Do a little marketing then.

Boldly promote your most exciting content with size, color, animation, and/or screen position. Minimize less important content. (Microsoft, 2000)

### AUDIENCE FIT

#### If visitors want this...

TO HAVE FUN

#### How well does this guideline apply?

On the Web, the new is synonymous with fun.

TO LEARN

Learners may not care what's new, unless it's a new course.

TO ACT

Newness impels clicking.

TO BE AWARE

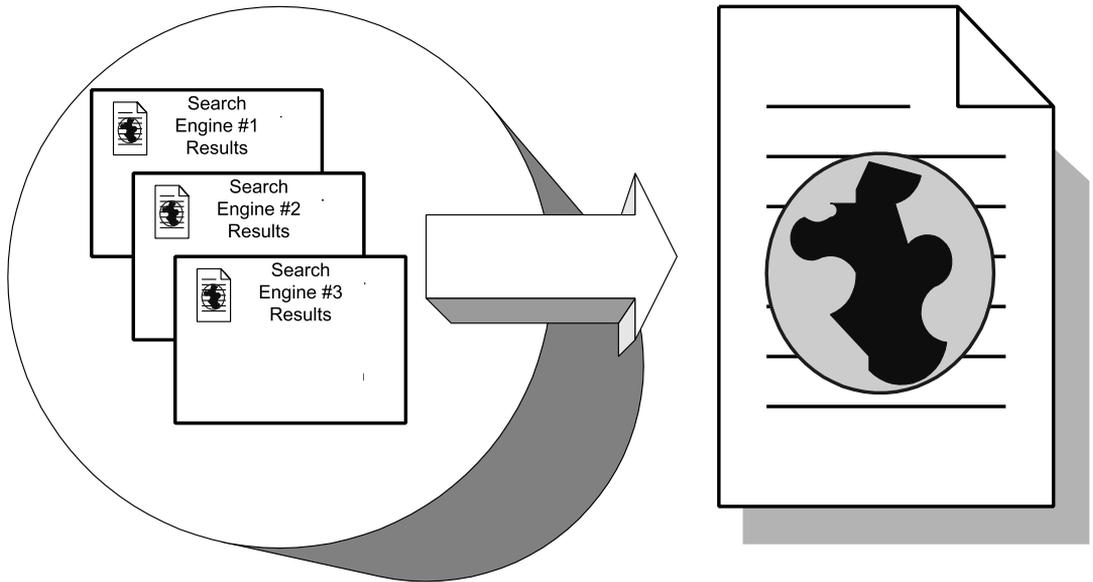
The "new" labels just help folks understand what has changed on the site, which is convenient for people who are already paying more attention to their internal state than the site itself.

TO GET CLOSE TO PEOPLE

If what's new is relevant, you appeal to them; if not, you may not make them feel any tighter with you than before.

See: IBM (1999), Nielsen (1999d), Microsoft (2000), Sun (2000).

## Write So Your Pages Will Be Found



### BACKGROUND |

### **Do you want to be linked to?**

If you manage to get a spot in the top 10 or 20 results on a search engine, people will follow the link and discover your site for the first time. If you place lower than 30, you might as well not appear. To rank high, you have to respect the way the search spiders work, the way the companies filter out spam, and the way the algorithms look for relevance.

*Spiders* are trained to follow links and look for keywords and phrases—text chunks that stress your unique content, service, or point of view. The spiders look for these keywords in critical locations on each page, particularly your home page. Oddly, given the robotic nature of these little critters, their most important focus is on the content on the page—title, headings, running text, and link

*Having keyphrase-rich home page copy that converts traffic is incredibly important. However, ...if you rely on your home page to be the be all, end all for ALL your keyphrases, you're hobbling your Search Engine Optimization success and probably making your copy impossible to read.*

—Jill Whalen and Heather Lloyd-Martin, *Rank Write Roundtable*

text. You have to write this material so it appeals to the spiders—and, oh yes, the humans. Managing that double perspective takes finesse and planning.

Before writing anything on the page, come up with one or two key phrases for each page—mantras and slogans that persuasively answer questions that users might ask about the page or the site, such as:

- What info, service, or product do you offer?
- What's the benefit of using your information, service, or product?
- What's the unique subject of this page?
- How do you distinguish yourself from your competitors?
- What is the main reason I should buy, subscribe, register, explore your site?
- Who are you aiming at? (Am I in that niche?)

Developing phrases that respond to these questions involves a lot of discussion with your team, and arguments that go on for days, but don't forget to ask your customers.

Ask users what methods they would use to find a site such as yours. (IBM, 1999)

Most people use only one or two words in a query. You can use a service like WordTracker to see which of your new phrases are most commonly searched for, and you can sneak a look at the keywords used by your competitors (particularly if they already rank high on the search engines). But you should do some market research among your most valuable customers to see what they would enter to find a particular page (more revealing than asking them what keywords they would use for the site as a whole). Don't go vague, either, reaching for words so general that they would apply to General Mills, General Motors, and General Incompetence. Come up with your own focused and very precise keywords.

Keywords become our characterization of what each document is **about**. (Richard Belew, 2000)

Having defined the messages you want to communicate to the people who come to your pages, repeat yourself enough to appeal to the spiders, but not so much that you make them suspect you are trying to bamboozle them.

## Make those keywords visible in ordinary text

The spiders check your visible content to make sure it matches the words in your Title, Description, and Keyword tags. If not, suspicion sets in. If you use a bunch of words in the same color as the background (so the text is invisible to humans, but readable by software), the spiders suspect that you are trying to fool them, and they react by banning your site for life. Rule of thumb: write content so that it can be read by both humans and spiders.

Your headings should be text, not graphics, identified with conventional H1, H2, H3 tags. Each heading should pick up a keyword or phrase. After all, search engines figure that any text you put in a heading must be important on your site, indicating what topics are really relevant.

Running text, particularly on the home page, must weave together your keywords in a way that sounds convincing to a human. It's OK to repeat the phrases, but don't just say the same phrase over and over in a row, because humans hate it and spiders sense you are trying to con them. You want a dense thicket of keywords, but not such a jumble that a human reacts by puking on the screen. You don't have to jam all your keywords into the first paragraph; spiders read the whole page, and humans get indigestion if you try to force-feed them all those nuggets of compressed significance.

Don't put key text into graphics (which spiders can't read), animation (ditto), or intricately nested tables (which confuse the eight-legged ones).

## Focus your title

Your title is all people see in the results on some search engines, so make it sell. As you write the content for the Title tag, double-check to make sure you are picking up a key phrase or two out of your visible copy. Bump the company name out of the title altogether or shove it to the very end where nobody will notice it, and concentrate

*The search engines are changing their rules constantly, and if you're relatively new to e-business it can be really CONFUSING. Heck! I find it confusing sometimes...*

—Corey Rudl,  
*Marketing Tips Newsletter*

on one or two key benefits of using your services, products, or spirit. Remember that the search engines compare the title to the page content to determine whether or not you are really sincere—not just stacking the deck with a bunch of interesting keywords.

## Add a description

Include an **abstract** in the meta-tag for the description in the page header. Like this:

```
<META NAME="description" CONTENT="Taken from the
journals of Delacroix, these words of advice still inspire
and guide artists today.">
```

Make sure the first sentences describe the page in 150 words or so, because that's the maximum that most search engines will display. Your abstract can go twice that long, though, because the spiders sent out by the search engines rely heavily on the description for information about the page, and read all of the description, robotically. Move your key phrases to the beginning. Spiders who read Meta descriptions give them a lot of weight—more than the Meta keywords.

## Use the Meta keyword tag

Just don't count on this. People have abused this tag, cramming all kinds of irrelevant words in here, like adding *sex*, *free*, *new*, and *xxx* to a site devoted to pump engines just to catch a few suckers. So put all your key phrases here, but don't make this your main effort at appealing to the search engines. Do not repeat the same word over and over (spread out similar phrases so the spiders do not feel you are faking the density). Within your list of key phrases, resist using the same word more than half a dozen times, including all variations, to avoid irritating the spiders. And remember: If a phrase is not relevant to the rest of your content, drop it.

*As far as the search engines are concerned, content IS king.*

—Heather Lloyd-Martin,  
*Rank Write Roundtable*

## Got images? Write alternate text

Spiders can read, but they can't see, so any text you place into graphics passes right over their heads. Solution: Add alternate text to the tag because the spiders can read that. Great place to use keywords!

## Make link text key

Spiders consider links a critical way of figuring out whether your site really deals with the subjects you announce in your Description and Keywords tags. Look at the actual text of your links. Could you possibly squeeze another keyword in?

The search engines figure that hyperlinked keyphrases are important, and they'll give that phrase more weight. In fact, now that I'm on my soapbox, I think that every hyperlink on your home page should include a keyphrase. (Heather Lloyd-Martin, 2001)

## Get out the thesaurus

Along with the keywords you actually use in the text, put **synonyms** in the Meta tags. Don't repeat the same word over and over in a row because the spiders consider that spamming and may ban your site. Don't try tricks like putting the same word a hundred times in white text on the page because the spiders recognize the trick and blackball your site forever.

Include generic terms used by customers or competing companies to describe the contents of the page. And remember that people can't spell very well so include typos for your keywords, too.

## Don't stray too far from the topic

If you invent a set of keywords for your whole site and drop them onto every page, the spiders coming from the search engines may get suspicious, seeing that the keywords don't show up in the text on some pages. You may get downgraded or dropped as a cheater, when you were really just lazy.

Make the keywords **match the text on their pages**. Whenever you shift topics, you ought to edit your keywords.

*If your target audience can't find you in the search engines...how will they know you exist? You may want to create a certain image for your site, but if your site is a beautiful billboard on a deserted highway, what good will it do for you?*

—Jill Whalen,  
**Rank Write Roundtable**

## Invite the spiders to come back

Make yourself easy to tour. Add meta tags addressed directly to the robot, saying that all your content is available for scanning. Invite the little critter to revisit the site in a few weeks, too.

(See examples).

## EXAMPLES

### Before

```
<html>

<head>

<title>Department of Earth Sciences: Geology
101: Volcanoes</title>

</head>
```

### After

```
<html>

<head>

<meta name="keywords" content="Haleakala,
Halemaumau, Vesuvius, Aetna, volcano, volcanoes,
lava, aa, crater">
<meta name="description" content="Free infor-
mation about volcanoes, for students and teachers.
Tour key volcanoes of Hawaii and Italy, with close-
up images of lava flows, before and after shots, and
timelines.">
<meta name="robot" content="all">
<meta name="revisit" content="15 days">
<title>Volcanoes: Geology 101: Department of
Earth Sciences </title>

</head>
```

**See:** Belew (2000), IBM (1999), Kilian (1999), Lloyd-Martin and Whalen (2001), Nielsen (1999f), Sun (2000).