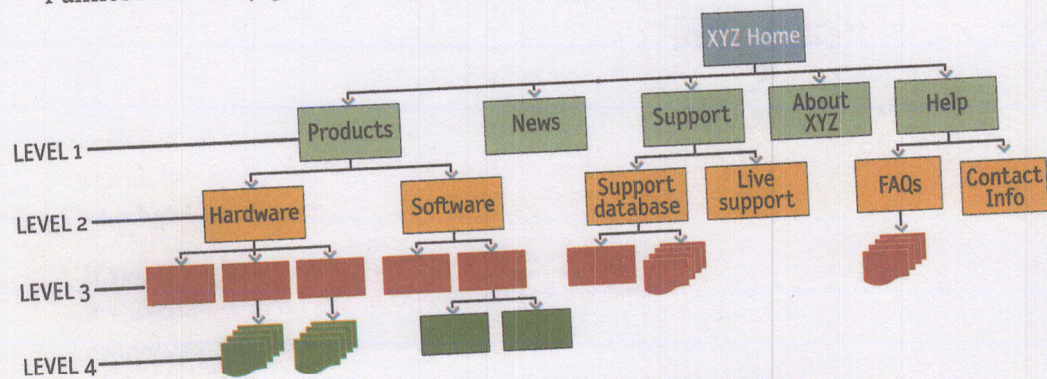
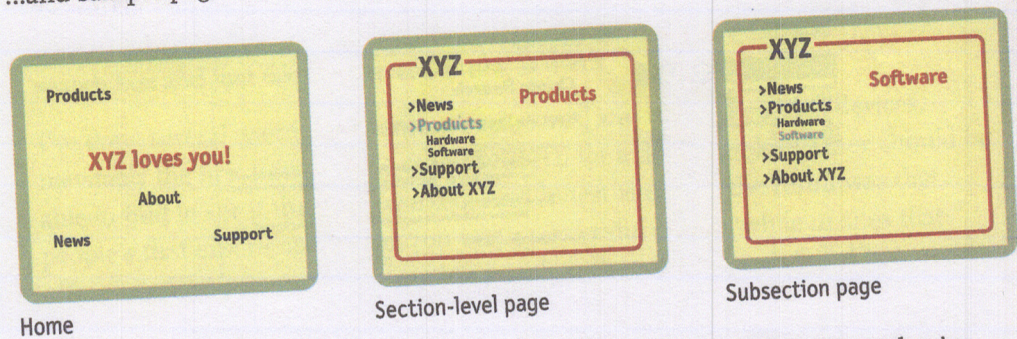


Secondary, tertiary, and whatever comes after tertiary

It's happened so often I've come to expect it: When designers I haven't worked with before send me preliminary page designs so I can check for usability issues, I almost inevitably get a flowchart that shows a site four levels deep...



...and sample pages for the Home page and the top two levels.



I keep flipping the pages looking for more, or at least for the place where they've scrawled, "Some magic happens here," but I never find even that. I think this is one of the most common problems in Web design (especially in larger sites): failing to give the lower-level navigation the same attention as the top. In so many sites, as soon as you get past the second level, the navigation breaks down and becomes *ad hoc*. The problem is so common that it's actually hard to find good examples of third-level navigation.

Why does this happen?

Partly, I think, because good multi-level navigation is just plain hard to figure out—given the limited amount of space on the page, and the number of elements that have to be squeezed in.

Partly because designers usually don't even have enough time to figure out the first two levels.

Partly because it just doesn't seem that important. (After all, how important can it be? It's not primary. It's not even secondary.) And there's a tendency to think that by the time people get that far into the site, they'll understand how it works.

And then there's the problem of getting sample content and hierarchy examples for lower-level pages. Even if designers ask, they probably won't get them, because the people responsible for the content usually haven't thought things through that far, either.

But the reality is that users usually end up spending as much time on lower-level pages as they do at the top. And unless you've worked out top-to-bottom navigation from the beginning, it's very hard to graft it on later and come up with something consistent.

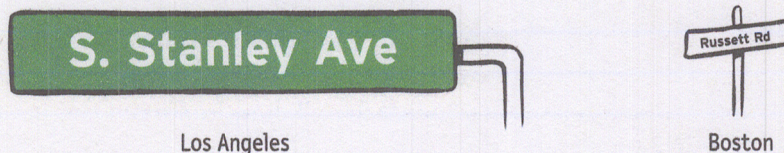
The moral? It's vital to have sample pages that show the navigation for all the potential levels of the site before you start arguing about the color scheme for the Home page.

Page names, or Why I love to drive in L.A.

If you've ever spent time in Los Angeles, you understand that it's not just a song lyric—L.A. really is a great big freeway. And because people in L.A. take driving seriously, they have the best street signs I've ever seen. In L.A.,

- › Street signs are big. When you're stopped at an intersection, you can read the sign for the next cross street.
- › They're in the right place—hanging *over* the street you're driving on, so all you have to do is glance up.

Now, I'll admit I'm a sucker for this kind of treatment because I come from Boston, where you consider yourself lucky if you can manage to read the street sign while there's still time to make the turn.



The result? When I'm driving in L.A., I devote less energy and attention to dealing with where I am and more to traffic, conversation, and listening to *All Things Considered*. I love driving in L.A.

Page names are the street signs of the Web. Just as with street signs, when things are going well I may not notice page names at all. But as soon as I start to sense that I may not be headed in the right direction, I need to be able to spot the page name effortlessly so I can get my bearings.

There are four things you need to know about page names:

- **Every page needs a name.** Just as every corner should have a street sign, every page should have a name.

I'm at the corner of
Auctions and Sell an Item.



Designers sometimes think, "Well, we've highlighted the page name in the navigation."⁹ That's good enough." It's a tempting idea because it can save space, and it's one less element to work into the page layout, but it's not enough. You need a page name, too.

- **The name needs to be in the right place.** In the visual hierarchy of the page, the page name should appear to be framing the content that is unique to this page. (After all, that's what it's naming—not the navigation or the ads, which are just the infrastructure.)

⁹ See "You are here" on page 74.

STREET SIGNS AND BREADCRUMBS



- > **The name needs to be prominent.** You want the combination of position, size, color, and typeface to make the name say “This is the heading for the entire page.” In most cases, it will be the largest text on the page.
- > **The name needs to match what I clicked.** Even though nobody ever mentions it, every site makes an implicit social contract with its visitors:

The name of the page will match the words I clicked to get there.

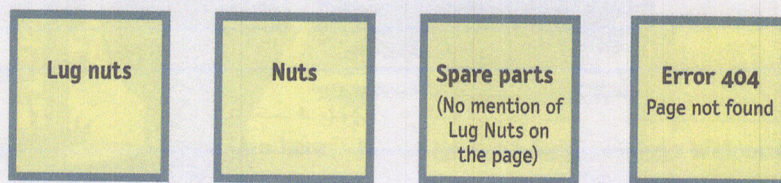
In other words, if I click on a link or button that says “Hot mashed potatoes,” the site will take me to a page named “Hot mashed potatoes.”

It may seem trivial, but it’s actually a crucial agreement. Each time a site violates it, I’m forced to think, even if only for milliseconds, “Why are those two things different?” And if there’s a major discrepancy between the link name and the page name or a lot of minor discrepancies, my trust in the site—and the competence of the people who publish it—will be diminished.

WHAT I CLICK...

Lug nuts
⤴

WHAT I GET...



Names match. Comfort, trust, no thought required.



Names don't match. Frustration, loss of trust.

Of course, sometimes you have to compromise, usually because of space limitations. If the words I click on and the page name don't match exactly, the important thing is that (a) they match as closely as possible, and (b) the reason for the difference is obvious. For instance, at Gap.com if I click the buttons labeled "Gifts for Him" and "Gifts for Her," I get pages named "gifts for men" and "gifts for women." The wording isn't identical, but they feel so equivalent that I'm not even tempted to think about the difference.

"You are here"

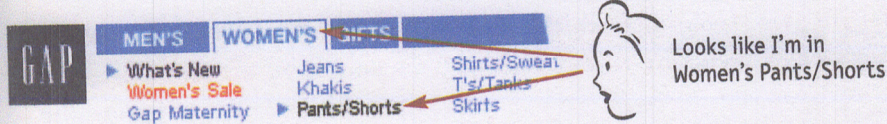
One of the ways navigation can counteract the Web's inherent "lost in space" feeling is by showing me where I am in the scheme of things, the same way that a "You are here" indicator does on the map in a shopping mall—or a National Park.



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STREET SIGNS AND BREADCRUMBS

On the Web, this is accomplished by highlighting my current location in whatever navigational bars, lists, or menus appear on the page.



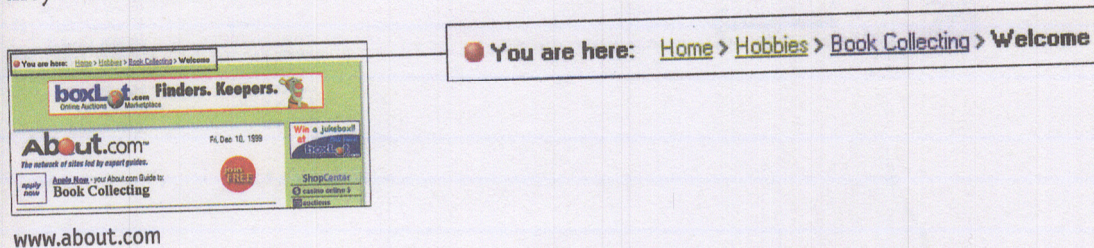
In this example, the current section (Women's) and subsection (Pants/Shorts) have both been "marked." There are a number of ways to make the current location stand out:

Put a pointer next to it	Change the text color	Use bold text	Reverse the button	Change the button color
Sports Business ▶ Entertainment Politics	Sports Business Entertainment Politics	Sports Business Entertainment Politics	Sports Business Entertainment Politics	Sports Business Entertainment Politics

The most common failing of "You are here" indicators is that they're too subtle. They need to stand out; if they don't, they lose their value as visual cues and end up just adding more noise to the page. One way to ensure that they stand out is to apply more than one visual distinction—for instance, a different color *and* bold text.

Breadcrumbs

Like "You are here" indicators, Breadcrumbs show you where you are. (Sometimes they even include the words "You are here.")



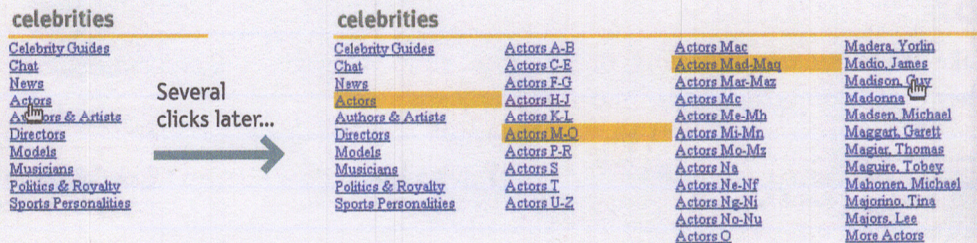
They're called Breadcrumbs because they're reminiscent of the trail of crumbs Hansel dropped in the woods so he and Gretel could find their way back home.¹⁰

Unlike "You are here" indicators, which show you where you are in the context of the site's hierarchy, Breadcrumbs only show you the path from the Home page to where you are. (One shows you where you are in the overall scheme of things, the other shows you how to get there—kind of like the difference between looking at a road map and looking at a set of turn-by-turn directions. The directions can be very useful, but you can learn more from the map.)¹¹

You could argue that bookmarks are more like the fairy tale breadcrumbs, since we drop them as we wander, in anticipation of possibly wanting to retrace our steps someday. Or you could say that visited links (links that have changed color to show that you've clicked on them) are more like breadcrumbs since they mark the paths we've taken, and if we don't revisit them soon enough, our browser (like the birds) will swallow them up.¹²

¹⁰ In the original story, H & G's stepmother persuades their father to lose them in the forest during lean times so the whole family won't have to starve. The suspicious and resourceful H spoils the plot by dropping pebbles on the way in and following them home. But the next time(!) H is forced to use breadcrumbs instead, which prove to be a less-than-suitable substitute since birds eat them before H & G can retrace their steps. Eventually the tale devolves into attempted cannibalism, grand larceny, and immolation, but basically it's a story about how unpleasant it is to be lost.

¹¹ LookSmart.com uses a Breadcrumbs-on-steroids interface that shows you both—your current path and all the paths you didn't take—at the same time.



It's a great navigation interface for LookSmart's purpose (a Web directory), but since it takes up the entire page it's not very practical for most sites.

¹² Visited links eventually expire and revert to their original color if you don't revisit them. The default expiration period varies from 7 to 30 days, depending on which browser you use. I wish

STREET SIGNS AND BREADCRUMBS

Until recently, Breadcrumbs were an oddity, found only in sites that were really just enormous databases with very deep hierarchies, like Yahoo's Web directory...

[Home](#) > [Arts](#) > [Visual Arts](#) > [Photography](#) > [Nature and Wildlife](#) > [Photographers](#) >

Personal Exhibits

www.yahoo.com

or grafted on to the top of very large multi-site conglomerates, like CNET...

[CNET](#) : [About CNET](#) : [Editorial and Disclosure Policy](#)

www.cnet.com

[CNET](#) : [Games](#) : [Action](#) : [Unreal Tournament](#)

www.gamecenter.com

[CNET](#) : [Downloads](#) : [PC](#) : [Utilities](#) : [File & Disk Management](#)

www.download.com

where they managed to give users some sense of where they were in the grand scheme of things while still allowing the sub-sites to keep their independent—and often incompatible—navigation schemes.

But lately they've started showing up in more and more sites, sometimes in lieu of well-thought-out navigation.

For most sites, I don't think that Breadcrumbs *alone* are a good navigation scheme. They're not a good replacement for showing at least the top two layers of the hierarchy, because they don't reveal enough. They give you a view, but it's like a view with blinders. It's not that you can't make your way around using just Breadcrumbs. It's that they're not a good way to *present* most sites.

Don't get me wrong. Done right, Breadcrumbs are self-explanatory, they don't take up much room, and they provide a convenient, consistent way to do two of the things you need to do most often: back up a level or go Home. It's just that I think

I'd thought of the imaginary-birds-eating-visited-links connection myself, but Mark Bernstein first wrote about it in 1988. I came across it in Peter Glour's book Elements of Hypermedia Design, which you can read for free online at www.birkhauser.com/hypermedia.

they're most valuable when used as part of a balanced diet, as an accessory to a solid navigational scheme, particularly for a large site with a deep hierarchy, or if you need to tie together a nest of sub-sites.

About.com has the best Breadcrumbs implementation I know of, and it illustrates several "best practices."

➤ **Put them at the top.**

Breadcrumbs seem to work best if they're at the top of the page, above everything. I think this is probably because it literally marginalizes them—making them seem like an accessory, like page numbers in a book or magazine. When Breadcrumbs are farther down on the page they end up contending with the primary navigation. Result? It makes me think. ("Which one is the real navigation? Which one should I be using?")



www.about.com

- **Use > between levels.** Trial and error seems to have shown that the best separator between levels is the "greater than" character (>).

● **You are here:** [Home](#) > [Hobbies](#) > [Book Collecting](#) > **Welcome**

www.about.com

The colon (:) and slash (/) are workable, but > seems to be the most satisfying and self-evident—probably because it visually suggests forward motion down through the levels.

- **Use tiny type**—again, to make it clear that this is just an accessory.
- **Use the words "You are here."** Most people will understand what the Breadcrumbs are, but since it's tiny type anyway it doesn't hurt to make them self-explanatory.
- **Boldface the last item.** The last item in the list should be the name of the current page, and making it bold gives it the prominence it deserves.

- › **Don't use them instead of a page name.** There have been a lot of attempts to make the last item in the Breadcrumbs list do double duty, eliminating the need for a separate page name. Some sites have tried making the last item in the list the largest.

CNET : Games : Action : Unreal Tournament

www.gamecenter.com

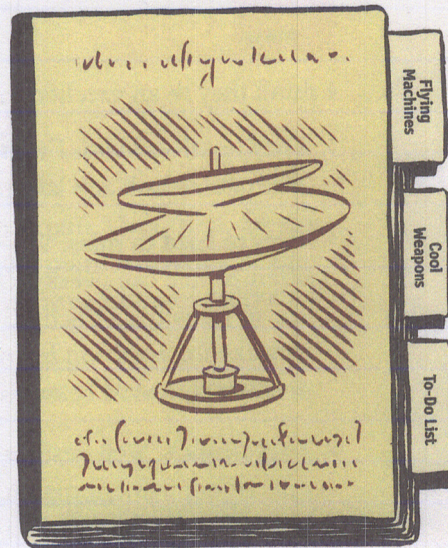
This seems like it should work, but it doesn't, probably because it fights our expectation that headings are flush left or centered, not dangling in the middle of the page at the end of a list.

Four reasons why I love tabs

I haven't been able to prove it (yet), but I strongly suspect that Leonardo da Vinci invented tab dividers sometime in the late 15th century. As interface devices go, they're clearly a product of genius.¹³

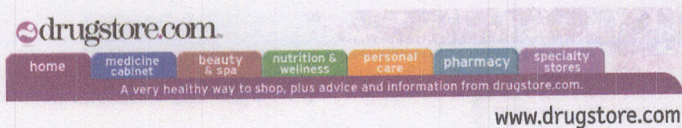
Tabs are one of the very few cases where using a physical metaphor in a user interface actually works.¹⁴ Like the tab dividers in a three-ring binder or tabs on folders in a file drawer, they divide whatever they're sticking out of into sections. And they make it easy to open a section by reaching for its tab (or, in the case of the Web, clicking on it).

In the past year, the idea has really caught on, and many sites have started using tabs for navigation.



¹³ Memo to self: Check to see if Microsoft began using tabbed dialog boxes before Bill Gates bought the da Vinci notebook.

¹⁴ The idea of dragging things to a trash can icon to delete them (conceived at Xerox PARC and popularized by Apple) is the only other one that springs to mind. And sadly, Apple couldn't resist muddying the metaphorical waters by using the same drag-to-trash action to eject diskettes—ultimately resulting in millions of identical thought balloons saying, "But wait. Won't that erase it?"



And...

800.com
Amazon.com
Beyond.com
bn.com
Borders.com
Buy.com
CDNOW
eToys.com
Fatbrain.com
Fidelity.com
LandsEnd.com
Pets.com
Quicken.com
Schwab.com
Snap.com
ToysRUs.com

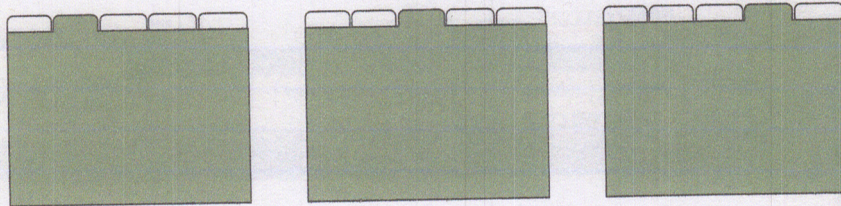
I think they're an excellent navigation choice for large sites. Here's why:

- **They're self-evident.** I've never seen anyone—no matter how “computer illiterate”—look at a tabbed interface and say, “Hmmm. I wonder what *those* do?”
- **They're hard to miss.** When I do point-and-click user tests, I'm surprised at how often people can overlook button bars at the top of a Web page.¹⁵ But because tabs are so visually distinctive, they're hard to overlook. And because they're hard to mistake for anything *but* navigation, they create the kind of obvious-at-a-glance division you want between navigation and content.
- **They're slick.** Web designers are always struggling to make pages more visually interesting without making them slow to load. If done correctly (see below), tabs can add polish *and* serve a useful purpose, all without bulking up the page size.

¹⁵ I shouldn't be. I managed to use My Yahoo dozens of times before it dawned on me that the row of links at the top of the page were more sections of My Yahoo. I'd always assumed it was just one page and that the links were just more Yahoo “stuff.”

STREET SIGNS AND BREADCRUMBS

- They suggest a physical space. Tabs create the illusion that the active tab physically moves to the front.

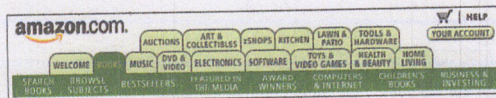


It's a cheap trick, but effective, probably because it's based on a visual cue that we're very good at detecting ("things in front of other things"). Somehow, the result is a stronger-than-usual sense that the site is divided into sections and that you're in one of the sections.

If you love Amazon so much, why don't you marry it?

As with many other good Web practices, Amazon was one of the first sites to use tab dividers for navigation, and the first to really get them right. Over time, they've continued to tweak and polish their implementation to the point where it's nearly perfect, even though they keep adding tabs as they expand into different markets.¹⁶

¹⁶ In fact, after I wrote this chapter Amazon added another whole row of tabs, so currently (August 2000) it looks like this:



This latest version points to one weakness of tabs: Beyond a certain point, they don't scale as well as some other approaches (like a menu down the side of the page, for instance).

It's not clear whether this many tabs are effective, but Amazon has run live tests on their site of some other approaches, including a Home page design that abandons the tabs in favor of a Yahoo-style list, and so far they've stuck with the tabs. Besides, very few sites need more tabs than will fit in a single row.



October 1998



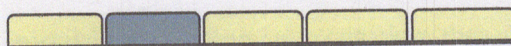
October 1999



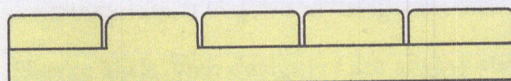
Anyone thinking of using tabs should look carefully at what Amazon has done over the years, and slavishly imitate these four key attributes of their tabs:

- **They're drawn correctly.** For tabs to work to full effect, the graphics have to create the visual illusion that the active tab is *in front of* the other tabs. This is the main thing that makes them feel like tabs—even more than the distinctive tab shape.¹⁷

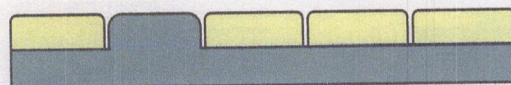
To create this illusion, the active tab needs to be a different color or contrasting shade, and it has to physically connect with the space below it. This is what makes the active tab “pop” to the front.



BAD: No connection, no pop.



BETTER: Connected, but no contrast. Limited pop.



BEST: Duck! It's coming right at you.

¹⁷ Whatever you do, don't use tab-shaped graphics if they're not going to behave like tabs. The Internet Movie Database—owned by Amazon, and in some ways one of the best sites on the Web—makes this mistake.



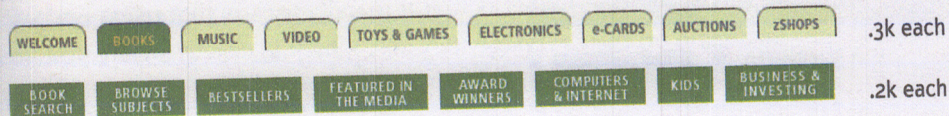
The buttons at the top of each page look like tabs, but they act like ordinary buttons.

STREET SIGNS AND BREADCRUMBS

- They load fast. Amazon's single row of tabs required only two graphics per page, totaling less than 6k—including the logo!¹⁸



Some sites create tabs (or any kind of button bar, for that matter) by using a separate graphic for each button—piecing them together like a patchwork quilt. If Amazon did it this way, the 17 pieces would look like this:



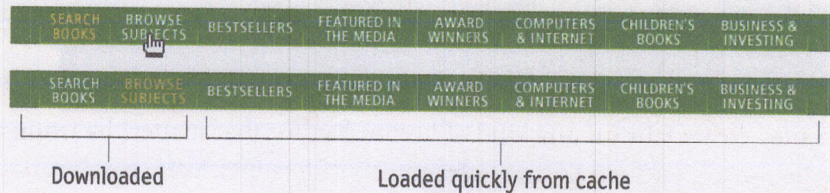
This is usually done for two reasons:

- **Rollovers.**¹⁹ To implement rollovers in tabs or button bars, each button needs to be a separate graphic. Rollovers have merit, but in most cases I don't think they pull their weight. (More about that in the next chapter.)

¹⁸ I deliberately haven't changed this example because (a) Amazon's two-row version works the same way, and (b) if you use tabs on your site you're much more likely to be implementing a single row.

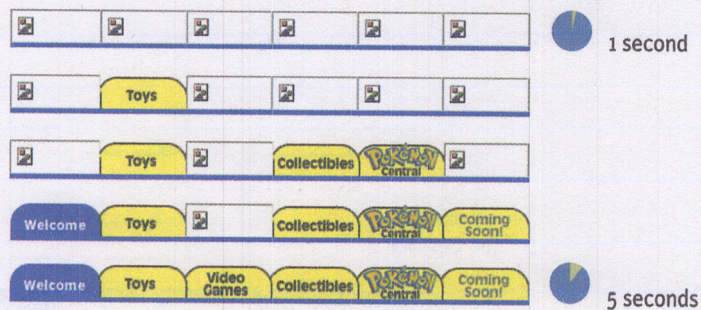
¹⁹ A rollover is a graphic that gets replaced by another graphic when you move the cursor over it. They can be used to highlight buttons so it's clear that they're clickable, to pop up a description of what each button is linked to, or just to add a little bit of "sizzle."

- **A misguided belief that it will be faster.** The theory is that after the first page is loaded, most of the pieces will be cached on the user's hard drive,²⁰ so as the user moves from page to page the browser will only have to download the small pieces that change and not the entire site.



It's an attractive theory, but the reality is that it usually means that users end up with a longer load time on the first page they see, which is exactly where you *don't* want it.

And even if the graphics are cached, the browser still has to send a query to the server for each graphic to make sure it hasn't been updated. If the server is at all busy, the result is a visually disturbing crazy-quilt effect as the pieces load on every page.



Definitely *not* slick.

²⁰ When a Web page calls for a graphic, before downloading it from the site's server, the browser checks to see if the file is in its cache of recently used images, which are stored on your computer's hard drive. If it is (and it hasn't been updated on the server since you last used it), the browser loads the graphic from your hard drive instead, which can be much faster.

STREET SIGNS AND BREADCRUMBS

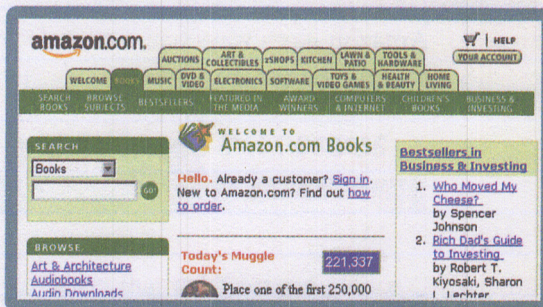
- **They're color coded.** Amazon uses a different tab color for each section of the site, and they use the same color in the other navigational elements on the page to tie them all together.

Color coding of sections is a very good idea—as long as you don't count on everyone noticing it. Some people (roughly 1 out of 200 women and 1 out of 12 men—particularly over the age of 40) simply can't detect some color distinctions because of color-blindness.

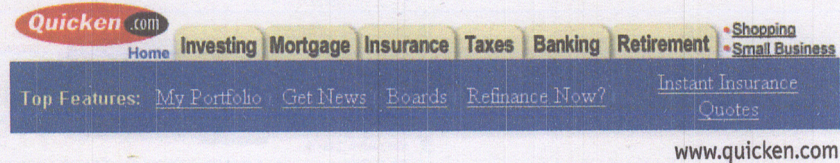
More importantly, from what I've observed, a much larger percentage (perhaps as many as half) just aren't very *aware* of color coding in any useful way.

Color is great as an additional cue, but you should never rely on it as the *only* cue.

Amazon makes a point of using fairly vivid, saturated colors that are hard to miss. And since the inactive tabs are a neutral beige, there's a lot of contrast—which even color-blind users can detect—between them and the active tab.



- **There's a tab selected when you enter the site.** If there's no tab selected when I enter a site (as on Quicken.com, for instance), I lose the impact of the tabs in the crucial first few seconds, when it counts the most.



Amazon has always had a tab selected on their Home page. For a long time, it was the Books tab.



Eventually, though, as the site became increasingly less book-centric, they gave the Home page a tab of its own (labeled "Welcome").



Amazon had to create the Welcome tab so they could promote products from their other sections—not just books—on the Home page. But they did it at the risk of alienating existing customers who still think of Amazon as primarily a bookstore and hate having to click twice to get to the Books section. As usual, the interface problem is just a reflection of a deeper—and harder to solve—dilemma.