

Frames: Advantages and Disadvantages

Introduction

Frames are an HTML construct invented by Netscape. Frames can be used to embed multiple HTML files in a single browser window. Usually the HTML embedded in one frame will have its links directed to fill another frame, so that instead of getting the illusion of traveling from one place to another, users get an illusion of advancing a slide projector (Davis, 1997). Frames have been controversial since they were introduced (Bricklin, 1998). However, judging whether using frames is good or not is not the purpose of this paper. Rather, the purpose of this paper is to provide information on frames as much as possible so that readers can make their choice based on the information.

When to Use Frames

Frames are useful in a site whose contents are expected to change frequently. Because a frames-based site can be designed to have a single file for navigation, if you add or remove page from the site, you will have to modify only that one file (Lynch & Horton, 1999).

Frames can give a targeted area of your site a functional coherence. For example, you can provide the navigation links in the leftmost frame and the main content in the right frame (Bricklin, 1998; Lynch & Horton, 1999).

Frames can be used as a shortcut for scrolling within a single page. For example, a very long directory or other alphabetical listing could have a frame on top listing the

letters of the alphabet. Clicking one of these letters would cause the listing to scroll within another frame while keeping the user on the same page and thus not destroying Navigation (Bricklin, 1998; Nielsen, 1996).

Frames are also useful for "meta-pages" that comment on other pages. For example, a Web design style guide may need to mix discussions of design principles with live examples of entire pages that follow (or break) the rules. In these cases, the embedded page should be treated as an embedded image (even though it is implemented as an independent page) and the "main" information should be the content of the commenting frame (Nielsen, 1996). Another example would be a trip report with framed pages that contain pages from the web sites of the companies visited along with comments (Bricklin, 1998).

Problems with Frames

Bookmarks

In current browsers, if a user bookmarks a page, the browser actually only bookmarks the parent frameset. When that user later calls up that bookmark, he/she will get the home page or equivalent. If that user had spent hours wandering through your site trying to find a specific page, that user will become very upset very quickly when he/she realizes that he/she has to retrace his/her path through the site when that user calls up the bookmark (Roselli, 1999).

Accessibility

There are still browsers out there that do not use frames, browsers that are brand new and make a conscious decision to not offer that traditional support. Some of these are browsers for the blind, or other handicapped users. If your audience possibly includes any of these users, be prepared for them to have serious trouble traversing the site. As an example of how problematic this may be, if you are a user of Microsoft FrontPage 3.0, then you can see that the <noframes> tag by default has the text, "This page uses frames, but your browser doesn't support them." This is not exactly polite, or user-friendly. It doesn't even offer a link to a main frame page, nor does it automatically include the contents of that main frame within the <noframes> tag (Roselli, 1999).

Design

Support in the current frames-capable browsers is generally good, but there are still extra issues you have to become familiar with, especially if precise frame alignment is important. Netscape Navigator and Microsoft Internet Explorer do not handle frames exactly like one another. If you have ever tried to line images up across frames, you have encountered one of these differences. That doesn't even take into account other browsers, versions, platforms, and their caveats. You have to do that much more testing (Roselli, 1999; Williams & Tollett, 1998).

Search Engines

It used to be that search engines had trouble picking up pages within framesets. Search engines point only at single URLs. If your content lives within a frameset, and a

search engine takes someone to a particular piece of content, the user will not be given the frameset context (usually containing the navigation and site branding), and so will often land on a page and have no idea where he is nor how to get around (Merholz, 1998).

Feedback in navigation

If you have a navigation bar in a frame, it's a pain to present user feedback. You either have to a) use JavaScript to swap out graphics or b) load a version of the bar with the appropriate section selected. Also, if you allow people to traverse using links in the content, and those links take them from one site section to another, your navigation bar will not reflect that, unless you have JavaScript on each page to ensure that the bar is appropriate (Merholz, 1998).

Design Ideas on How to Use Frames

Bricklin (1998) provides several practical design recommendations on how to (and not to) use frames.

Do

- Make Pages Bookmarkable: Pages that are constructed of frames should be made bookmarkable whenever possible. This means using separate framesets and always using TARGET="_top" in links.

- Few scrollbars: Try to design the pages so that they look like they aren't framed to the untrained eye; the scrollbar should fit right in. This often means keeping the amount of material in all but one frame small enough to keep from displaying scrollbars. A reasonable design goal would be to have no more than one frame with scrollbars.
- "You Are Here" in navigation areas: Groups of links (text or images) that include the current page should indicate which page is currently being viewed. Being able to navigate directly to the other choices by clicking on the representation in the group is an important added plus.

Don't

- Don't use "shell navigation": Do not use one frameset file to hold a whole site or document. Avoid using the TARGET attribute without the "_top" value so that your document seems to be one URL.
- Don't unknowingly use techniques that aren't bookmarkable: When in doubt, check.
- Don't forget "You Are Here" indication: It is best to give readers a sense of where they are in a larger whole. Just using the name of where you are may not be enough: You may need to list the other possibilities and highlight the one chosen, such as through text or image button bars.
- Don't have big areas that the reader doesn't want that don't scroll: The use of banners, logos, and advertisements that take up large amounts of space should be

minimized. Space used for design purposes, such as to keep text columns narrow enough for easy reading, may be OK; check your readers' reactions.

- Don't have too many scrollbars: They waste space, look bad, and are confusing. They are a last resort when the reader's screen is smaller than you planned.
- Don't make things complicated or distracting: Keep animated GIFs and checkerboards of cute scrolling frames out of your document unless you want to give the reader something with which to waste their time.

Summary

Frames can be useful for the Web sites that are expected to change frequently, functional coherence of a targeted area in a site, a shortcut for scrolling within a long single page, and meta-pages that comment on other pages. However, frames also have several problems related to bookmarks, accessibility, layout design, search engines, and feedback in navigation. Therefore, whether you will use frames for your Web page or not depends on the purpose and nature of your site. For example, if your site will have several hundred or thousand pages and is expected to add or remove some pages frequently, you need to create your site using frames. You can use the strengths and the weaknesses of frame that are given above in this paper as a criteria for your decision.

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