Adventures in Alternative Hypertext Structuring: Research, Professional, and Classroom Uses

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ABSTRACT

Traditionally hypertext is described as strongly rooted to its most basic unit, the nonlinear associational link or hot word. Meanings accrue in the interstices between links, and no two readers necessarily will have the same experience of any given text. As Michael Joyce has put it, "Print stays itself, electronic text replaces itself" (Joyce 236). Still, as hypertext has evolved on the World Wide Web, linearity and hierarchical outlines have also been used as a widely prevalent form, especially for technical or highly sensitive content that requires an exact, literal meaning.

This poster presentation will include both electronic and paper displays of research-in-progress on alternative forms of hypertextual structuring that go beyond hierarchical and associative linking structures to include multiple systems of navigation co-existing within the same content set. I call this method of hypertext authoring "Multiple Access Site Structuring," or M.A.S.S. I have used this navigational system in planning and executing my hypertextual doctoral dissertation at Rensselaer Polytechnic Institute in 1998, a complex research document the equivalent of 300 paper pages. In the fall 1999 I launched a professional web site linking more than 1,000 web pages of diverse content, again testing this system. And I have employed this system of site structuring in the classroom with first year writing students. This system adapts well to highly complex situations, yet is understandable to beginning site designers. It has direct implication for audience analysis and usability testing.

KEYWORDS: hypertext structure Multiple Access Site Structuring M.A.S.S. systems of navigation nonlinear link threads audience analysis usability

EQUIPMENT NEEDS:
Internet connection, LCD panel and VGA cord for a Dell laptop.

INTRODUCTION

Over time I have developed a system of navigation and site design and applied it to research, commercial, and educational sites, particularly ones with multiple audience groups and complex information structures. I call this system "Multiple Access Site Structuring," or "M.A.S.S."

My research remains ongoing into alternative forms of hypertextual structuring that go beyond hierarchical and associative linking structures to include multiple systems of navigation co-existing within the same content set. I have employed M.A.S.S. in the classroom with first year writing students also. This system adapts well to highly complex situations, yet is understandable to beginning site designers. It has direct implication for audience analysis and usability testing because it lessens the pressure on any given interface feature to deliver with absolute clarity.

M.A.S.S. IN HYPERTEXT DOCTORAL DISSERTATION

In my recent hypertextual (no paper) doctoral dissertation, I had to find a way to ensure that the major argumentative points of my study were communicated through multiple paths and navigational styles. I attempted to do that by using M.A.S.S. to build redundancies into the content for a holistic effect, but that was not the only method at my disposal. I also attempted to build recursiveness into the link structure, so that patterns of links would lead the reader back around and around until unexplored sectors will almost inevitably be reached.

Ultimately, that is the reason for the multi-threaded navigational structures and the multiple frames design. They exist to accommodate various audience reading styles, and to effectively cross-link all sectors as thoroughly as possible through the recursive flow of links and the underlying structure.

From time to time a user may take a link that launches a new browser window as well. This strategy is predicated on the idea that the text a person is reading at any given time ought to remain stable, that the invitation to venture off the path, to follow an associative link, doesn't have to mean the user loses her or his place. Hypertextual interfaces can be designed so that the user can go off on tangents while remaining on a path of sorts. This strategy is also designed

into the interface in direct response to hypertext research that shows how users often feel "lost" in cyberspace, and as a result have difficulty understanding what was intended to be communicated. Also, having off-site links launch new windows will prevent my dissertation from becoming marred by dead links over time, while still retaining the immediacy and blurring of borders with the Xenaverse and the World Wide Web at large.

Other larger, tangential Appendix-like items also launch new windows, such a longer quote from a bulletin board posting, a chat room transcript, Web site, or an image, video clip, or bibliographic reference. These windows are launched from textual hot links or marginal buttons. All new windows were kept to a consistent size and placement on the screen using Java script.

To reiterate, the purpose behind M.A.S.S., besides the theoretical value of pushing the boundaries of how hypertext can work effectively, is the idea that the text one is reading at any given time ought to remain stable--that taking a link should not mean interrupting what one is currently reading just to wander off on another path. The user should be able to wander off **and** remain on the path at the same time, at least to some degree, by having more than one window open on the screen. This may run contrary to many of the conventional assumptions of hypertext theory where making textual interruptions for associational linking seems to be the point, but that feature in and of itself has never been stamped for all time as an *essential* feature of a hypertext.

Features were built into the dissertation interface to facilitate its scholarly use for reference and citation. Because a hypertextual dissertation has no page numbers, I chose to number the paragraphs, as many online journals are now doing. I used a system of letters and numbers. Also, the three primary paths or threads were used as an organizing principle, so that each thread has continuously numbered paragraphs that also can help users orient themselves to where they are in the context of the larger project.

The many interactive windows, nodes, and paths can serve as the main variables for many different reading styles. They should accommodate a variety of audience needs. At times material from different sections will be juxtaposed in different frames or windows, creating unusual combinations of texts on the screen. These combinations are unique to that particular user and impossible for the author to anticipate. This effect is deliberate and is the desired result. The numerous possibilities for combinations means that no two readers are likely to have the same experience of the dissertation. The juxtaposition of unrelated frames introduces an unforeseen element of dialogue between the windows and frames, a dialogue created by the user's choices.

COMMERCIAL AND EDUCATIONAL USES
After developing the basic features of this style of interface design in my dissertation, I have since adapted and applied M.A.S.S. to the Public Service Activities commercial site, an overall superstructure that must provide access to more than 1,000 web sites for a wide variety of audience groups. I will demonstrate this interface in the poster session, along with several experimental student web sites that also apply the basic principles of M.A.S.S.

Some might argue that the premises of Multiple Access Site Structuring are obvious and already being applied within the current wave of highly successful e-commerce site. However, in a survey of many prominent e-commerce sites, the site navigational structures remain quite straightforward and rudimentary. In fact, it seems as if the current success of e-commerce is leading to simplistic, single-level, lowest-common-denominator forms of site structuring. However, I did find one interesting application of a similar style of hypertextual structuring at the Fabric8 site (www.fabric8.com).

CONCLUSION
This poster presentation includes both electronic and paper displays of research-in-progress on alternative forms of hypertextual structuring that go beyond hierarchical and associative linking structures to include multiple systems of navigation co-existing within the same content set. M.A.S.S. will be demonstrated within a variety of contexts, scholarly, professional, and educational. We will also look at how e-commerce sites could also employ M.A.S.S.