# Second Commentary on "XML and the New Design Regime"

Mir Haynes
Technical Communicator and Information Architect
mir.haynes@mindspring.com

## Abstract

*Focusing on the necessity that a communicative channel must respect the information needs and limitations of a human audience, the author asserts that those limitations prevent any channel, including XML, from achieving ultimate communication goals.*

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In his article for the *Journal of Computer Documentation*, Gilbert Wilkes asserts that the "structured Web," as a communicative channel, must (1) be kept open and usable, (2) be maintained and upgraded with respect to its performance, (3) respect the value and proper usage of bandwidth, and (4) respect the information needs and limitations of a human audience.

It is this last observation, having to do with the interaction between human and computer, that is most interesting. Wilkes writes:

> The tension appears to be between the categories of attention management—what people are supposed to do on the Web, how they supposed to use it—and optimizing the channel-as-material medium. Thankfully, most of the contributors [to this study] are quite confident that the networks are rich enough to support a number of user models, and this is where the discussion broke off, with each side promising to "go forth and do likewise."

And so ends his research, with contributors to the study deciding almost unanimously to put their faith in networks they believe to be "rich enough to support a number of user models." Wilkes doesn't comment on this theme of technological optimism, either to concur or differ. Also, he does not make any recommendations about why the problem of "attention management" is difficult to resolve and what, if any, further research is warranted. Most importantly, does he believe, after conducting his study, that the unknown "human factor" may become easier to accommodate as technology improves—or is it, ultimately, unknowable?

By looking at the literature and research, and at the kinds of projects that are being backed by companies with a strong Internet presence, it is indisputable that today's Web is becoming more dynamic, more standardized, and more usable. Even mid-sized companies are beginning to realize the cost benefits of database-driven Web sites, dynamic integration with back-office processes, and customized content management systems. Organizations like The Web Standards Project (www.webstandards.org) and World Wide Web Consortium (www.w3.org) are

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promoting the ongoing development of standards and the subsequent adoption of those standards among both Web designers and Web-software developers. And, due in part to Web standards, but also to the efforts of the Web development community to embrace controlled vocabularies, usability guidelines, and accessibility best practices, the Web is becoming more usable. Of course, usability is a shared endeavor, and as typical users become more experienced in using the Internet, they learn—and leverage—Web conventions (e.g., most users now associate a logo in the upper left-hand corner of a Web page with a link to the homepage).

Despite these positive reports, a study conducted by User Interface Engineering found that people can't find what they're looking for on the Web approximately 60% of the time (quoted. in Ricadela, 2002). So, despite technological advances (and, importantly, corporate buy-in of these advances) and even some improvement with respect to human usage, we still have the problem of "attention managing," defined by Wilkes as "the notion of the user or reader's attention as a scarce resource."

Usability and the attention span of users are closely intertwined. Admittedly, the number of factors that may contribute to a lack of attention on the part of a user are probably infinite, since each of us is unique and has individual preferences, personalities, and interests. Certainly, though, research on how users interact with the Web has clearly indicated that barriers to usability are correlated to user frustration, impatience, and even hostility. Or, as Wilkes would characterize it, these barriers to usability constitute abuse of the channel.

Among the most infamous barriers to usability are poor navigation, slow response times, and confusing content; in fact, Boston Consulting reports that 45% of online users abandon Web sites for these reasons alone (quoted. in Gilmore, 2001). Corroborating that finding, another study shows that e-commerce sites lose almost half of their potential sales because customers cannot use the site. In other words, with better usability, the average site could increase its current sales by 79% (calculated as the 44% of potential sales relative to the 56% of cases in which users currently succeed) (Nielsen). Clearly, the price of poor usability is high—both with respect to user experience and return on investment (ROI).

Perhaps technological optimists will argue that, in time, technologies will become "smart enough" to serve up relevant content in a manner that most accommodates users. However, even if technologies converged to present information or data perfectly—that is, presented within the right context (e.g., a stepwise sequence), accompanied by related materials (e.g., important warning statements), and adapted for the identified audience (e.g., disabled persons)—the fact remains that human beings will always be on the receiving end of that information or data.

People interpret information through a personalized, experiential framework in such a way that meaning becomes co-created; the sender encodes and the receiver deciphers meaning. Similarly, people use—or fail to use—technologies, often creating inefficient patterns of use out of habit or ignorance. And people, as Wilkes points out (though he stops short of expanding upon the idea), are very often subject to their own limited attention spans in how information is received.

And, interestingly, the very methodology of this study—an analysis of the discourse conducted among individuals in an online newsgroup—is itself limited by the nature of information-transfer among people. In his discussion of "signal" versus "noise," Wilkes points out that various communication channels must specify whether information is deemed essential or considered to be mere nonsense. It's not entirely clear, from his article, what criteria Wilkes used to separate meaning from non-meaning in this study. Yet, the ambitious, unique premise of his study is to be admired. Basing a study on the analysis of relatively unstructured dialog, and on the uncovered patterns of agreement and dissension therein, is a fascinating proposition, especially given the half-speech/half-text nature of online newsgroups. This form of communication may constitute a "blended" genre of communication. Wilkes writes: "Socrates in *The Phaedrus* privileges speech over writing in civic discourse…Socrates posits dialog between two equal partners as the paradigmatic instance of good or effective communication; because the reader often confronts a writer who is absent, and because texts may multiply or be taken out of context or fall into the wrong hands, Socrates excludes the written word as noise." Certainly, discourse occurring naturally and conversationally but still committed to print

inherits the advantages and disadvantages of both speech and writing.

Wilkes has accomplished a great deal with this study, raising interesting questions and posing topics for further research. More discussion as to the tension between technological optimism and actual human usage of machines, and the consequences of the communication breakdown between humans and computers, is needed. In addition, more discussion as to whether online dialog constitutes speech or writing, or something altogether different, is needed.

## References

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