

## Facets are fundamental: Rethinking information architecture frameworks

Core IA-related issues addressed:	Organization systems and classification; facets; frameworks
Target audience:	intermediate-advanced
Theme, format, content:	Talk with illustrations and exercises, followed by Q&A/discussion
Take-aways:	A unified framework for IA practice. New ways to approach the challenge of developing user-centered organization and navigation systems.
Previously presented:	This framework has been developed for INLS 110-117, an introductory IA course at the School of Information and Library Science, UNC-Chapel Hill.

Basic IA frameworks, set forth in leading texts, and widely used in practice, have three serious flaws:

- They minimize or discount non-topical characteristics of information.
- They treat facets as supplemental, rather than fundamental.
- They conflate organization and representation.

It's time to develop frameworks that put IA practice on a sounder footing, and help us to identify challenges that can push the field forward. In this presentation, I will explain the problems with existing frameworks (Brinck, Gergle, & Wood, 2002; Duyne, Landay, & Hong, 2003; Rosenfeld & Morville, 2002) and outline an alternative framework based on faceted classification. I will ground this framework in information science theory, illustrate its application to typical IA problems, and outline the possibilities it offers for IA practice and research.

**Problem 1: "They minimize or ignore non-topical methods of organizing and presenting information."** Despite many efforts to integrate information architecture with user-centered design, the existing frameworks are largely based on the characteristics of Web sites—not people's information needs and behavior. These frameworks are better suited to answer "Where does this Web page fit?" than "What information does the user need, and how will she look for it?"

For example, Rosenfeld and Morville (2002) write that "The foundation of almost all good information architectures is a well-designed hierarchy or *taxonomy*" (p. 65). Similarly, Brinck et al call for IA's to "create and evaluate your core structure" (p. 130). These well-meaning approaches have an important unintended consequence—they place the focus of IA on developing a topical hierarchy. But topic or "aboutness" shouldn't be the only focus of IA, because users look for more than topic when they evaluate information. An extensive body of research has investigated the criteria users rely on to assess whether a document or Web page will be relevant and pertinent to their needs (Borlund, 2003; Crystal & Greenberg, in press; Mizzaro, 1997; Tombros, Ruthven, & Jose,

2005). The key insight of this work is that users identify *many* aspects of documents as important—not just what the document is about, but also its structure, level of difficulty or technicality, practical implications, approach or methods discussed, and so forth. IA frameworks and practices should incorporate these wider conceptions of relevance, and faceted classification provides a way to do so.

*Problem 2: “They treat facets as supplemental, rather than fundamental.”* As Bates (2002) argues, faceted classification should be the foundation of Web-based information retrieval systems. Facets can be incorporated directly into information retrieval interfaces, and user studies have shown this approach be effective (Yee, Swearingen, Li, & Hearst, 2003). As evidenced by the numerous presentations on facet-based approaches at the 2005 IA Summit, facets are quickly becoming part of mainstream IA practice.

However, Bates, as well as Rosenfeld and Morville, set up an unnecessary and confusing dichotomy between hierarchical and faceted classification. As described by Yee et al (2003) and Kwasnik (1999), a hierarchical structure can be applied to a particular facet. Using this framework, facets can be seen as fundamental to IA, not supplemental. Rather than thinking of facets as a way to *improve* IA, we should think of facets as the *foundation* of IA. Making facets fundamental also requires clearer definitions of basic terms: what facets are, how they are chosen and defined, and how they are used.

*Problem 3: “They conflate organization and representation.”* Rosenfeld and Morville, and Brinck et al both distinguish between organization and navigation systems. These distinctions simply aren’t clear. In some examples, a particular set of links is called “navigation” while another set is called “organization.”

A better distinction is between the organization system created by the IA to “make order” (Levy, 1995) within the information space, and the *representations* that build on the organization system to make specific information objects accessible to users. A framework based on this distinction also provides an elegant way to model “hybrid” organization approaches. Rosenfeld and Morville caution against hybrid approaches, but go on to say: “the exception to these cautions against hybrid schemes exists within the surface layer of navigation... many web sites successfully combine topics and tasks within their global navigation.” In an integrated framework, these “surface layers” are not part of the organization system—they are representations of different components, combined in a way that supports users.

*Contribution.* In this presentation, I will address these three problems in a provisional framework based on faceted classification and the organization/representation distinction. I will explain how the framework can be applied to common IA challenges, just as existing frameworks are, while providing opportunities for more flexible design.

*Summary.* As IA practice matures and becomes widespread, it is important to periodically reflect on the frameworks that serve as the tacit basis of the field. The frameworks in widespread use today have helped IA’s develop the field by providing a common basis for collaboration, conversation, and research.

By developing more robust frameworks, we can further advance the field. I hope this presentation can serve as a first step in that work.

### *References*

- Bates, M. (2002). After the Dot-Bomb: Getting Web Information Retrieval Right This Time. *First Monday*, 7(7).
- Borlund, P. (2003). The concept of relevance in IR. *Journal of the American Society for Information Science and Technology*, 54(10), 913 - 925.
- Brinck, T., Gergle, D., & Wood, S. D. (2002). *Usability for the Web: Designing Web sites that work*. San Francisco: Morgan Kaufman.
- Crystal, A., & Greenberg, J. (in press). Relevance criteria identified by health information users during Web searches. *Journal of the American Society for Information Science and Technology*.
- Duyne, D. K. V., Landay, J. A., & Hong, J. I. (2003). *The Design of Sites: Patterns, Principles, and Processes for Crafting a Customer-Centered Web Experience*. Boston: Pearson.
- Kwasnik, B. (1999). The role of classification in knowledge representation and discovery. *Library Trends*, 48(1), 22 - 47.
- Levy, D. M. (1995). Cataloging in the digital order. In *Proceedings of the Second Annual Conference on the Theory and Practice of Digital Libraries*. Austin, TX: ACM Press.
- Mizzaro, S. (1997). Relevance: the whole history. *Journal of the American Society for Information Science*, 48(9), 810 - 832.
- Rosenfeld, L., & Morville, P. (2002). *Information architecture for the World Wide Web* (2nd ed.). Sebastopol, CA: O'Reilly.
- Tombros, A., Ruthven, I., & Jose, J. M. (2005). How users assess web pages for information seeking. *Journal of the American Society for Information Science and Technology*, 56(4), 327 - 344.
- Yee, P., Swearingen, K., Li, K., & Hearst, M. (2003). Faceted Metadata for Image Search and Browsing. In *Proceedings of the 2003 conference on Human factors in computing systems (CHI'03)*. Fort Lauderdale, FL: ACM Press.