Transforming Our Conversation of Information Architecture with Structure

by Nathaniel Davis

EDITOR'S SUMMARY

Since the origin of the concept, information architecture has been viewed as an art and a science, rooted in library science but borrowing from multiple disciplines. Though there are recognized elements, some say it lacks a foundation of consistent internal theory. The central concept of information architecture is structure. Though invisible and often taken for granted, effective structure is the quality that makes websites functional. It rests on navigation, information organization and information relationships and can extend to user experience and spatial representation. Information architecture reflects elements from a number of disciplines but, by aggregating them, is greater than the parts. Advancing information architecture from art to science depends on shared strategies and solutions for website structure.

KEYWORDS

information architecture
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Information architecture has been characterized as both an art and a science. Because there’s more evidence of the former than the latter, the academic and research community is justified in hesitating to give the practice of information architecture more attention.

If you probe the history of information architecture for the web, its foundation appears to be rooted in library science. But you’ll also find a pattern of borrowing methods and models from many other disciplines like architecture and urban planning, linguistics and ethnography, cognition and psychology, to name a few. This history leads many to wonder if the practice of information architecture is anything other than an art of induction for solving problems of architecture and design for the web.

Haverty [1] and Dillon and Turnbull [2] were early proponents of this idea. In particular, Haverty observes how the field’s lack of internal theory requires practitioners to create by way of constructive induction. She summarizes constructive induction as

“…a process for generating a design solution using two intertwined searches. The first search involves identifying the most adequate representational framework for the problem; the second search involves locating the best design solution within the framework and translating it to the problem at hand.”

For instance, in the absence of an internal IA theory, information architecture practitioners often refer to the study of wayfinding as a compatible representational framework for physical places. By equating digital information environments to spatial constructs, practitioners often translate solutions from the practice of wayfinding to improve how users navigate complex websites.
In 2002, despite the speculation on information architecture’s intellectual foundations, Peter Morville and Lou Rosenfeld seeded the field with the notion that navigation, labeling, content organization and search are the field’s central concerns [3]. This view of information architecture is arguably the most widely recognized one that equally frames the scope of the field’s problem space and serves as the basis of most training on the subject. While these concerns are indisparably relevant to the practice, there are more, which makes the framing of IA practice difficult for practitioners and a challenge for academics who want to perform research and plan more adequate courseware.

Certainly, there is one concept that has persisted under the radar for many years with limited exploration. It is littered throughout countless articles, books and papers and is present in the most cited IA practice definitions. It may be the single concept that truly bridges practitioner and academic interests around a central and worthwhile topic. That concept is structure.

**Structure: An Idea We Should Be Talking About**

While information architecture may be an intriguing phrase, I’ve come to realize that it’s just not exciting to most people. For me, that’s pretty hard to admit. Even in the prime of its popularity (roughly between 1998-2002), the term never had the appeal of terms like mobile, social or user experience. There is a reason. These other concepts are more tangible to grasp and quantify or more easily packaged and sold. Information architecture is not an equally self-explicit term and in all practicality falls much lower in our conscious interaction with computing systems.

Take, for instance, the device you are using to consume this article. What do you see? What do you touch? There are more components inside your device than those you interact with on the surface – for a reason. If you had to complete every circuit and process for every logical function yourself, in order to fulfill the desired task, your device would be impossible to use. In context, while mostly hidden from their users, these electronic components, like the display panel, central processing unit and hard drive, provide the structure that supports the general interactive experience of your device. While these components are part of the whole that contributes to making your device appealing, their primary function is to make what is appealing possible. The same is true for information architecture. While there are aspects of information architecture with which users engage, it’s mostly operating under the “hood” of our information interactions, providing the structure that enables a much broader communicative experience in a web environment (Figure 1).

**Figure 1. Structure makes use possible.**

In use, since site structure is not typically a physically tangible expression like visual and interaction design or some consumable content, it’s easy to take the structure afforded by information architecture for granted – and trust me, it is. However, I’ve come to accept this fact.

I’ve become comfortable with knowing information architecture is important even if it is not the marketing darling or business buzzword of the day. In fact, without the practice of information architecture – albeit one
performed by experts and non-experts – and the type of structure that it enables, the World Wide Web as we know it would not be possible.

**Without Structure, Where Would We Be?**

As we all know, the web was founded on the hypertext transfer protocol, invented by Tim Berners-Lee. At the time of its inception, the Internet was a network for archiving documents and computational resources for the academic and science communities. Hypertext and HTML leveraged the broad reach of the Internet and catalyzed distributed knowledge and research by enabling interconnected “webs” of documents. Through the hypertext node and its inherent link within HTML documents, Berners-Lee created the most basic, but by no means least important, form of structure that is essential to any web environment.

We’ve come a long way from simply connecting disparate web pages as part of creating website structure. In the classic sense of information architecture that I practice and independently research, website structure is the whole that consists of the physical and abstract constructs for

- **navigation** – the methods for enabling wayfinding in an information space;
- **information organization** – the expert and non-expert classification of content and objects of all types;
- **information relationship** – the association of content with lower levels of information, concepts, meaning and behaviors [4].

In a more expansive viewpoint held by contemporary practitioners, the field of information architecture is also interested in applying structure that integrates the edges of digital and physical spaces and places as part of a ubiquitous ecology [5] as well as the structure of user experiences [6].

Regardless, even contemporary practitioners must be grounded in the concepts of web structure or their grander efforts of site visioning and pervasive architecture will not hold.

While the interests of IA practice can be wide and possess a disparate set of vocabularies, the concept of website structure rests at its center.

**Parity Between Academics and Practitioners**

Academics have argued that there is no published IA theory or discipline upon which to explore beyond a web-centered process of inductive reasoning, and they are right. At times, one’s practice of information architecture may be informed by a collection of existing disciplines, but only to create a whole that is greater than the sum of its disciplinary parts. That whole is website structure. While, at the moment, IA practice may be known mostly as an art, its potential science and future internal theory lie in how we understand, strategize and find solutions for site structure.

I hope this discussion promotes common interests in research and greater collaboration between practitioners and their academic counterparts in the future.

To follow my research on this and other topics related to information architecture, visit the DSIA Portal of Information Architecture.

**Resources Mentioned in the Article**


