

An Information Architecture Approach to Building a Much Better Digital Library

by Stacy Merrill Surla

Stacy Surla is the *Bulletin's* associate editor for IA. She serves on the IA Institute Board of Directors and is a past chair of the IA Summit. She can be reached at stacy@greenfx.net.

In H. G. Well's *The Island of Dr. Moreau*, the sinister doctor grows bizarre creatures of flesh and bone to further his vast and evil ambitions. In Isaac Asimov's world of the near future, robots manufactured from metals and polymers are governed by rational principles and serve their human masters for more domestic reasons. In our own age we have the means to construct entities as outlandish as Moreau's and as helpful as Asimov's, made up of hardware, software and the engaged human mind. These new organisms are not motivated by an external spark or by a set of self-contained algorithms. They are animated by the direct involvement of a person or community and by human knowledge stored, accessed and shared. We are the ghost in the web machine.

IA and UCD

A website's information architecture (IA) is the framework, the skeleton upon which the whole organism of the site stands up. IA gives a site its articulation and therefore its potential to grow into whatever sort of thing it will be. A good IA can be simple and elegant, or complex and engaging. A bad or accidental IA could resemble something that lumbered out of a mad scientist's vat. Digital libraries are often grown over time out of perfectly good but originally unrelated pieces and are particularly at risk of becoming Moreauvian nightmares. To avoid such mistakes you need a good plan and a well-considered approach. IA methodology will give you the blueprints for building a much better digital library.

Since the human mind animates the website, the user must be at the center of the web design process. And since design products have to move back and forth during their creation among a number of people – design team members, stakeholders, end users and developers – the web design process should be iterative. User-centered design (UCD) brings representatives from all concerned parties into the process, and iteration allows design to be refined from broad to finely detailed. These methods also help the team figure out which tasks are important to a particular project, get buy-in where needed, creatively manage the tricky parts that come up and roll out a successful web application or site.

Information architecture work products (the designs or blueprints for the website) cover such key elements as the following:

- Navigation, labels and information organization
- Interactions between user and different parts of the website
- Relationships between the site and other objects in its environment (search engines, other sites that can contribute or use digital library information, enterprise-wide navigation and more)

IA uses user-centered design practices in conjunction with other methods to arrive at these blueprints. >

Case Studies in Library Web Usability

An upcoming LITA guide (www.lita.org) showcases projects that apply user-centered design techniques to improve public and special library websites. Edited by Tom Lehman and Terry Nikkel, *Making Library Websites Usable*, will offer methodologies and case studies to put powerful tools into the right hands.

I contributed a case study describing a website redesign for a corporate knowledge services department. As I organized my thoughts for that article I saw that most problems were not unique to digital libraries or knowledge services organizations. Also, the UCD and IA practices we followed can be applied to any complex information space. However, two issues emerged that do pertain specifically to digital libraries. They are designing good interfaces for lists and crafting the user experience when target objects lie outside the digital library.

The Right Information, Well-Arranged

Digital library listings follow various models. Some look like Google results pages. Some replicate card catalogs. Others are bulleted lists or tables. In each case the person designing the list interface has to select which attributes to display for each information object.

This decision should not be primarily technological ("all these fields are available in the database, so let's show them") nor even a cultural one ("we're used to seeing bulleted lists, so we'll do it that way"). Rather, the design should revolve around the user's situation and tasks. The key to designing a useful digital library listing lies in understanding which combination of attributes will help your audience find the resources they're looking for. UCD techniques are effective means to gaining this understanding. The IA challenge is then to arrange an optimal layout and navigation of digital library listings so users can find the resources they need.

When the Goal Lies Outside the Digital Library

Imagine you're browsing the magazine racks at your favorite local bookstore. You reach out to pick up an issue of *Sunset* magazine. You don't expect to find yourself suddenly transported to the publisher's offices in Menlo Park, California. You count on staying right there in the bookstore – otherwise you'd find yourself stumped if what you really needed was a copy of *Wired*.

When browsing in a digital library, the work you ultimately wish to reach might reside anywhere. It may be inside the current collection or somewhere else on the corporate intranet, or it could be behind the login page of a service to which your digital library subscribes. The link you see in the listing might be a link to the thing itself or it might be a jump-off page for yet another digital library with its own navigation scheme and listing style. What lies beyond your home digital library page is an unpredictable and generally frustrating treasure hunt.

How do we design the user experience to include smooth transitions between the digital library home page, a filtered list of results and the new interface that may arise when clicking through? Should we – or can we – bring target objects into the sphere of our own digital library? Can we subsume subscription login under the corporate or library login? Or must users be on their own once they reach for certain sorts of information objects? And if they must, how do we ease the path for them? >

These questions arise out of a user-centered design approach and move us some distance towards a workable solution. But until service-oriented architectures are widely in place, workarounds need to start with a square look at the problem. Each design team must proceed to make considered decisions on how best to smooth the way for their users.

Conclusion

Websites are becoming more responsive to the impulses of individuals and communities. The best-behaved sites react to users' actions in natural ways. They anticipate needs in a non-intrusive manner, play nicely with other web and non-web tools, let users do interactive things like add and tag content and work collaboratively in groups, and don't force users into awkward positions in order to work with the site. People are coming to expect websites to be shaped to fit *them*, and digital libraries need to live up to this promise.

Fortunately, with information architecture methodologies, a user-centered design approach and sensible project management, you have the tools to build fully articulated frameworks for all kinds of web creations. All that remains to animate your site is the spark of your inspiration – and the eager participation of your delighted users.