Have you ever asked, “What do people do when they develop a site architecture — especially if there is little time and no money?” If so, this article’s for you.

Background

I teach information architecture/user experience classes to adults in the Washington, D.C. area. Typically, the class consists of current or beginning practitioners who want to further explore the field. It also includes people who have a passion for information structure and helping others, workers who are changing direction in their jobs, and, often, people who have never heard of the terms but think it all sounds somewhat fascinating.

Class participants often work on projects so we can experience some of the real-world challenges faced by people in the field. Several years ago, the class reshaped www.plainlanguage.gov to give it usable structure. I was proud of our work and described it in a 2006 Bulletin article [1]. Our finished product supported federal writers who were looking for resources on writing more clearly. But the site, highlighting definitions and benefits, was also positioned as an argument that government writing could be clear and understandable.

Then times changed. In a 2011 Bulletin column, I identified the changes that had affected the global architecture. (Figure 1 illustrates these changes. Notice how the front page “map to site content” was removed from the 1996 build-out.) But what captured my attention more than anything else was how the rhetorical needs of the site had changed [2].

Thanks to new legislation, the site had a new purpose — it now serves as the “go-to location” for federal guidance on writing to support citizens and information on how agencies can comply with federal legislation. In fact, guidelines are the key to the new site structure.
So once again, I volunteered my students and a bevy of local content professionals. Together we gathered data on the site’s mission and goals from the perspective of both stakeholders and typical site users; we learned about different audiences and their priorities on the site; we clustered content, identified labels and compared our labels to those of other researchers; we developed and tested prototypes, incorporating what we learned; and we aligned the current structure with a larger taxonomy that will support continued development of the site. (See the accompanying sidebar on page 15, “Exploring the Taxonomy Underlying www.plainlanguage.gov by John Heffernan.)

To explain our work, I use a five-phase framework. The phases themselves have a waterfall-like structure in that each could end with products for client sign-off. We operated in a more fluid, almost agile manner – trying to incorporate client input as often as we could and presenting only one official “deliverable” during the 10 weeks of class.

The framework can be divided into five sections: Gathering, Evaluating, Chunking, Knowing/Testing and Optimizing.

**Phase I. Gathering**

Our project differed from a work project in that we had two groups working independently at first. (We were also 100% volunteer.) The project included students (who were learning about the field and not immediately ready to plunge into a project) and volunteers on a content strategy work team. It was the second set of folks who primarily dove into early discovery and analysis. Table 1 identifies six steps we followed during the gathering phase.

**TABLE 1. Gathering**

| 1.1 Assess what wasn’t working with the site | We watched videotapes of humans trying to navigate the current plain language site during testing that the General Services Administration (GSA) conducted in February. It was easy to tell that test participants were unable to accomplish tasks.
| We also explored the structure of the current site and discussed the structural challenges we faced while we tried to move through the site. |
| 1.2 Gather data from subject matter experts and stakeholders and learn about their priorities | We met with subject matter experts and stakeholders and learned more about their needs. We learned they wanted to attend to the change in user perspective and concentrate on the following:
| The Plain Writing Act of 2010 |
| Office of Management and Budget (OMB) guidance |
| Federal Plain Language Guidelines |
| • Make them key to the new site structure |
| • Present related material to supplement the guidelines |
| • Rationalize the guidelines and the material to support them |
| • Historically high-use content, such as examples |
| 1.3 Envision types of audiences and what they wanted from the site | We developed personas to capture the perspectives of different humans who would visit the site. We based our personas on a rhetorical framework, asking, “How would you characterize this audience member?” “What do they want to do on the site?” “What is the context/narrative that drives them to the site?” |

Continued on following page
TABLE 1. Gathering, continued

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4</td>
<td>Map out current site taxonomy and content relationships. We needed a visual way to depict current relationships, so we mapped out the current taxonomy in a mind-map format and looked at page content in a content matrix.</td>
</tr>
<tr>
<td>1.5</td>
<td>Develop task list. We combined interview data and persona data to develop a task list for testing.</td>
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<tr>
<td>1.6</td>
<td>Conduct tests to identify task priorities. We asked respondents to envision a persona most like themselves, ranking personas on a scale of zero to four: 4=most important, 3=important, 2=less important, 1=not-so-important 0=couldn’t care less. We then asked respondents to change one of their top tasks (3) into a most important top task (4).</td>
</tr>
<tr>
<td>1.7</td>
<td>Incorporate findings into a planning document. We assembled the first draft of a planning document to communicate the big vision of where we wanted to head. Our goal was to use the planning document as a living tool to which we could refer to help make decisions later in the project.</td>
</tr>
</tbody>
</table>

**Phase 2. Evaluating**

During the second phase of our architecture project we looked at the data we had gathered and began to evaluate it, asking, “What data is important to whom?”

As we began to collect data, we viewed it “through the eyes” of actual users by interviewing members of distinct user groups. We developed brief personas to give us a visual understanding of different audiences.

Three questions served as the foundation for evaluation at this stage:

- Who are the audiences?
- What do they want to do with the information?
- What is the context in which they will use information?

By concentrating on these seemingly simple questions, we are able to identify content that deserves priority status – those elements in the site that might be made visually important on a fully articulated website. We can identify content that matters most to people and contrast it to the content that means little to people. Prioritizing helps us as we move to the next phase of the project – clustering content in groupings and relationships to support different audiences.

These steps are identified in Table 2.

**TABLE 2. Evaluating**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Gather information from “real world” humans to compare with our personified rankings. We asked respondents to prioritize their top tasks (ranked 3 and 4) and identify what content they would want or need to complete the tasks. We summarized the collected data into personified clusters listed in the accompanying sidebar on the following page.</td>
</tr>
<tr>
<td>2.2</td>
<td>Explore current content from the perspective of user tasks. We wondered whether people had the content they need to get the job done and if we would need to rewrite content for migration to a new site to support user needs.</td>
</tr>
<tr>
<td>2.3</td>
<td>Explore the site taxonomy. We asked, “How is information grouped now?” and “What choices do we need to make to support better search results?”</td>
</tr>
<tr>
<td>2.4</td>
<td>Identify top tasks. We used data from personified rankings and actual users who fit profiles to name the top 20 tasks. We reviewed tasks by overall ranking and importance ranking for different personas and assembled lists of content that people expected to find, based on those 20 tasks. (The top 10 tasks are listed in the sidebar “Summary: Highest-Ranking User Tasks.”) We used data as the content for cards in a card sort to group related data.</td>
</tr>
</tbody>
</table>

**Summary: Highest-Ranking User Tasks**

- Find self-guided plain language training materials
- Download checklists that support plain language writing styles
- Learn what documents are considered “covered” in the Plain Writing Act
- Find best practices in plain writing
- Find out what “continuing compliance” with the Plain Writing Act means
- Get information on plain language/clear writing news and events
- Download checklists that support plain language writing styles in print documents
- Download plain language style guides
- Download the full text of the Plain Language Act
- Join an online social network/forum to communicate with other plain language liaisons
Phase 3. Chunking

To build web structure (or to structure any document) we need to decide how discrete elements relate to each other and how they might be ordered so audiences experience them in a certain way.

In the third phase of the plain language project, our groupings and conversations (and those of our colleagues working through the GSA) served as the basis for initial renderings – rough prototypes showing how we might arrange the content in the web environment. Our intent was to develop low-fidelity prototypes that articulate structure and serve as the basis for moving forward. I helped organizations bring content together for testing. (Table 3).

Phase 4. Knowing (Testing)

Knowing how users think is essential in developing web structure. We have often seen how, with little cost, we can quickly get feedback on usable information structures.

During the fourth phase of our architecture project, we continued to fill in the blanks by testing possible structures and revising mock-ups accordingly. We also related our choices back to the research (Table 4).

Phase 5. Optimizing

By the end of the 10-week class, we had identified two designers to support the plain language development team in creating the new site. We also wanted
4.1 Develop and test paper prototypes with a real user (“plain language advocate”) We conducted think-aloud protocols to learn more about what people expect to find on pages. Our test participant encouraged us to make the mock-ups “more conversational” to mirror best practices on web writing.

4.2 Revise prototypes based on tester input We combined parts of different class prototypes into one revised prototype that integrated our structural/textual changes. We reshaped the current site structure in our page-level prototypes. We removed sections of the former site (such as popular topics) that users seldom visited (and – according to interviews – often did not see). And we discussed how the visual design could reflect these architectural findings.

4.3 Relate prototype to research on clear web structure We related structural choices to best practices identified on www.usability.gov. We continued to revise the prototype to integrate design changes.

to ensure that the content recommendations – placement of text, links and relationships – reflected the guidance we had received throughout the project.

So as the final phase in our work, our content strategy team worked to optimize the site to ensure it supported the measures of success identified at the beginning of the project. We also worked with other volunteers to ensure that page-level text provides people with the content they need to get their jobs done. Our optimizing tasks are identified in Table 5.

Next Steps
So how did we do? Figure 2 shows an architectural mockup of the home page. Class has ended, but several volunteers are working with the Plain Language Action and Information Network to migrate content (both old and new) into the new architectural framework. We plan to continue to study the site in another IA/UX class – next time tackling the challenges (and taxonomy) of examples and better relating those examples to writing guidelines.

### TABLE 4. Knowing/Testing

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### TABLE 5. Optimizing

| 5.1 Refer to stakeholder goals captured in planning document |

We updated our planning document to include the research we had gathered during the project. We see this as a living document that can support the client and other developers as they continue to improve the plain language site.

| 5.2 Fill text clusters on landing pages with content that supports user tasks |

We were tasked with developing a static site, so we were able to look at each link on a landing level page and ask, “What page does this content link to?”

| 5.3 Explore whether content is available for pages and begin the content creation process |

We used email discussion groups and Twitter as vehicles to find more volunteers to reshape content pages. We envisioned our personified users at each page and developed content to support them.

| 5.4 Ensure related links on pages lead to what people want to do on the website |

Each content page includes related links. We asked, “What additional content would our users want to link to from this page?” We used our personas and our research for guidance.

| 5.5 Examine links, labels and headings to support better searching (search engine optimization) |

We discussed the text for page headings and links with our team taxonomist. He helped guide our thinking toward labels that potential visitors would most likely search for.

| 5.6 Test optimized wireframes |

We developed paper prototypes for each content page, incorporating actual text when possible. We plan to test these structures and compare our results to the initial testing that took place in February 2011.
Exploring the Taxonomy Underlying www.plainlangage.gov

by John Heffernan

As part of the plain language project we paid special attention to the taxonomy underlying the site structure. In general, site taxonomy begins with discovering the most important, broad categories of information discussed on the site. As we began to identify topics of discourse, we began to see a preferred vocabulary emerge to form conceptual chunks, or facets, of site knowledge. For the plain language site, we identified four facets: resources, law implementation, training and writing guidelines/examples.

Within each facet, we envisioned how the vocabulary could be organized into logical hierarchies, reflecting the organic patterns of thinking of the community of site users. Strictly speaking, each hierarchical facet is itself a taxonomy. (By definition, a taxonomy is a hierarchical organization of categories.)

We also applied principles of vocabulary control so each term expresses a clear, ambiguous meaning, while reflecting the natural intermixing of ideas. Some of the most important vocabulary principles include the following:

a) Uniqueness (terms should appear once)
b) Terseness (three words is getting verbose)
c) Polyhierarchy (ideas can belong to different ways of thinking or be expressed in different context. For example, tuberculosis can be a disease of both the lung and of the bone, so lung diseases and bone diseases can properly reference tuberculosis).

Establishing a taxonomy is one thing; embedding it into site architecture is another. We discovered that the plain language site has a two-level taxonomy structure, each relating differently to site content and use. One taxonomy applies to navigational labels and to page content organization and language. The other taxonomy provides terse metadata for leveraging the structure of the clear writing guidelines in order to access the example content. A multi-layered taxonomy, or even use of multiple taxonomies in a single site, is not uncommon, given the need, as in this case, to provide a taxonomy for things and another taxonomy for properties and affects.

The navigational labels and relationships enable users to access the requirements of the federal guidelines document and help them know legal standards for complying with these requirements. They support people in learning more about plain language and finding training and resources related to clear writing. These labels also can support advocates of plain language and can help people to learn more about benefits and uses.

On the other hand, the writing examples metadata proved to be more challenging. The current site has a unique taxonomy where people can find examples via groupings such as by agency. But the users strongly voiced their need to find examples based on new federal guidelines for clear writing. We realized this difference was one we needed to address – but also saw that it could serve as a stand-alone project. We intend to explore this challenge in a later class.

For the current site, we focused on uniqueness of terms and on the framework language for page content. We realized people were having challenges with similar words such as guidance and guidelines so we developed labels that supported these nouns (such as writing guidelines). We approached the terseness of labels as part of our optimizing process – we asked how we could focus the label on what people want to do and how they might search for a term. We incorporated polyhierarchical thinking by using checklists and other routes back to content-rich pages.

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Resources Mentioned in the Article
