Brad Bice

Professor Wiese

Communications 498

Thursday, July 30, 2009

Communicating with Web Standards

Can a business card communicate? When is the last time you had a conversation or shared a laugh with an online banking website? The social web has allowed us to interact with each other in new ways, but so much of our browsing experience is robotic, impersonal, and just plain dull. The web should be about communication, the fervent exchange of information in a highly efficient and organized manner. Many writers and designers do well at communicating through their blogs, articles and website designs. They have perfected the means for reaching out to their audience, pulling them in and captivating them; even when their topic can be as bland as creating content for the web. Yuck, how boring!

Today I will be talking about web standards and communication. Web standards are methods, concepts and technologies that have been carefully designed by members of the World Wide Web Consortium (W3C, http://www.w3.org/) to deliver the content of the web to the greatest number of users while also ensuring its sustainability. The W3C calls these standards their Recommendations, and since 1994 they have developed and currently maintain 110 distinct specifications for technologies like HTML (HyperText Markup Language, http://www.w3.org/html/) and CSS (Cascading StyleSheets, http://www.w3.org/Style/CSS/), guidelines for web accessibility, and more. In this article I want to explain how web standards can be used to enhance the communication process using web standards technologies and methods, and further explain how communication and those standards are virtually synonymous.

To do this, let's examine some tentative axioms of communication –"axiom" being a fancy word for a central principle or a fundamental property—as proposed by Paul Watzlawick in chapter 2 of the 1967 book "Pragmatics of Human Communication: A Study of Interactional Pattern, Pathologies and Paradoxes."(http://www.amazon.com/Pragmatics-human-communication-interactional-pathologies/dp/B0006BQ8F4/ref=sr_1_1?ie=UTF8&s=books&qid=1240465937&sr=8-1) With a title like that, how can you resist diving right in? For each of the axioms, we will discuss how they apply to the web through the use or discussion of web standards methods and technologies.

One cannot *not* communicate

The first axiom of communication that we will examine may be the most broad, right out of the gate! Watzlawick explains that "accepting all behavior as communication –messages being sent, interactions taking place, a sender/coder and a receiver/interpreter—means that we are constantly bombarded by a compound of behavioral modes, all of which qualify the meaning of all the others" (50). Applying the use of web standards to this concept, I usually think of the overall structure of a page or section of a website. As a representative of your company or message, your website is communicating to its readers in ways you may not be thinking about. Important text may or may not be enclosed in heading tags (e.g. `<h1>…<h6>`), and if not, that text is not being communicated as important content by blind users, whether they be literally blind or figuratively as in the case of search engine crawlers. Aside from design decisions, not communicating a desired DOCTYPE (pertaining to the document type) or Namespace (a collection of element types that describes attributes such as what language the document is written in) *can* communicate something. If you are not declaring (i.e. communicating) your

DOCTYPE in your HTML code, you are basically telling browsers and validation services that you can write whatever you want, however you want, and it's your party and you can cry if you want to! A DOCTYPE declaration will not only describe which language you are using to craft your document, but certain browsers will also render your document differently (or not at all) depending on which DOCTYPE is used! To make sure your message is universally accessible, start with declaring a valid DOCTYPE, like so:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

This particular DOCTYPE expresses that the document was created using the language XHTML 1.0 Strict (as opposed to XHTML Transitional or Frameset.) A helpful article on choosing the correct DOCTYPE for your website can be found at A List Apart Magazine (http://www.alistapart.com/articles/doctype/).

As explained here, *not* communicating something as important as information hierarchy or document types actually *does* communicate something: that you aren't interested in using, following or promoting web standards! And perhaps more importantly, that you would rather not have the largest available audience for your content, and you don't care that it may become inaccessible in a matter of months (considering how quickly web technologies change and update.)

Communication imposes behavior

According to Watzlawick, a second axiom of communication is the union of content and relationships. We all have this content on our websites, but what is the user to do with it? A few

lines of numbers and letters may convey information, but does it necessarily impose a behavior? What are we (and perhaps just as important: machines, robots and web crawlers) supposed to do with those characters, arranged ever so neatly?

Another example of imposing behavior on content with web standards and the semantic web (an extension of the World Wide Web that makes information more accessible to humans and machines, http://www.sciam.com/article.cfm?id=the-semantic-web) is the use of microformats. Microformats are sets of design principles that allow for ways to shape and organize data within semantic (X)HTML (eXtensible HyperText Markup Language, a hybrid of HTML and eXtensible Markup Language, or XML) markup. They are not a language or a technology per se, but rather are a method of using current standards for enriching content in a semantic fashion. For example, the microformat "Vote Links" (http://microformats.org/wiki/vote-links) uses the `rev=""` attribute to give value to a link on a page. Normal links in (X)HTML use the format of:

```
<a href=http://w3.org title="I like this website!">W3C website</a>
```

This can be either an endorsement of the W3C website or an example of a place not to go, depending on the context of the page containing the link. Using the "Vote Links" microformat, more relevant information can be applied to this content to give it a relationship and impose behavior:

```
<a rev="vote-for" href=http://w3.org title="I like this website!">W3C
website</a>
```

This link has now been turned into a vote *for* the W3C website. "Vote Links" uses values of vote-for, vote-abstain, and vote-against. (For more information on the rev and rel attributes, visit

http://microformats.org/wiki/RelFAQ) When used properly and widely, this microformat could potentially change how technologies like Google's PageRank work, in that not all links on websites would be treated as an equal "vote." In communication studies, this is known as a "metacommunication," in that the imposed behavior classifies the content (Watzlawick, 54).

The Punctuation of the Sequence of Events

A series of events can be portrayed in different ways depending upon perspective. A third axiom of communication according to Watzlawick states that "the nature of a relationship is contingent upon the punctuation of the communicational sequences between the communicants" (59). In other words, how someone views and/or separates content in their minds will affect how they interpret it. The same goes for search engine crawlers. It is often documented that the higher up the vertical placement of content on a page, the more consideration is given as far as the indexing and weight of keywords contained therein. So if you want your important information to be at the top of your page, it needs to be coded into the top of the HTML, right? What comes first… comes first, correct?

With the use of web standards technologies like CSS, this doesn't necessarily have to be the case. It is always recommended that your most important content appear near the top of your HTML document. However, using CSS and the `float:`, `position:` and `display:` properties, a web designer can visually place their content virtually anywhere on a page. CSS styles are visible only in the browser and, a major reason why CSS are a web standard, they do not affect the structural markup content at all. Unless they are written inline with the (X)HTML code (which is not recommended in most situations,) linked stylesheets tell the browser how to display a web page without being obtrusive to the markup. This allows a document to be structured in a

header–body–sidebar–footer manner, yet be displayed on the page with the sidebar content shown above or before the body content. (For an example of this method, view http://positioniseverything.net/articles/onetruelayout/)

This method not only improves findability for search engines but also improves accessibility and usability for humans. For example, a blind person using a screen reader to browse the internet will not have to listen to your entire sidebar content before getting to the main story, just because you wanted the sidebar to appear first on your page! Screen readers access web pages in a strictly linear fashion, so whatever comes first is read first. Separating structure from style and presenting a different perspective for different readers is just one example of how to punctuate communication using web standards.

Analogic and Digital

Watzlawick claims that "human beings communicate both digitally and analogically" (66). This means that we communicate relationships analogically through our nonverbal behaviors like kinesics, facial expressions, voice inflection and even the context of our interactions, however Watzlawick points out that these actions lack definition for their true nature. We also communicate digitally, by creating words and languages with powerful syntaxes but this form lacks the semantic nature of relationships. For example, a hug is an analog method for showing care, but for what reason is the hug being administered? A written note is a digital form, but it lacks the inherent meaning that a touch, look or presence may convey. This is why humans combine both analog and digital communication constantly throughout their lives, and is part of the reason why communicating exactly what you want to say is often very hard! Take it from me; I am forced to use digital communication here to explain my analog thoughts! If we

meet someday, perhaps I can use both.

When designing for the web, we are doing the same thing: attempting to translate our analog vision and message to the digital page. While the use of video and audio helps to bridge the gap, there are other ways to use web standards to communicate your analog message to the best of your abilities using digital communication. One of those methods is utilizing semantic markup in your (X)HTML structure. While it is impossible to use any digital language – especially one as limited as (X)HTML—to completely describe meaning and intent, marking up your content using semantic code will get you as close as you can get for now.

(X)HTML has very useful tags for semantic meaning including those for headings, lists, and tables; content that is widely used throughout the web. For headings, using the `<h1>…<h6>` tags gives a hierarchical meaning and structure to your document or page. Lists can be marked up according to their content, using `<ol>` for ordered and numbered lists, `<ul>` for unordered lists (such as blog rolls or navigational menus,) and `<dl>` for definition lists. Definition lists are comprised of definition terms `<dt>` and definition descriptions `<dd>` and are often used for similar purposes as unordered lists where more information is present.

Tables make use of many different semantic tags to explain their often complex content. Adding a `<caption>` inside of your table markup will provide descriptive text about its contents. For the first row of a `<table>`, instead of the usual table data cell `<td>` tag, use the table header cell `<th>` tag instead. And wrap your first table row in a set of `<thead>` tags to indicate that it is the table header row. The same can be done for the table footer and content with `<tfoot>` and `<tbody>`, respectively. David Calhoun has an excellent example of semantic HTML table markup at http://themaingate.net/dev/html/how-to-make-a-perfect-semantic-html-table.

Along with these additions (which just skim the surface, adding specific attributes to the

tags will help accessibility, but this is just a brief example) it is important to markup your content appropriately using the proper tags. Paragraphs should use `<p>` tags, abbreviations should be wrapped in `<abbr>`, citations in `<cite>`, etc. Then use CSS to style them according to your liking. For instance, all abbreviations could be highlighted in light green and set to display a question mark cursor when the mouse hovers over them (browsers will display abbreviation text as a popup tooltip on hover by default.) Using these methods will not only improve your analog-to-digital and back again translation, but will also communicate to your visitors that you are conscious about web accessibility and usability (see "**One Cannot Not Communicate**" above.)

Complementary and Symmetrical Interaction

A fifth axiom of communication involves complementary and symmetrical interactions that make up all communicational interchanges. Watzlawick describes complementary interaction as that in which one side complements the other, like when assertive behavior in one person leads to submission in another, which leads to an increase in assertion in the first, and so on in a repeating cycle. Symmetrical interactions take place when one side pushes and the other side pushes back in opposition, mirroring the first's behavior (68). The former interaction is based on difference, the latter on equality.

An example of complementary interaction in the world of web design is of that between web designers themselves and the browsers with which they use to display their work. For years designers and coders have been at the mercy of these applications created by for-profit companies, using proprietary technologies and providing insufficient compliance with standards-based technologies. Around the time of the formation of the Web Standards Project (http://www.webstandards.org/) by Jeffrey Zeldman in 1998, designers decided to become more

assertive and aggressive toward browser makers in telling them they will not put up with bad browsers anymore. They began coding their sites using W3C-recommended standards, meaning that many of their designs broke down in some of the major web browsers of the time. But having a large amount of websites breaking in a browser does not look bad for the website developers, it looks bad for the browser. So companies like Microsoft and Netscape decided to give in a little, and released new versions of their browsers that supported more standards than ever before. This however, just wet the whistle of designers and developers, who now realized they had the power to make real change. And thus the exchange is still going on to this day. In 2006, Microsoft released its most standards-compliant browser to date, Internet Explorer 7. While it was a large improvement over its predecessor, it still did not reach 100% compliance with standards like CSS version 2.1, a technology that was fully supported and even surpassed in competing browsers like Mozilla's Firefox and Apple's Safari at the time. Though designers were happier than they were before the release, they still pushed back hard on Microsoft, demanding more compliance. Internet Explorer 8, expected to reach full compliance on CSS 2.1, is scheduled for release in 2009.

An example of symmetrical interaction in the web standards world might be the discussion over which markup language will be the standard of the future. HTML, first mentioned by Tim Berners-Lee in 1991, has been the standard for web markup for almost 30 years. As users demand a more semantic language for translating their analog messages (see how it all comes together?) the language has changed and is currently in its fourth version. (X)HTML was developed as a hybrid of HTML and XML, and was widely adopted when XML was first looked at as the markup language of the future. Unfortunately, that future is quite a ways off and in the meantime, developers and designers need a stepping stone. The argument over which is

better, HTML5 or XHTML2 has been going on for quite some time. Proponents of each have made their noise (http://xhtml.com/en/future/conversation-with-xhtml-2-team/), only to be countered equally by the other (http://xhtml.com/en/future/conversation-with-x-html-5-team/). Some have even outlined the good and bad of each, finding that more debate and conversation is needed to truly determine a winner. Much like the battle between Blueray and HD-DVD, one will emerge victorious as our new standard markup of the future. In the meantime, this symmetrical interchange will allow us all to view both sides of the coin equally.

It's all the real world

Hopefully this article introduced you to some methods and examples of communicating with web standards, and how communication and the use of standards are virtually synonymous. Paul Watzlawick's "Tentative Axioms of Communication" provide a window into how human beings exchange information and interact with each other, and those same principles can be applied to web design and how we think about the content that we are distributing to our audience. The more we treat content on the web as an actual interaction, the more it will feel and act that way. In the future as technologies advance we will only see new and exciting ways to communicate with each other, and using web standards now is the beginning.

References

Watzlawick, Paul, et al. Pragmatics of Human Communication: A Study of Interactional Pattern, Pathologies and Paradoxes. Chapter 2, 48-71. 1967, W.W. Norton, New York.

Resource Box

Brad Bice is an undergraduate student in the Communications department of Grand Valley State University in Allendale, MI. He has worked with web technologies since 1998, and continues to learn about and from the web. He is currently the lead designer for B & I Nameplate, Inc. of Spring Arbor, MI and operates his own web design company, Ryanleigh Web Design.