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Makers of the Award-Winning Cascade Server content management software

Executive Summary: Results of Adoption of Web Standards by Top U.S. Hospitals

Introduction: Web Standards & Hospital Websites

The World Wide Web Consortium (W3C) offers a universally agreed-upon standard for web standards. These standards are in place to:

- ensure a consistent user experience regardless of the browser being used;
- improve the accuracy of search engines;
- pave the way for new web-based technologies; and
- allow equal access to persons with disabilities.

Large healthcare providers, from university research facilities to major metropolitan hospitals, are typically the first to embrace technology that will advance their ability to provide effective patient care. And, as a growing number of consumers go directly to the Web for health-related information, now more than ever websites serve as an important extension to outside visitors of the care and information doctors, nurses and staff provide to patients inside the hospital.

Motivation for the Survey: Web Content Management Provider Evaluates Top Hospitals' Sites

Because a growing number of healthcare organizations are moving to content management systems to maintain their websites, and because content management systems are a great way to automate standards compliance, Hannon Hill Corporation undertook an evaluation of the top hospitals in the nation to discover how strongly W3C standards are being adhered to.

>> The results were surprisingly disappointing. Despite widespread awareness and acceptance of the standards, 99% of the top hospitals as listed in US News and World Report are not standards compliant.

Key Findings from the Study:

Of the top 179 hospitals tested, very few passed.

- 2 hospitals passed the W3C test for valid HTML/XHTML; the remaining non-valid homepages averaged 74 errors each.
- 7% or 13 hospitals had an RSS feed on their home page, but only 1 hospital made use of Podcasts on the homepage.

- Search boxes were popular, appearing on the homepages of 133 hospitals, or 74%
- Calendars, however, were not so common, with 61 (34%) of hospitals providing a link from the homepage.

Background: Accessibility Compliance & Web Standards

The Web Accessibility Initiative (WAI) was developed by the W3C in an effort to improve the accessibility of the World Wide Web especially, but not only, for people with disabilities.

The W3C was founded in 1994 to advance the Web. It is responsible for the development of uniform protocols to assure the interoperability of the Web. The WAI, part of the W3C, has developed a number of guidelines that can help to make websites more accessible, especially from the view of physically disabled people.

Although the WAI simply offers guidelines and encouragement for organizations and businesses that wish to make their sites accessible, many government organizations throughout the world have established similar guidelines that must be adhered to.

When the US Federal Rehabilitation Act was amended in 1998, Congress declared that Federal agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.

Benefits of Web Standards Compliance: Making a website W3C standards compliant offers numerous practical benefits, sets a great example, and presents no design restrictions. Paying attention to these standards also paves the way for creating and maintaining an accessible site – a concept that will continue to grow in importance.

How to Be Standards Compliant: First, a website must have a declared doctype and root element which define the (X)HTML standards schema to which they should adhere. The W3C has defined standards for well-formed (X)HTML for all recognized doctypes. Websites with no doctype or root element, or websites that do not conform to the standards for their doctype are considered not valid (X)HTML, and may have difficulty rendering on different browsers and platforms.

Methodology Undertaken for Survey Research

Criteria: Using the U.S. News and World Report ranking of top hospitals for 2006, hospital homepages were put through a series of tests to determine their ease of use, and compliance with established standards.

Time Spent & Dated Results: Over 30 hours were spent testing and collecting data on this project. Because of the fluid nature of the Internet, Hannon Hill realizes that a problem on the day of the test may be resolved the next day. To ensure the accuracy of its tests, Hannon Hill saved a copy of each homepage and recorded the date and time for each test.

Other Factors: In addition to the evaluation for W3C standards, Hannon Hill also checked for basic usability by looking for items such as search boxes, calendars, and RSS feeds locatable on the home page.

Evaluation Tool and W3C Compliance: The hospital's URL for the homepage was tested on the W3C Markup Validation Service, which is made available at this link: <http://validator.w3.org/check?uri=http%3A%2F%2Fwww.w3.org%2F>.

If the hospital did not pass the validation, then the number of errors was recorded. Each page showing the results of the test for each hospital was then saved for future reference.

RSS Feed: A hospital was determined to have an RSS feed if there was a link from the homepage or if there was a link from the main news page. (A link indicating XML is also considered an RSS feed). To help discover RSS feeds, the Firefox extension Sage finder tool was used.

Podcast: A hospital was determined to have podcasts if there was a link from the homepage or from the main news.

Calendar: Most hospitals have some form of events calendar on their website, however this test was to check if there was a calendar link readily accessible from the homepage.

Search: While nearly all hospitals have either a search box or button somewhere on the website, Hannon Hill checked to see if there was an actual search box on the homepage that would prevent users from having to open a new page to search the site.

Copyright Date: The hospital's homepage was examined for a current copyright date. If a copyright date was not listed, it was assumed to be current.

Additional Resources

Hannon Hill white paper, "[Maintaining an Accessible Site](#)"

Web Accessibility Initiative (WAI)

Website: www.w3.org/WAI/

American Association of People with Disabilities (AAPD)

Website: www.aapd-dc.org

"Dive Into Accessibility - 30 days to a more accessible web site"

Website: www.diveintoaccessibility.org/

Rehabilitation Engineering & Assistive Technology Society of North America (RESNA)

Website: <http://www.resna.org/>

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