

# Using Websitegarage.com as Site Analysis and Design Tool

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## Abstract

Websites from eight western colleges of business were analyzed using Netscape's websitegarage.com tool. This site automatically analyzes and generates reports of a websites design and performance. Factors rated include browser compatibility, search engine index measures, load time, dead link, popularity, spelling, and HTML syntax correctness. Most of the selected sites rated "Fair" overall, with only two sites rating "Good". Factors with the most negative impact on ratings were found to be (1) search engine indexibility, and (2) load time as measured by the number of bytes of graphics.

**Keywords: website design, websitegarage, HTML, graphics, performance**

Few formal analysis tools exist for measuring the design of a web site. One recent tool from Netscape is Web Site Garage (Websitegarage.netscape.com) is available free of charge. This tool analyzes a selected URL for several design and performance factors and then derives and overall rating of Excellent, Good, Fair, or Poor. The automated nature of the tool provides a very fast and easy method of comparing websites and of seeing the effect of design changes on website ratings.

My university has had a college web site for many years that has evolved as personnel and programming tools have changed. This evolution resulted in a site that was

perceived to functional yet patchwork in terms of graphics and style. My task was to develop a visually appealing, highly usable website for our college of business. My first step was to analyze the competition. I set out to examine the sites of neighboring universities similar in size and customer base. A total of eight universities from nearby states were select for analysis by website garage. The college of business site from each university was accessed, observed, and submitted to websitegarage for analysis. The selected universities are their URLs are found in Table 1.

**Table 1: Selected universities and their URLs.**

| University                  | URL  |
|-----------------------------|--|
| Arizona State University    | <a href="http://www.cob.asu.edu">www.cob.asu.edu</a>             |
| Oklahoma State University   | <a href="http://www.bus.okstate.edu">www.bus.okstate.edu</a>     |
| New Mexico State University | cbae.nmsu.edu  |
| University of Arizona       | <a href="http://www.bpa.arizona.edu">www.bpa.arizona.edu</a>     |
| University of New Mexico    | asm.unm.edu  |
| Texas Tech                  | <a href="http://www.ba.ttu.edu">www.ba.ttu.edu</a>               |
| Colorado State University   | <a href="http://www.biz.colostate.edu">www.biz.colostate.edu</a> |
| University of Texas-El Paso | www.utep.edu/coba  |

**Table 2: Design factors used by websitegarage.**

|                                  |
|----------------------------------|
| 1. Browser compatibility check   |
| 2. !Register-It! readiness check |
| 3. Load time check               |
| 4. Dead link check               |
| 5. Link popularity check         |
| 6. Spelling check                |
| 7. HTML design check             |

Websitegarage measures seven factors in its rating of websites. These factors are listed in Table 2.

Factor 1, Browser compatibility check, measures compliance with different browsers and how the site is displayed when viewed by the browsers. The browsers checked are Netscape Navigator 3.0 and 4.0, Microsoft Internet Explorer 3.0 and 4.0, America Online 3.0 and 4.0, and WebTV2.

The next factor, !Register-It!, checks for the presence of META tags that are used by search engines and directories to correctly index a site. The absence of tags or errors in their use will severely restrict the sites ability to be "hit" using common search engines.

Load time, or how long it takes for a site to appear as designed on the viewing computer, is measured for six

common modem or connect speeds. This factor also counts the number of graphic images and their byte size.

The dead link check counts how many links on the page are not active or non-existent. The link popularity check counts how many sites on the Internet have links to the selected site.

Spelling is checked for the next factor. Unfortunately common acronyms are scored as detrimental, e.g. ASU would not be acceptable for Arizona State University.

The final factor checks the syntax of the page for correct HTML.

Results of the websitegarage analyses are seen in Table 3.

**Table 3: Websitegarage.com ratings for eight western colleges of business.**

|          | UNM  | UTEP | TTech | ASU  | UofA | NMSU | OSU  | CSU  | X   |
|----------|------|------|-------|------|------|------|------|------|-----|
| Browser  | 1    | 1    | 1     | 3    | 1    | 1    | 2    | 2    | 1.5 |
| Register | 4    | 4    | 4     | 2    | 4    | 4    | 4    | 4    | 3.8 |
| Load     | 4    | 3    | 4     | 2    | 4    | 3    | 4    | 4    | 3.5 |
| Links    | 1    | 1    | 1     | 1    | 1    | 1    | 1    | 1    | 1   |
| Popular  | 2    | 3    | -     | 1    | 1    | -    | 1    | 3    | 1.8 |
| Spell    | 2    | 4    | 3     | 1    | 2    | 4    | 2    | 1    | 2.4 |
| Design   | 1    | 1    | 1     | 2    | 2    | 4    | 2    | 3    | 2   |
| Overall  | Fair | Good | Fair  | Good | Fair | Fair | Fair | Fair |     |

Overall ratings for the eight universities were "Fair", except for UTEP and ASU, which were rated "Good". None of the selected universities scored "Excellent" as an overall rating.

The factor which had the largest negative impact on a web sites overall rating was the "!Register-It Readiness Check" which checks if the page is set up to correctly index with search engines and directories. The most common warning was for missing META tags, META Description tags which are too long, and duplication of words in the META Keywords Tag. All but two of the sites (CSU & ASU) were completely missing META Description and Keyword Tags. This effectively eliminates the sites from search engines which use site

content. CSU's META Description Tag exceeded the HTML limit of 200 characters (CSU = 233 characters), eliminating all characters over 200 from search engine use. CSU's and ASU's META Keyword Tags also contained duplicate keywords which effectively stops many engines from indexing a site. This is done to prevent sites from using duplicates, such as "sex, sex, sex, ...", to achieve higher scores. ASU's Meta Keywords Tag used only 20% of the allowable 1000 characters that are indexed by search engines.

The next factor to negatively effect ratings was "Load Time". This test used 6 different modem speeds to measure how fast the page loads up. The fastest site using a 56K modem was ASU at 9.07 seconds. The

slowest was OSU at 37.02 seconds. Load time is directly related to the number of graphics on the page, their size, and resolution. ASU's site uses 11 graphics with a total of 34K bytes, OSU's site uses 21 graphics with 150 K bytes. Pages with fewer graphics, smaller in size, using fewer colors (256), and lower resolution load faster.

"Spelling" was the next factor used to rate pages by websitegarage.com. The spelling factor counted as possible spelling errors common acronyms like 'edu' and 'UNM'. Upon observation this factor appears to be irrelevant to the pages ratings and would only be of importance for those that do not use spell checkers.

HTML design checks the syntax of all HTML code on the page. The pages rated excellent typically had only warnings such as: (1) <table> or <img> loads faster with 'width' and 'height' attributes, and (2) good HTML style uses 'alt' attributes in <img> and <applet>. The use of 'alt' to display text describing an image or applet is becoming of increasing importance as standards for access by the disabled are developed. Those sites with HTML errors were typically a failure to close a tag ,e.g. <h2> was found, but no closing </h2> appeared. Another common error was the use of invalid 'marginwidth' and 'marginheight'.

"Link Popularity" measures how many other sites around the Internet link to the sample site. ASU led the way with 728 links found; Uof A was next (443 links), OSU (437), UNM (127), CSU (77), and UTEP (31).

NMSU and Texas Tech both had errors on the link check. Observation of the pages with links to the selected sites revealed that that approximately 25% of the linking sites were internal. The remaining links were typically research, education, or local sites (e.g. chambers of commerce).

Browser compatibility with Netscape Navigator, Microsoft Internet Explorer, America Online, and WebTV 2 was "Excellent" or "Good" for all the selected sites. Only one site had a warning for Microsoft Internet Explorer 4.0, which perhaps reflects Microsoft's dominance of the browser market. Several sites had multiple warnings using Internet Explorer 3.0. Five sites had errors using both Netscape Navigator 3.0 and 4.0, while WebTV had incompatibilities with all eight sites. Finally, America Online 4.0 was correctly supported by all sites except UNM, while version 3.0 had problems with 5 sites.

The dead link check rated as "Excellent" by all eight sites. Only one failed link was detected at OSU.

In conclusion, websitegarage appears to be a useful tool to analyze website design and performance. The metrics are interesting, empirical and provide a method to compare different sites. Different versions of our site are currently being developed using websitegarage as one tool and will be demonstrated at the meeting.

References available upon request.