
Tuning Up Your Web Site: An Overview of Two Free Web Site Diagnostic Tools

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This article provides an overview of two free Web site diagnostic services provided by Web Site Garage and NetMechanic. Both services provide no-cost link check, HTML check, and image byte size reduction. Web Site Garage offers a unique link popularity check, whereas NetMechanic offers a unique server check. The article illustrates how the Seton Hall University Library Webmaster used these two Web site diagnostic tools in June 1998. The paper concludes that Web Site Garage and NetMechanic are effective tools that are easy and efficient for maintaining a Web site.

An advantage of the Internet's World Wide Web is the capability to link one Web page to another. An objective of Seton Hall University Library was to create a series of categorized global gateway links to revitalize its Web site (www.shu.edu/library). Currently the site has approximately two thousand links in twenty broad categories such as "quick references," "business," "education," and other similar topics. The links used were created by government agencies, institutions of higher education, commercial or nonprofit organizations, and individuals. These links form a network of key information resources and make an important contribution to shaping the University Library's online resources.

The Web, however, is dynamic. Web sites change their addresses (URL) without notice. Some disappear totally. The webmaster's chal-

lenge is to weed dead links. However, manually checking more than two thousand links would be time consuming and nearly impossible. The solution is to employ diagnostic tools that make short work of the job—easily, efficiently, and effectively.

A search through the Internet's Yahoo! yields about thirty sites that concern link validation and Web site diagnostics. The author found the following two diagnostic tools to be among the most helpful and easy to employ: Web Site Garage (www.websitegarage.com), and NetMechanic (www.netmechanic.com).

These sites offer both free and fee-based services. This article will focus on the Web site diagnostic features provided by their free services in June 1998.

Media Coverage

Web Site Garage and NetMechanic are diagnostic tools that have received media coverage. *Business Wire* reported on Web Site Garage in its 19 November 1997, 12 April 1988, and 14 April 1998 issues. In its 14 April 1998 issue, *Business Wire* stated: "Web Site Garage . . . allows Web site owners to 'park' their URL for a free seven-point online Web site Tune Up and provides substantive recommendations for improvement. Since its release in November 1997, it has provided over 3 million online Web site Tune Ups."¹ The news of Web Site Garage was reported in *Business Week* (17 November 1997);² *The Courier-Journal* (6 December 1997)³ in Louisville, Kentucky; *MacWEEK*, (26 January 1998);⁴ *The Daily Telegraph*, (16 April 1998);⁵ and *The Bangkok Post* (3 June 1998).⁶

Internet Business News reported on 1 June 1997: "Monte Sano Software has introduced NetMechanic at <http://www.netmechanic.com>, its new free service offering online web site maintenance. The new service showcases the start-up com-

pany's new robot technology which can check sites of up to 200 pages, testing links and sending e-mail reports to users."⁷ A year later, *Business Wire* reported on 2 June 1998: "Since its inception last year NetMechanic has proven to be a very popular Web site. Its robots have tuned up over 4,000,000 Web pages, and currently tune over 600,000 pages a month."⁸ The news of NetMechanic was reported in *M2 PressWIRE* (2 June 1997)⁹ and *Newsbytes News Network* (3 June 1997).¹⁰

Web Site Garage

www.websitegarage.com
Available since November, 1997
AtWeb, Inc.
686 W. Maude Ave.
Sunnyvale, CA 94086
Phone: (408) 733-2319

Web Site Garage offers four types of free service:

1. Tune Up: Runs seven free diagnostics on your home page
2. !Register-It! Free: Registers your Web site with sixteen search engines and directories within five minutes
3. GIF Lube: Reduces the size of images such as JPG or GIF files, and
4. META Tag Generator: Improves the site's search engine listing

Figure 1 is a part of Web Site Garage's first level home page. Clicking on any of the underlined links yields free service.

"Tune Up" includes the following seven diagnostics:

1. Browser Compatibility: checks how well the Web page is displayed when customers access and view it with different browsers
2. Register-It Readiness: checks if the Web page is set up to be indexed easily and correctly by search engines and directories

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3. Load Time: checks how long the site takes to load up through a customer's modem
4. Dead Link: detects hard-to-find dead links on a site's page
5. Link Popularity: Finds out how many Web sites are linking to you
6. Spelling: checks whether the Web page has any spelling mistakes, and
7. HTML Design: finds out how the site's HTML design compares to the best

If you click on any of the underlined links shown in figure 2, you will see the details of the diagnostic reports.

A unique feature of Web Site Garage's service is providing a link popularity check. This feature uses Infoseek to provide the number of Web sites linking to your page. It provides a general benchmark of your site's online presence. Figure 3 is a part of the "Link Popularity Check" report. You can "click to see Web sites linking to your page" as indicated in figure 3.

One of the limitations of Web Site Garage's free service is that the link utility checks only twenty-five links. Additional links are marked "Unchecked." This limitation presents a problem for Web pages that have


more than twenty-five links. Web Site Garage's services will not conduct diagnostics on all the Web site pages when entering on one top level URL, for example, <http://www.shu.edu/library>. It will check only the top level "index.html" page. One must enter the whole URL, such as <http://www.shu.edu/library/business.htm> to check the "business.htm" page.

"!Register-It! Free" registers the Web site with eight search engines and directories: Excite, Hotbot, Infoseek, Northern Light, Pronet, Resource One, WebCrawler, and WhoWhere?.


"META Tag Generator" increases the odds that search engines will put the webmaster's site near the top category by using the "right" META tags in the HTML code. After following the steps on the META Tag Generator page, the author learned how and where to insert meta tags in a home page illustrated in figure 4.


This information is instructive and useful. After making the changes according to the above instructions, the author used the information learned to improve the "!Register-It! Readiness" of the Seton Hall University Library's home page from "poor" to "good."

Tune Up

 **Tune Up**
Run 7 free diagnostics on your home page

Turbocharge

 **!Register-It! Free**
Register your Web site with 16 search engines and directories in 5 minutes.

 **GIF Lube**
Reduce the size of your images!


 **META Tag Generator**
Improve your search engine listing!

Figure 1. Web Site Garage Free Services.

Diagnostics

Click on a diagnostic below for a detailed report

Browser Compatibility Excellent Good Fair Poor

!Register-It! Readiness Excellent Good Fair Poor

Load Time Excellent Good Fair Poor

Dead Link Excellent Good Fair Poor

Link Popularity Excellent Good Fair Poor

Spelling Excellent Good Fair Poor

HTML Design Excellent Good Fair Poor

Figure 2. Web Site Garage Diagnostic Reports.

URL: <http://www.shu.edu/library>

Diagnosis: Excellent Good Fair Poor

Summary
Report Run on 06/22/1998 at 09:54 PST

Number of Web sites linking to your page: 5190

Link Popularity data provided by Infoseek.
Click to see [web sites linking to your page](#).

Figure 3. Web Site Garage Link Popularity Report.

"GIF Lube" is a tool to help the page load faster by reducing an image's size. It reduces image size by reducing the number of colors in the image. GIF Lube also allows the webmaster to compress and convert image into GIF or JPG formats. After entering an image URL (e.g., <http://www.shu.edu/library/walsh/domecor1.gif>), within one minute this author received an image reduction report. The report displayed the original image and results for different levels of reduction. The image file was changed from 50,301 bytes¹¹ to 18,267 bytes, a 63.7 percent reduction without much noticeable change in the image's quality.

META Tag Generator Newsletter
Earn CASH

A copy of your META Tags has been sent to baocnem@shu.edu

Here are your META Tags:

```

<META NAME="description" CONTENT="Seton Hall University
Library">
<META NAME="keywords" CONTENT="Seton Hall University,
Library, Information, resources, gateway Collections,
Services">

```

This is how they should be inserted in your HTML document:

```

<HTML>
<HEAD>
<TITLE> title of your page </TITLE>
<META NAME="description" CONTENT="Seton Hall University
Library">
<META NAME="keywords" CONTENT="Seton Hall University,
Library, Information, resources, gateway Collections,
Services">
</HEAD>
<BODY>
.....
.....

```

Figure 4. META Tags Generated by Web Site Garage.

NetMechanic

www.netmechanic.com
 Available since June 1997
 Monte Sano Software, LLC
 302 Shooting Star Trail
 Gurley, AL 35748
 Phone: (256) 461-9857

NetMechanic offers four types of free services.

1. **Link Check:** checks a site for dead links
2. **HTML Check:** identifies potentially bad HTML tags and checks HTML syntax
3. **Server Check:** tests the server every fifteen minutes for the next eight hours and reports the server's performance and reliability, and
4. **GIFBot:** reduces the byte size of an image by up to 90 percent

Figure 5 is a part of the NetMechanic's first level home page. If you click on the links that indicated "Free" and GIFBot, the available free services are shown.

Link Check will search a Web site and test, verify, and validate each link. When finished, NetMechanic reports all detected broken links and

the status of each tested link. Link Check does not change anything on a site. Rather, it simply diagnoses and reports on broken links. Figure 6 is a part of the Link Check page. You can request to check a single page or the whole site. Test results are returned via e-mail. NetMechanic limits tests to five hundred free link checks and two hundred pages. By contrast, Web Site Garage sets a limit of twenty-five links check and one page only for its free services.

HTML Check finds potential bad HTML tags in Web pages. For large sites, testing may require several hours. NetMechanic also returns results by e-mail. Both Link Check and HTML Check provide an option of "Power Config" to let the user select the tests to be performed. Figure 7 is a part of the HTML Power Config page.

Server Check is a unique free service provided by NetMechanic. According to NetMechanic's home page, Server Check is a tool for monitoring the reliability and performance of the Web server. Server Check tests the server and identifies ways for the Webmaster to tune the site for optimum performance. Server Check can help answer impor-

tant questions about the Web server's performance including:

1. Is the server up right now?
2. Can users get through to the site?
3. How does my server compare to others on the Net?
4. What can I do to fine tune my server's performance?

You start Server Check by entering the URL of the page you wish to test, and click the "Go" button (figure 8). NetMechanic's robot then monitors and tests your server for the next eight hours, fetching your page every fifteen minutes. For each test in the monitoring period, Server Check measures the amount of time required for each step in the retrieval process.

After about eight hours, NetMechanic returns the server's performance test report by e-mail. Figure 9 illustrates a typical performance summary report. It shows the results for Seton Hall University's server. Performance is assessed by a percentile measure (a percentile represents the division of ranked data into 100 equal parts¹²). This information is valuable in allowing the webmaster to improve access to the

GIFBot *New!*
Reduce the size of your Web graphics by up to 90%!

Link Check *Free!*
Let our robot check your site for dead links!

HTML Check *Free!*
Our robot will spot bad HTML tags and check your HTML syntax.

Server Check *Free!*
Try our "lite" version of Server Check Pro to test your Web site.

Sign Up
Subscribe to service and monitor your Web site 24 hours a day, 7 days a week.

Server Check Pro FAQ
Learn more about Server Check Pro.

Figure 5. NetMechanic Free Services.

URL:

Scope of Tests: This page only Whole site

Job Type: Foreground Background

E-Mail Address:

Figure 6. NetMechanic Partial Link Check Page.

POWER CONFIG

URL:

Scope of Tests:
 This page only Whole site
 Select pages (list one page per line):

Extensions:

Tests:

<input checked="" type="checkbox"/> Design Tips (*)	<input checked="" type="checkbox"/> Illegal Closing Tag
<input checked="" type="checkbox"/> Spell Check(*)	<input checked="" type="checkbox"/> Obsolete Tag(*)
<input checked="" type="checkbox"/> HEAD/BODY Tests	<input checked="" type="checkbox"/> Unrecognized Attribute
<input checked="" type="checkbox"/> Missing Title	<input checked="" type="checkbox"/> Unbalanced Quote Marks
<input checked="" type="checkbox"/> Unrecognized Tag	<input checked="" type="checkbox"/> Image ALT Text
<input checked="" type="checkbox"/> Badly Nested Tags	<input checked="" type="checkbox"/> Image HEIGHT/WIDTH
<input checked="" type="checkbox"/> Badly Terminated Tag	<input checked="" type="checkbox"/> Illegal White Space
<input checked="" type="checkbox"/> Empty Pair Tag	<input checked="" type="checkbox"/> Bad Attribute Value(*)

(*) = Coming Soon

Figure 7. NetMechanic Power Config HTML Check.

SERVER CHECK

URL:

Should we notify you immediately if the server fails a request?

Yes No

E-Mail:

Figure 8. NetMechanic Server Check.

Report For: www.shu.edu
 Date: Tue 23 Jun
 Time: 9:00 - 17:00 USA Eastern Time
 Server Type: Apache/1.2.6

Overall Rating: Fair

Performance Summary			
Event	Your Server's Average	NetMechanic Average	Percentile
Host Ping	94.77 mllsec	400.72 mllsec	48 th
DNS Look Up	0.05 sec	0.14 sec	68 th
Connect Time	0.30 sec	0.77 sec	46 th
Download Time (10k file)			
Timeouts	0	-	

Figure 9. NetMechanic Server Check Report for Seton Hall University Site.

site. The Server Check report includes the following information:

- Host Ping: indicates the network speed between the Seton Hall server and that of NetMechanic
- DNS Look Up: indicates the time required to look up the Seton Hall server's address in the DNS database
- Connect Time: the time required to open a network connection to the Seton Hall server
- Download Time (10k file): the time which would be required to download a 10k file from the Seton Hall server
- Number of Timeouts: the number of times the Seton Hall server failed to respond within 30 seconds
- Warning areas are highlighted in dark yellow; problem areas are highlighted in red

GIFBot reduces an image's byte size. You enter the URL of a GIF or JPG image on a site. GIFBot reads the image and attempts to optimize it. The revised images will be displayed on GIFBot's results page. If desired, you can then choose an image with reduced byte size and upload it to the Web site hosting server. GIFBot offers more levels of reduction from 128-bit¹³ colors to 2-bit colors. The quality of the image can be noticeably compromised if the color reduction is brought below 16-bit colors. Web Site Garage's GIF Lube will reduce colors from 64-bit to 8-bit. Thus, it takes a few minutes longer for GIFBot to process the image optimization than GIF Lube.

Summary

Web Site Garage can be used to (1) check browser compatibility, link popularity, spelling, HTML design; (2) to generate META tags; and (3) to register for search engines and directories. NetMechanic can be used to check for dead links, server, and HTML. Both Web site diagnostic tools can be used to reduce image byte sizes to increase Web page access speed. The value of using diagnostic tools is that the webmaster can maintain a complex Web site efficiently and effectively.

Table 1 compares the free services offered by Web Site Garage and NetMechanic in June 1998.

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Table 1
 Comparison of Features Offered by Web Site Garage and NetMechanic (June 1998)

Feature	Web Site Garage	NetMechanic
Browser Compatibility	Yes	No
Register-It Readiness	Yes	No
Load Time	Yes	Yes
Link Check	25-link limit	500-link limit
Link Popularity	Yes	No
Spelling	Yes	Coming soon
HTML Design	Yes	Yes
Meta Tag Generator	Yes	No
Search Registration	Yes	No
Image Byte Size Reduction	Yes	Yes
Server Check	No	200-page limit

this article. I wish to thank AtWeb, Inc. and Monte Sano Software for their copyright permission.

References and Notes

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11. Contraction of Binary digit Eight. A byte is a group of eight bits that in computer storage terms usually holds a single character, such as a number, letter, or other symbol. (Source: Dyson, Peter, *The PC User's Essential, Accessible Pocket Dictionary*. San Francisco: SYBEX Inc., 1994)
12. Arthur W. Häfner, *Descriptive Statistical Techniques for Librarians*, 2d ed. (Chicago: American Library Association, 1998), 173.
13. A bit is the basic unit of information in the binary numbering system, representing either 0 (off) or 1 (on). Bits can be grouped together to make up larger storage units. The bigger the bits, the more choices of color codes. Colors with 128 bits require more bytes than do 2-bit colors. (Source: Dyson, Peter, *The PC User's Essential, Accessible Pocket Dictionary*. San Francisco: SYBEX Inc., 1994).