

White Paper

Automating Web site link management and repair.



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Abstract

Broken links in a Web site are an all too common problem on the Internet today. They inconvenience visitors, inhibit proper navigation of a site, prohibit access to Web site content and reduce the productivity of Web professionals. Furthermore, as our society becomes more dependent upon the Internet, ensuring that links are accurately, efficiently and timely maintained will assume a heightened priority.

However, current link management and repair methodologies are tedious and time-consuming and have not kept pace with the explosive growth of other World Wide Web technologies. This document looks at the problem of broken links and a new technology that can be used to automate the management and repair of links in a Web site.

The problem of broken links

In hypertext systems such as the World Wide Web, links are a vital component to the navigation between and within Web pages on the Internet. A common problem in Web pages is the presence of broken links.

Broken links occur when a link points to a file that can not be accessed. Based upon a battery of surveys performed on a variety Web professionals, the most common reasons broken links occur are the moving or renaming of linked files or the misspelling of the path name in the link itself.

Hardly a single Web professional has not experienced some sort of difficulty caused by sources external to their area of responsibility and outside of their control. Difficulties such as shared network resources being changed, including folders being renamed or network drive mappings being altered. Reorganization of directory structures alone would wreak havoc on a Web site and the links contained within it.

Every Web professional involved with the development and management of a Web site has to address the problem of broken links. As the Cyber-economy grows, the task of keeping links accurate and up-to-date becomes even more crucial. According to Nielsen ratings, as of May 2002 there were 580.78 million people online worldwide. In 2001, Google — the leading Internet search engine — had access to over 1.5 million URLs which contain over 2.4 billion Web pages.

If we conservatively estimate that each Web page on the Internet has at least one broken link, then in 2.4 billion instances, information intended to be exchanged on a Web site would not be available, and in many of these cases visitors would be prevented from successfully navigating the site.

A Web site, if not properly maintained, can become a liability. What's more, even when a site is regularly maintained, problems still can occur.

Broken links, when not found and corrected in a timely and accurate manner, have caused frustrated and irritated users, lost customers and lost revenue. As a result, Web developers and Webmasters currently spend a significant amount of their valuable production time manually maintaining links within their Web sites in an effort to reduce the number of lost visitors and, therefore, lost profits.

Existing solutions

Historically, Web professionals have spent many hours manually finding and fixing broken links throughout their Web sites. The two most common methods of finding and fixing broken links have required manual intervention and are at best semi-automatic.

The first and most frequently used method involves scanning each page within a Web site and manually checking each and every link contained within it. It has been found that some Web professionals have spent as much as one full workday per Web site finding and fixing broken links manually during their regular maintenance of a site.

The second method involves the use of existing Web development/authoring applications that have the ability to dynamically find and display the broken links contained within the defined site. But in order to repair these links, these applications require the user to manually correct each unique broken link one at a time. Such applications will then update any other similar occurrences of the link within the Web site.

Both of these methods are tedious and time-consuming, requiring the Web professional to manually edit and correct each individual broken link found in the site. This is an inefficient use of a Web professional's time and can divert valuable technical resources away from other important activities.

The *LinkFixerPlus* solution

Broken links have hitherto been a source of constant annoyance for Web professionals who have been charged with maintaining the integrity of links within Web sites. Surveys conducted by LinkTek Corporation have served to uncover the scope of the problem of broken links.

When Web professionals were asked what the resulting problems caused by broken links were:

- 71% reported that visitors were unable to find what they were looking for.
- 69% reported that visitors were unable to properly navigate the site.
- 57% reported that visitors became frustrated and irritated due to broken links.

When asked what methods Web professionals currently use to fix broken links in a Web site:

- 88% reported that they manually correct broken links on a regular basis. The remaining 12% reported using a Web authoring program to assist with the finding and manual fixing of broken links.

And when asked what actions Web professionals take to prevent broken links from occurring:

- 74% reported that they perform manual link checking and verification on a regular basis.

Given the ubiquity of the problem, along with the existing inefficient manual methods of maintenance and repair, the need for a productivity-enhancing application that could not only find but also repair broken links became obvious.

The solution to the problem is *LinkFixerPlus*. The first application specifically designed to fix broken links throughout the local copy of a Web site, totally automatically.

By helping eliminate the tedium of manually finding and fixing broken links, *LinkFixerPlus* frees up time that Web professionals would otherwise spend manually repairing links throughout their Web sites.

Additionally, by using *LinkFixerPlus*, Web professionals can more efficiently ensure the integrity of links in their Web sites, while simultaneously increasing their overall productivity.

How *LinkFixerPlus* solves the problem

Definitions

To better understand *LinkFixerPlus*' automatic link fixing process, the following terms need to be defined:

A *parent file* is a file that contains one or more links that point to other files. (An HTML file would be an example of a parent file).

A *child file* is a file that is pointed to by a link contained in a parent file. (A GIF file would be an example of a child file).

Functions

LinkFixerPlus' main functions include: Inoculate, Cure, Rename/Move and Reports. These are described in more detail as follows:

Inoculate: This process safeguards internal links contained within parent files, ensuring they can be fixed automatically, should one or more child files be moved or renamed.

Cure: This process automatically fixes broken links within parent files that have previously been Inoculated. The Cure function automatically finds and fixes the broken links between the parent files and the linked child files.

Rename/Move: This process renames and moves files in batch, using numerous rename rules, without causing broken links in the parent files. The integrity of each link in a parent file is maintained automatically. The user can rename files to whatever they want or he can move files from one directory to another anywhere on his system, without causing any "missing file" errors due to broken links.

Reports: *LinkFixerPlus* generates a variety of detailed reports showing parents files, the links pointing to child files and the status of each of the links. The reports enable the user to easily view links contained within

supported parent file types and quickly identify which links were found to be broken. Additionally, *LinkFixerPlus* can even check and report on links pointing to external URLs. It can tell the user if external links are valid or broken.

Fixing broken links

Fixing broken links automatically is a two-step process first involving the inoculation of links contained within supported parent file types, and then secondly curing any broken links that may be encountered at a later time in the previously-inoculated parents files.

LinkFixerPlus safeguards links contained within the parent files of a local Web site so that when broken links occur due to child files being moved, renamed or misspellings within links, they can be quickly and automatically repaired.

It may seem like magic, but using patent-pending technology, *LinkFixerPlus* fixes broken links completely and reliably, by updating the broken links to point to specific child files that were uniquely associated with the parent files during the inoculation process.

Thus using *LinkFixerPlus*, Web professionals can speedily, dependably and easily maintain the integrity of all the internal links contained within their Web site files.

Conclusion

The quality and integrity of a Web site is compromised by the existence of broken links. *LinkFixerPlus* makes a significant difference in traditional link maintenance and repair techniques by virtually eliminating the tedious and time-consuming process of manually finding and fixing broken links.

LinkFixerPlus is the first application designed specifically to fix broken links automatically. Using *LinkFixerPlus*, Web professionals will save valuable time by not having to manually find and fix broken links, giving them a competitive advantage and allowing them to pursue more profitable activities.

For More Information

For more information on *LinkFixerPlus*, please visit www.linkfixerplus.com or e-mail 8272@linkfixerplus.com. Additionally LinkTek Corporation can be contacted at +1-727-442-1822extension 8272.

About LinkTek

LinkTek provides software solutions for automating the management and repair of links contained within a wide variety of prevalent file formats. LinkTek's flagship product *LinkFixerPlus* breaks new ground and introduces the new software category of "automatic link repair". Initially catering to Web development professionals, *LinkFixerPlus* is the first product to automatically fix broken links throughout local Web sites.

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