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Increase Website ROI by Delivering a Flawless Web Experience to Every User

Introduction1
Market Trends.....2
The Business Impact3
The Solution.....5
What to Look For.....6
About BrowserHawk8
Additional Information ...10

The Case for Intelligent Browser and System Analysis Tools

Introduction

Today's web users are demanding richer web sites that "just work" regardless of their choice in browsers and settings. When a company fails to keep pace, it incurs rising support costs, loses millions in revenue, and loses customers to its more forward-thinking competitors.

With site visitors now using a broad range of browsers, connection speeds, and altered browser settings, web site failures are rampant. A study found that 89% of all online customers have recently experienced significant site issues, and 34% switched to a competitor¹. Management is often not aware of these failures.

How Web Site Failures Affect Customers¹

- 89 % of all users encountered issues
- 31 % could not complete a transaction
- 34 % switched to a competitor
- 40 % received error messages
- 31 % could not log in
- 22 % were kicked off a page

To solve this challenge the world's leading enterprises now use Intelligent Browser and System Analysis tools. These tools reduce web site abandonment, maximize online sales and conversion rates, and cut support costs by helping you deliver a flawless web experience to every user, regardless of their system capabilities.

This white paper examines the challenges you face from the endless combination of browsers and varying system capabilities in use, and the hidden impact this has on your business. It then explains what Intelligent Browser and System Analysis tools do, and what to look for in a solution.

Market Trends Affecting Your Business

Four market trends drive the need for Intelligent Browser and System Analysis tools: a growth in richer web sites, an increasing diversity of browsers, an expansion in browser configuration options, and rising user expectations.

Sites are getting more complex, more prone to browser errors and now require users to have greater system capabilities. Many users, however, will not meet these requirements and experience failures as a result.

Richer Web Sites with Increasing Complexity

Businesses now find that providing a richer web experience is critical for prevailing over their fierce online competition. This richer experience, however, comes at a price. Sites are getting more complex, more prone to browser errors, and require users to have greater system capabilities than before.

Users now need current plug-ins such as Adobe Flash and Adobe Acrobat, a larger screen size, a broadband connection, and key functionality enabled in their browser such as cookies and JavaScript. Many users, however, do not meet these requirements. For instance, a 2007 research report from the PEW Internet Project reports that only 47% of Americans have a broadband connection and that the adoption rate of broadband has slowed significantly compared to prior years.²

Browser Wars Re-ignited

After years of IE dominating the browser market, Firefox 1.0 stormed onto the scene to take a 15% market share. Microsoft fought back with IE version 7.0 – the first major upgrade to IE since 2001, and is working on version 8.0. Firefox answered with version 2.0, and is working on 3.0. As highlighted recently in *PC World*, “browser competition hasn’t been this fierce since the mid-1990’s and the fight is becoming more intense as Microsoft, Mozilla and Opera ready new versions of their software.”³

Although newer browsers support common standards, developers must still account for significant differences to avoid site failures. For example, technologies used to deliver richer web sites, such as JavaScript, DHTML, Asynchronous JavaScript and XML (AJAX) and Cascading Style Sheets (CSS), must be implemented differently in IE than in Firefox.

Expanding Configuration Options for End Users

Newer browsers provide more configuration options than ever before. Many users take advantage of these settings to significantly alter their browser's default behavior and capabilities, without realizing the failures this causes on trusted sites they visit.

Users change settings that disable cookies and JavaScript, or that block popup windows, block secure connections, block image loading, change screen sizes or change font styles and sizes. Some even swap out entire components such as Java, browser toolbars, and plug-ins.

This is driven largely by the proliferation of spyware, phishing schemes, and other exploits that put a user's privacy and security at risk. According to a recent security report, "The number of new threats has continued to grow at rates once thought by some to be unsustainable."⁴ As these threats spread, the number of users that alter their settings to protect themselves is soaring.

Rising User Demands and Expectations

User demands and expectations for what sites can and should do continue to rise. Users now expect businesses to deliver a more compelling experience with expanded offerings, improved usability, and at an absolute minimum, they expect the site to work properly regardless of their browser and system preferences.

Users are growing increasingly impatient, and have zero-tolerance for sites that fail to work as expected. Consequently, when users experience site failures, they are quick to flood the help desk or permanently abandon the site.

As users experience failures they flood the help desk or permanently abandon a site. This results in lost revenue, higher support costs, and alienated customers.

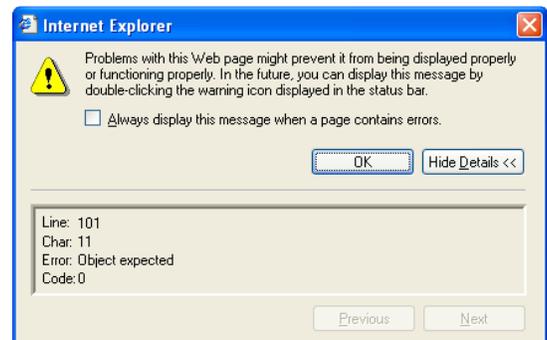
The Growing Impact on Your Business

With today's higher user expectations and fierce online competition, your site must work as expected – every time, for every user. Otherwise, businesses risk lost revenue, higher support costs, lost customers, and alienated or frustrated users.

Substantial Loss of Revenue

Web sites are an essential part of every business and now critical to operations. As users experience site failures and abandon the site, the business loses millions in revenue and suffers damage to its brand and credibility.

Users experience major failures when they do not meet a site's minimum system requirements. Failures include blank or broken web pages, navigation errors, display and formatting errors, and the inability to complete an order or transaction. These failures often lead users to abandon a site and not return.



Zona Research concluded that web site abandonment due to web site technical issues could amount to more than \$25 billion in lost revenue⁵, and according to Boston Consulting Group, "28% of Web users do not return to a

Web site errors like this drive users away

company's web site if it does not perform sufficiently well, and a further 6% do not even go to the affiliated retail store anymore.”⁶

Users typically blame the business and question its competency when failures occur, without realizing the problem is on their own end. More alarming, these failures are hidden from the business unless users report the incidents. Thus the root cause of errors often goes unrecognized, unaccounted for and unresolved.

Every failure costs businesses money due to lost revenue and increased help desk support needs. These costs escalate without the proper troubleshooting tools in place.

Escalating Help Desk Support Costs

Failures occur more frequently as sites grow in complexity, serve more users, and need users to meet higher system requirements. This increased rate of failure is causing help desk support costs to rise.

The sheer number of browsers and varying system settings in use today is staggering. This leads to failures every day because quality assurance teams cannot test against and plan for every combination of browser type, settings and system capabilities that users invariably have.

Every failure costs businesses money as it drives users to their help desk. These costs then escalate because support teams lack tools that automatically collect the technical details needed for troubleshooting. As a result, support personnel must engage in a lengthy, inefficient process with each user to check their browser and system settings, one setting at a time.

Losing Customers to the Competition

Richer web experiences are critical for gaining a competitive advantage online. But faced with the growing number of browsers, varying user settings, the fear of lost business, and the pain of rising supports costs, businesses too often settle by limiting their designs and site capabilities.

Their philosophy is “It may not be fancy, but at least it works for everyone”. This approach, however, puts those businesses at a significant disadvantage compared to their competitors, who have found ways to deliver the best web experience possible based on each user's system capabilities.

Alienating Customers with Technical Jargon

Although some businesses limit their designs, others, under strong competitive pressure, must forge ahead with richer sites. This approach causes inevitable failures for users with less capable systems.

To minimize the impact of these failures, special instructions and warnings are often tacked on to web pages. These messages confuse and frustrate users with technical jargon. For example:

The cost of acquiring new customers is up to seven times that of keeping existing ones.⁷

- “Click here for dial up, or here for broadband”
- “If no items appear in your cart, make sure your JavaScript and Cookies are not disabled”
- “This site requires Adobe Flash 9+. Click here if you need to install it”
- “If nothing happens make sure you have no pop-up blocker installed and disable it if so”
- “This site is best viewed with IE 6.0+ or Firefox 1.0+ and a screen size of 1024 x 768”
- “To view this document you need Adobe Acrobat Reader version 8.0 or later. Click here to get it”

Most users are not tech-savvy. Consequently these messages often alienate users by creating a false sense of concern and confusion – even for those with no risk of failure in the first place.

Developers need robust browser analysis tools. Building such tools in-house is overwhelmingly complex, time consuming and often proves cost-prohibitive.

Increasing Need for Robust Analysis Tools

Developers are discovering an increased need for robust analysis tools to help ensure their site works properly for everyone. Some developers attempt to build these tools in-house, but often become overwhelmed by unexpected complexity and find that the maintenance alone is a full-time job.

These home-grown tools are often not robust enough to properly support production environments, and lack features required as developer needs grow. This costs businesses money as developers spend time struggling to keep their own analysis tools working, instead of focusing on core responsibilities.

Since developing these tools becomes complex, unwieldy, and cost-prohibitive, businesses turn instead to Intelligent Browser and System Analysis tools as the cost-effective and proven solution.

The Solution

Intelligent Browser and System Analysis Tools

Intelligent Browser and System Analysis tools transparently detect the unique browser settings and system capabilities of each user as they enter your site. This helps you prevent failures by delivering richer content only to users who can support it, while still delivering a practical alternative to everyone else.

These tools also enable you to provide automated online troubleshooting assistance to users who do not meet your site’s minimum requirements, before they experience failures. This helps ensure users do not grow frustrated, burden your help desk or abandon your site.



Furthermore, these tools automatically log technical details on each user. This includes information on their browser type and version, security settings, plug-ins, connection speed, display capabilities, page load times, errors encountered on the site, and more. This proves invaluable for troubleshooting issues and for improving site designs and usability.

Unique Benefits of Intelligent Browser and System Analysis Tools

Intelligent Browser and System Analysis tools provide key benefits critical to the success of your web site and online operations. Unique benefits:

Intelligent Browser and System Analysis tools help prevent failures, enable self-guided help systems, and gather technical data used to improve web site design and usability.

- ensures a successful and flawless web experience for everyone, regardless of their browser type, settings and system capabilities
- enables delivery of richer content to users who can support it, while providing a practical alternative for everyone else
- reduces abandonment by preventing web site failures
- maximizes online sales, conversion rates, marketing ROI, and overall profitability
- eliminates confusing technical jargon that clutters sites
- provides automated self-help to users, thereby slashing web support costs and improving the scalability and response time of your help desk
- reduces web development costs and shortens time to market
- gathers and logs technical details on each user's experience, invaluable for troubleshooting and improving site design and usability
- ensures high satisfaction for every user and strengthens your brand, image, and credibility

What to Look For in a Solution

Look for these mandatory features when seeking an Intelligent Browser and System Analysis solution:

Detection of all browsers and system settings: The solution must accurately identify all past, present, and even future browsers. It must also detect disabled JavaScript and cookies, plug-ins, connection speeds, security settings, display size, Java capabilities and other settings needed to ensure your site's minimum requirements are met.

Automatic updates: The solution must track all changes in the browser marketplace and automatically update its browser definition data files accordingly.

Using a maintenance-free solution enables developers to focus on core responsibilities rather than on browser analysis tools.

Seamless integration: Look for a solution that does not require changes to your application framework. Whether your site is built with ASP.NET, Active Server Pages (ASP), ColdFusion MX, or JavaServer Pages (JSP), the solution must integrate seamlessly, deploy easily, and require only a few lines of code.

Extensive back-testing: Look for a solution that is extensively back-tested and refined. Only from exposure to such large deployments is it possible to ensure a solution works accurately and reliably with all possible combinations of browser types, versions, operating systems and varying user settings.

Proven and standardized solution: Work with a proven, widely adopted solution that has a successful track record going back many years. It should use a standardized API that is well-documented, easy to learn, and preferably already familiar to your development team.

Technical logging: The solution must gather and automatically log complete technical data regarding your users. This data should contain details about each user's browser configuration and system capabilities.

Page Load Time and Error Monitoring: The solution must track the *actual* web page load times as experienced by each user on the site, including network latency. The solution should not rely on synthetic transactions from "robots" to simulate user activity. Likewise the solution should log JavaScript errors that users experience on the site so that these errors are no longer hidden from site owners.

Fast and efficient analysis: Choose a solution that executes on the web server and sends only the minimum analysis code needed to each browser. This avoids overhead and slower performance otherwise incurred when using inefficient JavaScript that must be sent to the browser in its entirety.

Easily accommodates growth: Seek a solution that not only meets your requirements today, but will also easily accommodate future needs. This enables you to leverage your existing investment in the solution without having to seek alternatives as your needs grow.

Dedicated and responsive support: Seek a vendor that provides direct access to a highly-responsive live support team, an extensive knowledge base, and numerous sample scripts you can leverage for immediate use.

Seek a solution that is highly efficient, extensively back-tested, and widely adopted. The solution must integrate seamlessly with your site and operate 100% maintenance-free.

BrowserHawk – The Industry Standard Solution

BrowserHawk is the world's largest selling Intelligent Browser and System Analysis tool. As the industry standard solution since 1997, more than 35,000 developers in over 70 countries use BrowserHawk. Customers include numerous Fortune 500 and Global 2000 enterprises.



BrowserHawk is the industry standard Intelligent Browser and System Analysis tool used by Fortune 500, Global 2000 and other leading enterprises in over 70 countries.

BrowserHawk makes it easy for your developers to build and support high impact, rich web sites that reach the widest possible audience, while ensuring a successful and flawless web experience for every user – regardless of their unique browser settings and system capabilities.

BrowserHawk runs from your web server and does not require any setup by your web site users. It installs easily and integrates seamlessly with all web sites, including those built with ASP.NET, Active Server Pages (ASP), ColdFusion MX and JavaServer Pages (JSP).

BrowserHawk is a complete, fully automated solution. This enables your developers to focus entirely on their primary duties rather than on browser analysis. No longer must developers struggle with inadequate tools or the time-intensive, more costly approach of developing and maintaining such tools in-house.

Unique BrowserHawk Advantages

BrowserHawk is the leading Intelligent Browser and System Analysis tool, delivering a number of unique advantages:

Developed and maintained by cyScape, Inc. – cyScape is the industry's leading authority on browser and system analysis, and the only company in the world exclusively dedicated to actively developing and supporting Intelligent Browser and System Analysis tools.

Fully automated and 100% maintenance free – cyScape continuously monitors the browser market and maintains updated browser definitions for its customers. These updates can be downloaded and installed automatically on your servers by BrowserHawk, without requiring any involvement on your end.

Comprehensive and 100% accurate – BrowserHawk detects and works flawlessly with every browser including IE, Firefox, Safari, Netscape, Mozilla, Opera and hundreds of others. It also handles hundreds of search engines and wireless devices.



A one-stop-shop for all detections needs – Whether you need to detect over one hundred settings or just a few critical ones for now, BrowserHawk delivers the capabilities you need today, while providing plenty of room for growth in the future.

The only solution for full browser and system analysis logging – BrowserHawk is the only solution that automatically gathers and logs a complete technical data on each user's browser settings and system capabilities to your database, with no programming required. This includes details on the actual page load times and JavaScript errors experienced by every visitor to your site.

Extensively back-tested – BrowserHawk is deployed by many of the world's largest enterprises, and collectively processes billions of requests every day. Only through this level of exposure is it possible for a solution to be thoroughly back-tested enough to ensure it works properly with all combinations of browsers, operating systems, and varying user settings.

Easy to deploy – BrowserHawk is available as a native .NET, ActiveX and Java component that integrates seamlessly with all sites, including those built using ASP.NET, ASP, ColdFusion MX and JSP. It installs in minutes and can be implemented using only a few lines of code.

Extremely fast and highly efficient – BrowserHawk provides enterprise-class scalability and will not slow down your users or impact the performance of your site. In addition to its proprietary caching subsystem (known as DashCache™), BrowserHawk employs a number of browser optimizations to ensure the best performance at all times.

The industry standard solution – BrowserHawk is the industry standard Intelligent Browser and System Analysis tool. Choosing BrowserHawk ensures you use a well-supported, trusted, mature, and proven solution you can depend on now and in the future.

BrowserHawk customers include Bank of America, Microsoft, Goldman Sachs, Intel, Yahoo, Cisco Systems, Macy's, Verizon, AT&T, Adobe Systems, Symantec, Disney, Ford, Nordstrom, IBM, Pfizer, Avon, Hewlett Packard, Sun Microsystems, CarMax, Duracell, Sony, JCPenney, and many other of the world's leading enterprises.

For more information and a free consultation on how BrowserHawk can improve your company's profitability, call cyScape at 1-800-932-6869 or 1-301-424-8200, or email sales@cyscape.com. A fully functional, free trial of BrowserHawk is also available for developers from www.cyscape.com.

For the latest version of this document go to www.cyscape.com/whitepapers

*First introduced
back in 1997,
BrowserHawk is a
fully-supported,
trusted, mature, and
proven solution you
can rely on today
and in the future.*

BrowserHawk Reviews – Excerpts

"Developers rely on all sorts of home-grown 'sniffer' scripts to detect users' browser settings...So why turn to a commercial product for this job? cyScape's BrowserHawk quickly provided me with the answer: enterprise scalability; quick integration with ASP.NET, classic ASP, ColdFusion MX, and JSP sites; and accuracy.

Usually with one line of ASP code I called the information BrowserHawk found and took appropriate action, such as instructing the user to upgrade a necessary plug-in. With the custom-built code I've used previously, this process was convoluted and I was always revising the scripts to handle new browsers.

These capabilities, plus saving all this information to a database for reporting, make BrowserHawk an essential tool for Web developers, support staff, and administrators."

Source: Infoworld – BrowserHawk Review

http://weblog.infoworld.com/tcdaily/archives/2006/11/review_cyscape.html

"I had always wished for a quick and easy server-side solution to handle simple browser and plug-in checking, but had never even fathomed having access to the amount of information that is made available using BrowserHawk from cyScape. If you think this is just another browser detection script, you could not be more wrong."

"BrowserHawk is definitely the software to use for customizing your Web visitor's site experience. I definitely will be using BrowserHawk in the future. While you may not need all of the functionality of the Enterprise edition, they have a fair pricing structure that will allow you to purchase only the functionality you need."

Source: ColdFusion Developers Journal – BrowserHawk Review

<http://www.cyscape.com/products/bhawk/reviews>

"While the Request.Browser property [provided by ASP.NET] provides some usefulness, it suffers from two main drawbacks. To perform more in-depth browser analysis, you'll need to turn to a third-party component - BrowserHawk by cyScape, Inc."

"If you need a foolproof way to determine or log your visitors' browser capabilities, BrowserHawk may provide the support you're looking for."

Source: MSDN Magazine – BrowserHawk Review

<http://www.cyscape.com/products/bhawk/reviews>

*"BrowserHawk is the market leader for commercial browser detection components..."
"...I would strongly recommend you download BrowserHawk and give it a test drive. I found the product to be very mature, well-documented, easy to use, and full-featured."*

Source: ASPAlliance – BrowserHawk Review

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