watchfire

BEST PRACTICES
Ensuring Good Customer Experience through eBusiness Quality Testing

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INTRODUCTION

Your website is only as good as your last customer's experience. According to a recent article from Creative Good president Mark Hurst (www.creativegood.com), "the customer experience is the key driver of success online". Your customers may include visitors purchasing goods from your corporate website, an employee accessing a price list from your intranet, and a business partner or supplier trying to find technical support databases from your extranet. The whole basis of ebusiness is to create lasting, mutually productive customer relationships.[1] Understanding what makes a good customer experience is key to understanding why testing is so important for a quality website deployment.

UNDERSTANDING THE CUSTOMER EXPERIENCE

Think Internet. You're translating a bricks and mortar store into a virtual storefront. If you went into your local department store and had to search for more than 10 minutes for a desired item, you'd get annoyed and leave, especially if there wasn't any clerk available to help you. Now translate that experience to the Web. Same experience, same level of frustration, but here the frustration level doesn't happen in 10 minutes, it happens in 10 seconds. There are no second chances on the Web — there are too many competing sites offering the same products and services. Whereas in the bricks and mortar world your customer may come back at some point in the future, chances are they won't in the Internet world.

Think intranet. Intranets have replaced paper for communicating information to company employees. Your salesman on the west coast needs those updated sales prices before he closes a sale, not afterwards.

Think extranet. You're sharing information with external customers to streamline customer service, increase sales and reduce costs. A major customer can't find fact sheets on your products. Same experience, same level of frustration. You can't afford to frustrate them anymore than you would your website visitors.

Think ease of use. Think quality.

CREATE A GOOD CUSTOMER EXPERIENCE

Watchfire has identified the following characteristics that comprise a good customer Web experience:

1. **Accessibility.** If customers can't find you, they can't use you.
2. **Usability.** Problems with user interfaces lose customers.
3. **Availability.** Downtime is unforgivable. It's like an unanswered phone.
4. **Reliability.** Failure of any sort sounds your site's death knell.
5. **Functionality.** A poorly functioning website reflects badly on your company.

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[1] This paper uses the term "ebusiness" rather than "ecommerce", because we believe ebusiness encompasses so much more than ecommerce; you have partnerships with paying customers, employees and partners. Your web presence is much more than a virtual storefront — it's a key vehicle for communication.

More and more users with minimal technical expertise are getting online, and they're demanding simpler, faster, easier to use websites. The rapid growth and increasing use of the Internet for purchasing goods and services or for sharing information has also made quality and performance testing essential for ebusiness survival.

WATCHFIRE'S APPROACH TO QUALITY WEBSITE TESTING

Ebusiness, by its very nature, is mission-critical. An ebusiness site is more than the home page; it encompasses the entire architecture from suppliers through backend databases up to intranet and extranet applications. Every aspect must be thoroughly tested for quality and performance.

Each website service offered to customers must be systematically explored and tested for turnaround times and overall server response. Watchfire's equality Suite offers a comprehensive package of software applications designed to deliver ebusiness quality analysis and performance testing solutions.

In traditional client/server product development, the development life cycle is typically 6-12 months in length. QA testing is built into the life cycle and scheduled accordingly: develop, test, fix bugs, develop, and test. This is called *iterative* development. Software companies have QA personnel that conduct manual and automated tests to ensure that most of the product bugs have been worked out before the product is shipped out the door.

In the world of the Web, the development life cycle is much shorter. Iterative development and testing are even more important in web development, because first impressions are critical and the business risks inherent with ebusiness applications are great. In web environments, the ideal development life cycle should go something like this:

1. Develop an architecture that is scalable.
2. Develop a web page. Test to make sure it works.
3. Integrate the web page on the development mirror site. Test to make sure the whole segment works.
4. Integrate the web segment into the development site. Test to make sure the entire site works.
5. Launch the live website. Test continuously to ensure ongoing reliability and availability.

Watchfire's products are designed with this iterative approach in mind. They work with you and your web team to ensure quality every step of the way.

Testing for Accessibility

If customers can't find you, they can't use your products or services. Although seemingly simplistic, it's amazing how many web developers don't consider the importance of metatags when they create and launch Web pages. Metatags are a key vehicle for getting your website listed by search engines.

Using a familiar spreadsheet-style interface, Watchfire's **Metabot** makes it simple to generate and manage metadata for HTML documents. This indispensable tool allows

web authors to view metatags already in their files, to insert new metatags into many files at once, and to test for metatag standard compliance.

Testing for Usability

Problems with user interfaces lose customers. Common problem usability areas include:

- Links: It's been proven in website usability tests that customers will click on the link that promises to help accomplish their goal. As an ebusiness operator, you need to make sure those links are fully functioning, point to the right destination, and aren't any missing titles.

- Images and buttons: Users from the opposite side of the globe may turn off images in their browsers so they can have faster access time while on the Web. If you don't have alternate tags on a checkout button, they may not be able to purchase goods and services from your website.

- Page content as a whole: Large, flashy graphics and complicated JavaScript files can slow down page load time. Web teams must consider at what speed customers are accessing their site, and design and test accordingly.

Watchfire's **Linkbot Pro** will automatically scan a website, including pages with JavaScript, FORM tags, Flash files, and sites containing Lotus Notes/Domino, for more than 50 types of problems. It pinpoints links that don't work or that contain problems such as missing attributes and metatags. This helps ensure that your customers, be they your employees, customers or partners, can access the information they need. Linkbot is a vital tool to ensure that the path to information on the website or via a portal is not broken. Using the Log Analysis feature, webmasters can find out how many people tried to visit those broken links.

Studies show that users will not wait longer than 20 seconds for a page to load before leaving the site. Linkbot records page download times from 3 common access speeds: 28.8k, 128 and T1 and generates a detailed report that pinpoints problem pages and offers solutions. It also offers search and repair capabilities, which eases the workload for web teams so they can focus on content.

Once you launch your site, web developers can use Linkbot's Local Files Report to check that all the URLs are pointing to correct destinations. It lists absolute URLs that may point to files on a local server that users outside the network will not be able to access.

Success brings increasing demands. As your website and its infrastructure grows, automated quality testing becomes even more critical and timely. **Linkbot Enterprise** was designed with large, scalable websites in mind. It scans websites of unlimited size and saves site data into an SQL database for historical and real-time reporting. Linkbot Enterprise allows customers to parse forms during scanning. It can tell the web developer if these forms are working and check to see if the rest of the site is accessible. Its reports let management stay informed and enable Web enterprise teams to better manage the content, applications and performance of their mission critical web environments. The Anchor Report provides an overview of broken anchors on a website and pinpoints the documents attempting to link to these anchors. The Recommendations Report offers site improvement suggestions.

Testing for Availability

Downtime is unforgivable. It's like an unanswered phone. Because ebusiness is by its very nature global, it's vital that everything be up and running 24x7. Many systems and applications compose an ebusiness infrastructure. Watchfire's **Watchbot** monitors the health of website infrastructures by pinging mission-critical servers for availability and response times. It runs in the background, constantly monitoring and alerts pre-defined users via email when problems arise.

Testing for Reliability

Failure of any sort sounds your site's death knell. Customers need to know your website and all its information is always there whenever they need it. **Watchbot** provides a safety net to alert your web team to performance problems within your external and internal websites by providing performance reports to help you pinpoint specific issues. It also generates management reports to help you provide trend analysis and adjust project requirements to expand your Web presence and better serve your company's customer base.

Regular regression testing is just as crucial once a site is live as it is during website development. Because ebusiness sites change often, every part must be analyzed and tested to ensure it still functions as intended. Watchfire products are automated and easy to use. They take care of the complex tasks behind the scene, allowing the web team to concentrate on the content, design and usability of their website.

Testing for Functionality

It's a given that each segment of an ebusiness site must function as intended. Most sophisticated websites use forms to secure access to entire sections of their site, as well as to prompt the user for input. If these forms don't work properly, you're essentially shutting the door on your visitors. Many ebusiness sites conduct customer purchases via web transactions. If customers can't buy from your site, it's like having a broken cash register. They'll go "next door" and you'll lose valuable revenue and the potential for repeat business.

Watchfire's **Macrobot** tests web transactions, forms, images and buttons. Designed and developed for web application environments, Macrobot automates the repetitive labor-intensive process of manual testing. Because Macrobot can record any number of test activities and automatically generates test scripts, websites can be re-tested easily by running one or many test scripts and data iterations, thereby reducing the time, cost and resources required to perform testing.

Watchbot integrates seamlessly with Macrobot to run test scripts on a real-time basis. Macrobot simulates a real user performing ecommerce transactions, 24 x 7, and can run test projects based on an interval specified by Watchbot. Upon completion of the task, Watchbot will execute an alert, if required, and publish the Macrobot summary report. Once a deployed site experiences heavy traffic or encounters problems, Watchbot can deliver alerts to the application developer or the support team. This allows web application developers to monitor operations, as well as troubleshoot problems.

TESTING IN WEB TEAMS

According to the University of Texas Internet survey, the US Internet economy totaled $301 billion dollars in 1998 and created 1.2 million jobs. With this growth in the Internet, more and more companies and retailers are increasing their web presence; so much, in fact, that we now refer to these next-generation sites as "Enterprise Websites". These sites are characterized by their large size, highly complex nature, and the fact that they are supported and authored by a great number of development teams and content providers. These sites bring new challenges and requirements to website quality analysis.

Enterprise websites pose new challenges to companies trying to manage this exponential growth. Many companies have split their websites into several key segments and have formed web teams to develop and implement their website. Managing these teams and managing the entire website is now far more complex than ever before. Web teams are often distributed over large corporations both geographically and organizationally, which means that quality analysis is often a case of "managed chaos."

Designed for large websites, **Linkbot Enterprise** is specifically designed for large websites managed by many web developers. It has the capability to provide "scoped" error reports, which means that reports can be focused to individuals or groups of individuals according to customized user profiles. Stakeholders can now access information they require through either personalized HTML reports or powerful query-driven Active Server Page (ASP) reports. They can now query by example through ASP reports by entering a URL and receiving a complete report on that URL.

Management can now gain a true understanding of "what is happening" in the web development area. Linkbot Enterprise can generate email messages to any stakeholder concerning the quality of growth statistics covering an enterprise website or any segment contained within. These reports enable management, team leaders, and developers to get the information they need to assess the status of their websites, assess quality issues in specific areas, and compare quality between development teams, business units, and competitors.

IN CONCLUSION

The nature of websites and web applications demands thorough and comprehensive testing. The goal of ebusiness quality testing is to provide operations managers with better ways to diagnose performance issues and improve service-level reporting.

In an ebusiness environment, testing can sometimes be difficult — the Internet is always in a state of flux, there are no standard platforms or operating systems, and you can't see the responses that the customer is actually getting. Finding the right toolset can be a challenge. As your ebusiness becomes more and more important to your overall bottom line, you need Watchfire's equality Suite to help ensure your web presence is as good as your last customer's experience.