DANIEL BURRUS'
TECHNO TRENDS
THE BIG IDEAS THAT ARE CHANGING EVERYTHING

Why Your Company Needs an Adaptive Website

By Daniel Burrus, CEO of Burrus Research

We are currently in the midst of one the biggest software and hardware revolutions we've ever witnessed. With processing power, storage, and bandwidth increasing exponentially, smart phones and smart tablets are quickly becoming our main personal and business computer. Customers, employees, and other stakeholders are bringing and using their smart phones and tablets everywhere, and that definitely impacts how they see and interact with your company online.

For organizations of all sizes, this means it's time to take a good look at your website. Sure, your site might look great on a desktop or laptop computer screen. But how does it look on all of the different sizes of screens found on today's wide variety of tablets and smart phones? Chances are the answer is "not good." That's why at this point in time all companies need to make their site adaptive and design their websites for mobile first.

Today's Mobile Web Sites

To address the mobile revolution, many companies have created a second mobile version of their website so their content can be viewed on smart phones without a problem. But there are big problems! First, you have to design, maintain, and pay for two separate websites. When you update one, the other is in most cases not automatically updated. Additionally, the mobile site is designed for a specific mobile screen size. If your user does not have that phone model, they will still have to scroll around to see your mobile site version.

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MAY 2012 **VOL. XXVIII, NO. 5**

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The New Adaptive Website Imperative

To get a better idea of why a traditionally designed website doesn't work for mobile devices, try this little experiment. Using a laptop or desktop, go to your company's website. Depending on the size of your screen, the website will either fill the entire screen or there will be a border on the right and left side.

Using your mouse arrow, grab the bottom right corner of the browser window for your website. Drag it from the right to the left diagonally up and start making the window smaller. If your website is not adaptive, you'll see that all you're really doing is covering things up. And as soon as the window gets smaller than the pre-defined width of the site, you'll see scrollbars appear on the right and bottom. Now the only way to move around on the page is to scroll. Keep making the window smaller until it's about the size of a smart phone screen. How does it look? You'll see that it doesn't look good at all. As a matter of fact, it's probably not useful either.

If your website was adaptive, as you move that window and make it smaller, the text would automatically reformat and the pictures would move accordingly to fit the smaller screen size. The menu would also adapt and change so your website and content would work on any device. That last point is important, because, as I mentioned earlier, not all smart phones have the same size screen. An Android screen is different from an iPhone screen, which is different from a Blackberry screen. Even tablets have different size screens. So if you don't have an adaptive site, the person viewing your site on their tablet or smart phone will end up having to scroll somehow, somewhere, because of the wide variety of screen sizes. To see a real example of how an adaptive site would look, go to my website at www.burrus.com Other site examples include: http://calebogden.com/ http://owltastic.com/ and http://thinkvitamin.com/

Visit any of those sites and give them a try. View them on your laptop first and shrink the browser window as described earlier and notice how the site changes to fit any size screen. Now try them on your tablet or smart phone. Regardless of screen size, they will all look great. The good news is that any website developer can do this once they understand the concept! So the message is clear: The time to create an adaptive site is now! That means you have two choices. You can go back to whoever designed your current site and have them take your current look and make it adaptive, or you can start over and design a new website.

Design for Mobile First

If you decide it's time to design a new website, an important key to success is to design it for mobile first.

When you design for mobile first, you have to re-evaluate all your content. Business owners as well as website designers are still in laptop and desktop design mode. And because they're thinking in terms of large screens that need to be filled, they put a lot of content online—often way too much. As a result, the vast majority of websites are bloated with way too much information. It's time to throw all that non-essential stuff out. The best way to help you make those tough decisions of which content to cut is to think in terms of mobile first. After all, if your main design is optimized for a small screen that adapts by getting bigger when viewed on a laptop screen (as opposed to shrinking when it gets viewed on a smaller screen), it will be easier to take out all the content and graphics that are not really necessary. If you think that all the content on your current site is necessary, you're only fooling yourself. Most companies have websites that are way too busy. And while the website may look nice and be "cool" or "trendy," it's not getting to the essence of what people need to make decisions or to buy your products. This gives you a strategic reason to get rid of the clutter.

Designing for mobile first forces you to make the hard decisions of what should stay and what should go. It's similar to when someone moves from a large house to a small condo. When you have the big house, you fill it with a lot of furniture you don't use, a lot of artwork you don't look at, and a lot of "must have" gadgets you don't need. Once you downsize your space, you realize you really don't need all that stuff. Even though letting go is painful at first, it gradually gets easier once you realize how free and uncluttered you feel. The same concept applies for your website. You have a big screen to fill, so you fill it. Now put your website on a small screen and decide what your prospects

and customers really need to make a buying decision.

The Future of Website Design

Make no mistake: It's a hard trend (a certainty) that tablets and smart phones are rapidly becoming people's main computer. Therefore, you want your website to be seen well on these devices and to be useful. If you don't want the added expense and hassle of two websites, then step one is to make your current site adaptive. When it's time to redo the site entirely, design it for mobile first. These two steps will put you light years ahead of your competition and boost your online presence and sales immensely.

TECHNOLOGY NEWS HIGHLIGHTS

Hydrogen Breakthrough Leading the Way to Better Renewable Results

With its ambitious goal of reducing greenhouse emissions by 80 percent (relative to 1990 levels) by the year 2050, Germany has led the world in installing solar capacity and is also relying heavily on wind generators to reduce their reliance on fossil fuels. But, since both are intermittent, they're now looking to hydrogen power to fill the gaps in supply, and a new technology may be the key to achieving the scale they require. Traditional electrolyzers are simply too inefficient to meet the needs of an industrialized country that relies on inexpensive power to remain competitive – the main problem being that they require a steady supply of power to split the water molecules. The new design is based on proton-exchange technology and is widely adaptable to varying power levels, so it can run on intermittent power generated by wind turbines. The hydrogen gas will be used to generate electricity or to power fuel-cell vehicles. The next step will be to build up their high-voltage power line infrastructure to better accommodate transmission of renewable power to the areas where it's needed.

For information: Siemens AG, Wittelsbacherplatz 2, 80333 Munich, Germany; phone: +49-69-797-6660; fax: +49-800-225-5336; Web site: www.siemens.com

Facial Recognition

A video surveillance system was recently debuted that is capable of scanning more than 36 million faces in about a second. It uses image recognition to detect faces from recorded surveillance footage or regular photos and groups them according to similar features. Although it's not clear how quickly the faces can actually be analyzed to identify individuals, the system has obvious applications in areas where large-scale security is needed.

For information: Hitachi Kokusai Electric Inc., Akihabara UDX Building 4-14-1 Sotokanda, Chiyoda-ku, Tokyo 101-8980, Japan: phone: +81-(0)3-6734-9401; fax: +81-(0)3-5209-6160: Web site: www.hitachi-kokusai.co.jp

Salt Water Greenhouse

A specially-designed greenhouse may be the answer to resolving the global food crisis by enabling crops to be grown in arid environments. It utilizes seawater, taken from a saline groundwater well to humidify the air, allowing plants to survive, even if temperatures are extremely high. At each end of the structure, the salt water is poured over a cardboard lattice. Prevailing hot winds flowing through the wall release the moisture into the greenhouse creating humidity and cooling the air. As the cool air is drawn through the greenhouse, it passes over a second evaporator where it condenses to form fresh water droplets that may be collected and stored in an underground tank. The salt and other minerals that collect at the base of the walls may also be harvested and sold. Trials in the Middle East and Australia have shown that the system is capable of generating a ton of water a day, and could cut greenhouse water consumption by up to 90 percent in arid regions, where nearly one-fifth of the world's population currently lives.

For information: Charlie Paton, Seawater Greenhouse Limited, 2a Greenwood Road, London E8 1AB, United Kingdom; phone: +44-(0)20-7249-3627; fax: +44-(0)20-7254-0306; email: info@seawatergreenhouse.com; Web site: www.seawatergreenhouse.com

Handmade Cloning

A new method known as handmade cloning (HMC) has successfully produced the world's first transgenic sheep. The simplified procedure requires less sophisticated equipment than conventional cloning, meaning that it's likely to become more prolific in the near future. The cloned sheep, known as Peng Peng, was created by inserting a fatty-acid producing gene from a roundworm into the cell of a Merino sheep. As a result Peng Peng's cells contain the good types of fat found in seeds, nuts and fish, making him theoretically healthier for human consumption – although there are still concerns about the safety of genetically engineered food. HMC has also been used to create clones of cows, goats, pigs and water buffalo.

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Swarming Robots

Researchers in Germany are using the model of swarming insects to design materials-handling robotic vehicles that operate without the need for a central controller. Their job will be to transport goods, around a warehouse for example, with no human intervention. The vehicles employ a hybrid sensor that uses radio signals, distance and acceleration sensors and laser scanners to calculate optimal routes and avoid colliding with other vehicles. When an order is received, they communicate with each other via a wireless Internet connection to find the closest free vehicle. Agent-based software and algorithms based on the behavior of ant colonies (known as swarm intelligence) optimize the work flow. The system is currently running on 50 shuttles in a 1,000 square meter warehouse facility that comprises 600 parts and eight picking stations, but can easily be adapted for larger or smaller areas based on demand.

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Bedside DNA Test

A new genetic testing technique has been developed that can provide results in a matter of minutes. Although it is currently specific for a particular gene variation that causes reactions to a common anti-clotting drug, in the future, it may be adapted for other genetic abnormalities or even multiple genes. Currently, DNA testing requires acquiring a blood sample, sending it off to a laboratory and waiting up to seven days for a report. With the new system, sampling consists of swabbing a few cells from inside the mouth, and results are available in one hour. A printout quantifies the level of risk by how many gene variants are present, enabling a clinician to more quickly determine the best course of treatment.

For information: Derek So, University of Ottawa Heart Institute, 40 Ruskin Street, Ottawa, Ontario, Canada K1Y 4W7; phone: 613-761-5000; Web site: www.ottawaheart.ca

Identify Cancer With Exhaled Breath

A nano artificial nose (known as NA-NOSE) has been developed that can identify cancer in exhaled breath. The presence of lung cancer causes changes in blood chemistry and metabolic activity that are reflected in the chemical composition of exhaled air. NA-NOSE uses an array of sensors to detect a variety of volatile organic compounds, identify patterns in the molecules and distinguish between healthy and non-healthy patients. In a study of 74 subjects, all of whom had single pulmonary nodules, accuracy of the NA-NOSE in distinguishing between benign and malignant tumors was 88 percent. Sensitivity in detecting malignant nodules was 86 percent and it's specificity in correctly identifying benign nodules was 93 percent. The goal is to reduce the number of patients needing to undergo biopsy procedures and to enable earlier intervention in patients needing treatment.

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Technotrends is published 12 times a year by Burrus Research, Inc., a research and consulting firm that monitors global advancements in science and technology and their direct impact on business and consumers. Mary Norby, Editor P.O. Box 47, Hartland, WI 53029-0047. To subscribe, call 800-827-6770, or email office@burrus.com. © 2012 Burrus Research, Inc.