



Your Short Cut to Knowledge

# Optimizing Your Website for Mobile Safari

## Ensuring your website works on the iPhone and iPod touch

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Introduction.....	2
iPhone Basics .....	4
Getting Standard .....	11
Getting Compatible.....	20
Getting Optimized .....	34
Using Rich Media .....	46
How-To's and Other Quick Tips .....	54
Resources.....	62

## Introduction

By all accounts, the iPhone is one of the most successful products in consumer electronics history. In a little over two months following its release, Apple and AT&T sold more than one million iPhones in the United States alone. Then, as if to sweeten the pot, Apple launched the iPod touch, a new iPod that shares the same touch-screen technology as the iPhone.

In addition to the touch screen, the iPhone and iPod touch have something else in common: Mobile Safari.

With most mobile devices, the browser is anemic and underpowered. Although passable in a pinch, they usually display only bare-bones, stripped-down versions of most web pages. Mobile Safari changes that. It's a full-fledged browser that displays pages just the way you would see them in a normal desktop browser.

And if Apple has its way, this is just the beginning. Mobile Safari's underlying technology, WebKit, is Open Source, and it won't be long before other manufacturers start to make devices with browsers very similar to Mobile Safari.

If you have a website, these things are important. As we all know, site visitors who have problems with a website usually don't return. As the number of Mobile Safari users grows, you are potentially talking about millions of visitors who may or may not come back to your site.

This Short Cut will help you get your site in top shape for viewing on the iPhone or iPod touch in Mobile Safari. You'll discover the differences and limitations Mobile Safari has, and you'll see what you can do to make visiting your site a pleasure.

Mobile Safari is a game changer, and the devices it runs on really will change how we use the Internet. By following the advice in this Short Cut, you and your site will be ready for both the current crop of mobile devices and whatever else the future has to bring.

## iPhone Basics

Pick up an iPhone or a new iPod touch, and instantly you know you're holding a special device. Something about it just feels so right. It fits perfectly in your hand (not too big, not too small). It has a heft to it without being heavy, and it's slim without being slight. It feels very solid, and the craftsmanship in the manufacturing is readily apparent.

On the front, a glossy black sheet of optical glass is interrupted by a single button at the bottom of the device. When you press that lone button, the iPhone or iPod springs to life. With a smooth zooming motion, the black glass is transformed into rows of virtual buttons. The interface is seductive, and the buttons just scream for you to touch them.

And what's the most amazing (and the most publicized) part of Apple's touch-screen interface? Your finger is the way you interact with the phone. Your finger pushes buttons, it scrolls through lists of songs and contacts, types text, zooms, and un-zooms. There is no stylus to lose, no mouse cable to get tangled. Everything you do relies on your finger. Even the keyboard is virtual.

### Touch, Tap, Flick, and Pinch

As you touch and tap your way through the interface, you quickly realize just how natural it is to work with data like this. Want to play a song? Just touch it. Maybe you want to zoom in on a photo; it's easy: just place two fingers on the screen and spread them apart. Need to scroll a list of items? Just point, flick, and watch the screen scroll. But after working with the device for just a few minutes, you begin to understand that using touch-screen technology is fundamentally different from anything you've ever done on the desktop.

When optimizing your website for iPhone or iPod touch, the most important thing to keep in mind is this difference. Simply put, the finger is not a mouse. Although that might sound obvious, there are important and significant differences between the way a mouse works with the screen and the way a finger does.

A mouse is extremely precise. A single pixel at the end of the cursor is all you need to press an onscreen button on a desktop computer or to select an object. Furthermore, all mice are the same. Use a mouse on a friend's computer, and it will behave the same as the mouse on your own machine. Take your hand away from the mouse, and the cursor doesn't move. When you're ready to interact with the cursor again, it's right where you left it.

A finger, on the other hand, is vastly different. Some fingers are big, some are small. Some are stubby, some pointy. Whereas a mouse and cursor can point to a single pixel, a finger can only point to a relatively ambiguous area. There's no pointer, either: When you move your finger off of the screen, the device has no idea where your finger is. The iPhone and iPod touch account for these differences, and they do so with aplomb. In the end, however, using a finger is completely different from using a mouse.

These differences become even more apparent when using Mobile Safari. Everything you know about browsing the web changes when you do so on iPhone or iPod touch. Because there is no pointer, certain interface paradigms such as mouseovers and drag and drop become impossible. Other gestures, such as pinching to shrink or reverse-pinching to zoom, aren't possible on the desktop (yet). Table 1.1 has a list of the iPhone and iPod touch gestures.

**TABLE 1.1** iPhone and iPod Touch Gestures

<b>Gesture</b>	<b>Action</b>
Tap	Selects an element on the page (link, form element, and so on)
Double tap	Zooms in and centers on a block of page content
Touch and hold	Shows an information bubble about the selected element
Drag	Moves the viewport
Flick	Scrolls
Pinch open	Zooms in
Pinch closed	Zooms out

## Screen Size

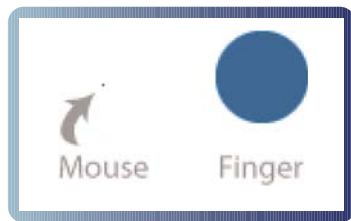
Another obvious difference between the desktop and Apple's mobile devices is screen size. Although the high-resolution color screen of the iPhone is gorgeous, its 320 × 480 pixels makes it considerably smaller than the modern desktop screen. When developing websites that will be viewed by the iPhone, screen size is perhaps the biggest factor to consider when making your website iPhone-ready.

Not only does screen size affect the size of the displayed web content, it also affects how users interact with the page. As mentioned, a finger is not a mouse, and with the small screen size, many web page elements such as buttons and links need to be optimized for viewing in Mobile Safari on the iPhone and iPod touch.

The resolution of the iPhone screen is 160 pixels per inch. If the touch area of an average finger is, say, 1/4 inch, the finger has a touch resolution of approximately 40 pixels (whereas a mouse has a resolution of 1 pixel).

In Figure 1.1, you can easily see how big a difference in resolution that is. Your website design needs to take this into consideration: Links cannot be too close together, and buttons cannot be too small. If they are, it will be far too easy for Mobile Safari users to accidentally click the wrong link or button.

**FIGURE 1.1**  
Comparison of  
mouse and finger  
resolution



## EDGE and WiFi

Although the iPhone is, as Steve Jobs says, “a breakthrough Internet device,” it isn’t always connected to broadband Internet. Most of the time, it uses the mobile EDGE network and, when it can, a WiFi connection. The EDGE network has gotten a bad rap for being too slow; but, in fact, it’s a serviceable connection when you’re on the go. AT&T has even increased the speed of the EDGE network especially for iPhone users. That said, EDGE is still much slower than WiFi, and when using Mobile Safari, you really feel the difference.

When optimizing your website to make sure it works well with Mobile Safari, one thing to bear in mind is that most iPhone users don’t have the same bandwidth that a desktop user might.

Over the EDGE network, a small web page of 200KB takes about 15 seconds just to download the data. This doesn’t take into consideration how long it takes the iPhone to render the page; you can tack on a