

Web Articles by Rob Steiner

Anatomy of an iPhone

Apple's iPhone spurred the smart phone revolution by making smartphones a virtual necessity for those who want to stay connected with friends, family and colleagues. While each year brings greater competition from other smartphone makers, iPhone sales are still going strong. As of the first quarter of 2012, Apple had sold more than 175 million iPhones since its introduction in 2007.

Design

The iPhone 4S is 4.5 inches high and 2.31 inches wide, with a depth of 0.37 inches. It weighs 4.9 ounces. You can choose from two colors -- white or black. The body has distinctive stainless steel, dual-cellular antenna bands that wrap around the perimeter of the phone to increase call quality.

Screen

The screen, or display, of the iPhone 4S measures 3.5 inches diagonally, with a 960-by-640-pixel resolution at 326 ppi. It's a touch-screen display, meaning that most apps and navigation are activated by tapping or swiping elements on the display. It features a Retina display, which is Apple's term for the display's high-density pixels that make games, movies and photos much clearer than previous iPhone versions.

Audio

The iPhone 4S has two speakers -- one at the top of the phone, which you hold to your ear to listen to calls, and one on the bottom, which plays the audio generated by apps and the speakerphone. There are two volume buttons on the left side, along with a silent-ring switch. A 3.5 mm jack at the top of the phone enables you to plug in earphones.

Battery

The iPhone 4S has a built-in, rechargeable, lithium-ion battery that you charge with a power adapter or via a USB hookup to a computer. The talk time on a full charge is up to 8 hours on a 3G connection. Internet usage is the largest battery hog -- only 6 hours with a 3G connection. The device offers up to 10 hours of video playback and 40 hours of audio playback. Standby time is almost 200 hours.

Camera

There are cameras on the front and back of an iPhone 4S. The front camera, just above the display, takes VGA-quality photos and can shoot videos with up to 30 frames per second. The back camera can shoot 8-megapixel photos and can record HD video of 1080p at up to 30 frames per second with audio. An LED flash sits to the right of the back camera.

Storage

The iPhone 4S has three different storage capacities from which to choose: 16GB, 32GB and 64GB.

List of Different Web Servers

The term “Web server” can refer to either hardware or software. Almost any computer can be used as Web server hardware, and your Web server software choices are myriad. According to Netcraft's August 2012 Web Server Survey, the most widely used Web server software on the Internet comes from Apache, nginx, Microsoft, and Google.

Hardware

Web server hardware is any the computer on which Web sites are stored. Professional server computers need to be fast, with lots of disk storage space and a permanent Internet Protocol address identifying the computer on the Internet. Web servers are networked and connected to the Internet at all times.

You can theoretically use a computer at your business as a Web server, but running a server requires a lot of monitoring and maintenance. It is usually easier and more cost effective to hire a Web-host company to store your Web sites.

Software

Web server software is a program that runs on the hardware that stores Web sites. Server software “serves up” a Web site when a Web browser on the Internet requests the site, either by clicking a link to the site or by entering the site's Uniform Resource Locator in the browser's address field. The server software uses the Hypertext Transfer Protocol to send the Web page to the Web browser, where it is displayed to the end user.

Apache Web Server

When it comes to market share, Apache is the undisputed king of Web servers, running about 60 percent of the Internet's Web sites as of August 2012. Apache is open-source server software that supports common Web programming languages like PHP, Perl, and Python. It can run on operating systems like Windows and Apple OS X, but is primarily run on Linux or UNIX computers. It's stable, has a large developer community, and is well documented, all of which make it such a popular choice.

Nginx Web Server

Pronounced “engine-x,” this Web server is tied with IIS as the second most popular on the Internet, with about 12 percent of market share. It's open source and can run on the major operating systems like UNIX, Linux, Windows, and Mac OS X. The developers of nginx claim it is better than Apache regarding low memory usage when serving large numbers of site requests. Apparently companies like Netflix, Hulu, and Wordpress.com agree; all use nginx server software.

Microsoft Internet Information Services Web Server

Computers running Microsoft Windows can use the IIS Web server. IIS is required for Web sites that are programmed in ASP.NET. IIS is a proprietary server -- that is, not open source -- and you need to purchase a license to use it.

Google Web Server

While GWS is the fourth most used server software on the Web, according to Netcraft's August 2012 Web Server Survey, it is not a server the public can use. The reason it has such a huge market share is due to Google's user-generated content sites like Blogger.com, Google+, and Flickr.

How to Design a Web Page for an iPhone

With the ubiquitous rise of smartphones – spurred by Apple iPhone's release in 2007 – a vast chunk of information consumers use their mobile devices as their primary way to browse the Web. While iPhone's Safari browser can render almost any Web site as-is, pages optimized for the iPhone's screen dimensions provide users with a more pleasant browsing experience.

Step 1

Open your HTML/CSS editor and create a new HTML file, with the standard page components. See the W3Schools HTML Tutorial (link in Resources) for a refresher in standard HTML, if needed.

Step 2

In the <head> section of your HTML file, set the viewport to the width of an iPhone device. Do this by adding the following <meta> tag:

```
<meta name="viewport" content="user-scalable=no, width=device-width" />
```

This ensures your Web page will fill up the iPhone screen and not be zoomed out when users open it in their iPhone Web browser.

Step 3

Still in the <head> section, add a link to your external CSS style sheet. Give your style sheet a name like "iphone.css" to differentiate it from other style sheets you may use on your website. For example:

```
<link href="iphone.css" rel="stylesheet" type="text/css" media="only screen and (max-width: 480px)" />
```

The "media='only screen and (max-width: 480px)'" element will ensure the "iphone.css" style sheet is only used when viewing the Web page from a device with a 480 pixel screen width, which is the width of an iPhone.

Step 4

Use <div> tags in your HTML file to design a single-column layout for your Web page. Single-column layouts are ideal for the iPhone's screen. A sample HTML div layout might look like the following:

```
<div id="container">
<div id="header"></div>
<div id="navigation"></div>
<div id="content"></div>
</div>
```

Step 5

Create a new CSS file and name it "iphone.css". See the W3Schools CSS Tutorial (see Resources) if you need help writing CSS.

Step 6

Add general, page-wide styles to the "body" element in your CSS file. These should include the page's background color, fonts, and overall margins/padding. For example:

```
body {
background-color: #ddd;
font: normal 14px Helvetica;
```

```
margin: 0;
padding: 0;
}
```

Step 7

Set the page width in your “container” div to “100%”. Keep the padding surrounding the main div to 6 to 8 pixels, or you risk limiting the space for your content. For example:

```
div#container {
width: 100%;
padding: 7px;
}
```

Step 8

For your page's navigation, use tags in the HTML and “display: block;” elements in the CSS. This combination will give menus and buttons the same look as an image. Ensure the “padding” elements have plenty of room by specifying enough pixels to make the buttons easy to tap. For example:

```
#navigation ul {
list-style: none;
margin: 10px;
padding: 0;
}
```

```
#navigation ul li a {
background-color: #fff;
border: 1px solid #999;
color: #222;
display: block;
font-size: 14px;
font-weight: bold;
padding: 12px 10px;
text-decoration: none;
}
```

Step 9

Upload your new Web page to a Web server, and then test it on your iPhone's Web browser. Try the built-in Safari browser first, but also consider downloading other iPhone browsers. See Onbile's list of iPhone Browsers (link in Resources) for a list of the most popular.

Step 10

Continue tweaking the CSS until you achieve the look and feel you want for your iPhone-optimized Web page. For example, consider adding iPhone-specific looks -- like rounded corners and gradients -- with the “-webkit” CSS elements. Find a comprehensive list of these at CSS Infos (see Resources).

Tips

Use the “display: none;” CSS element in your “iphone.css” style sheet to hide large images or entire sections in your HTML file. Large images take longer to download, especially if your iPhone users view your page over a 3G wireless connection.

Run your HTML and CSS through the W3C Validators to ensure they comply with W3C standards.

Standards-compliant markup is more likely to display correctly on not only the iPhone, but all Web browsers.

If you don't have an iPhone for testing, you can simulate one with the Safari Web browser. Open Safari Preferences, select Advanced, and then check "Show Develop menu in menu bar." Click Develop, then User Agent, and then choose the Safari iOS version you want to simulate.

Warnings

IPhones do not support Flash, so don't put Flash-based elements on your iPhone-optimized Web page. Instead, use HTML 5 video and then, if necessary, include a link to a Flash backup video for devices and computers that do not support HTML 5.