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# Creating a Website

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HTML5



Matthew MacDonald

# Creating a Website: The Missing Manual, Fourth Edition

**Matthew MacDonald**



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# The Missing Credits

## About the Author



Matthew MacDonald is a science and technology writer with well over a dozen books to his name. He's taken countless readers onto the Web with books like *WordPress: The Missing Manual* and *HTML5: The Missing Manual*. He's also shown people just how strange they really are with the mind-bending weird science of *Your Brain: The Missing Manual* and *Your Body: The Missing Manual*.

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# Introduction

Congratulations! You're living in the golden age of website-building. The world has never had better, more powerful, or easier-to-use tools for making top-notch websites.

However, there's a catch — all these great tools make for some seriously confusing choices. If you're new to web design, you'll need to sort through a dizzying assortment of technologies before you can actually start building web pages. Depending on your ambitions and skills, some of these tools will be downright essential to your site, while others will be nearly irrelevant.

That's where this book, the fourth edition of *Creating a Website: The Missing Manual*, comes into the picture. Think of it as your personal trainer for site-building. You'll start by learning how to create basic web pages, using the standards that underpin every page on the Web (that's HTML and CSS). You'll then branch out to explore the services provided by companies like Google that can help you popularize your site, count your visitors, and even make you some money. You'll even take a condensed tour of JavaScript, the programming language that powers almost every interactive page you meet online.

In short, this book is the perfect guide for people who want to build a site on their own, starting from scratch, but with all the goodies the modern-day Web has to offer. It's also a gentle starting point for anyone who wants to get deeper into the field of website design (and [Appendix A](#) has plenty of suggestions for ambitious readers who want to learn more). If either of these descriptions describes you, welcome aboard!

## WORD TO THE WISE: WHO SHOULDN'T READ THIS BOOK

It's worth pointing out that this book isn't for everyone. If you're familiar with web technologies like HTML and CSS, and you just want to learn what's new in their most recent incarnations (HTML5 and CSS3), you'll probably prefer the fast route offered in *HTML5: The Missing Manual* (O'Reilly).

If you're planning to build your website with the fantastically popular WordPress blogging-and-so-much-more framework, you should detour to *WordPress: The Missing Manual* (O'Reilly). (That said, if you want to build a traditional website and then *supplement* it with a blog, this book has you covered.)

If you're a programmer who's planning to create a highly interactive website or web application, you're cooking a different kettle of fish. First, you need to learn how to write code that works on a web server, the high-powered but mostly unseen computers that run the Internet. Starting down this path can be tricky, because there are more web programming languages in the world than there are contestants on *The Bachelor*. However, you'll find a good, gentle introduction in the book *Learning PHP, MySQL, JavaScript, CSS & HTML5* (O'Reilly). (Fair warning: If you really want to program everything yourself without shooting yourself in the foot or opening gaping security holes, you may actually need a whole *team* of web developers working with you.)

## The Glory of Building a Website from Scratch

There are many ways to establish your web presence. You can chat with friends through a Facebook page, share your snaps on Instagram or Flickr, put your home videos on YouTube, or write short diary-style blurbs on a blog hosted by a service like Blogger. But if you're ambitious enough to have picked up this book, you're after the

gold standard of the Web: a completely personalized, built-from-scratch site to call your own.

So what can you accomplish with a website that you can't do with email, social networking, and other web-based services? In a word: *anything*.

Depending on your goals, your website can be anything from a handy place to stash your resumé to the hub of an ecommerce warehouse that sells personalized underpants (hey, it's made more than one Internet millionaire). The point is that creating your own website gives you the power to decide exactly what that site is — and the control to change everything on a whim. And if you already use other web-based services, like YouTube and Facebook, you can make them a part of your website, too, as you'll learn in this book. For example, you can put the YouTube videos of your cat playing pool right next to your personalized cat merchandise.

Of course, with great power comes great responsibility — meaning that if you decide to build your own site, it's up to you to make sure it doesn't look as hokey as a 1960s yearbook portrait, or run as clunkily as a 1970s Chevy. To help you dodge these dangers, this book starts out by giving you a solid grounding in the nerdy-seeming HTML and CSS languages. Don't panic — these standards are surprisingly easy to learn for both computer whizzes *and* normal people. You'll even get some exercises to help you practice.

That's not to say that you have to do everything the hard way. This book spends plenty of time covering free website services that can do the difficult jobs you definitely don't want to tackle on your own, like tracking visitors or building a shopping cart. And the do-it-yourself web smarts you pick up will serve you well, even if you step up to handy website-building tools like Adobe's popular Dreamweaver software. (In fact, you'll learn how to choose from a few completely *free* web design tools in [Chapter 5](#), including a professional site-designing tool from Microsoft that once cost hundreds of dollars, and a new upstart from Adobe.)

## Types of Sites

You don't have much chance of creating a successful site if you haven't decided what it's for. Some people have a very specific goal in mind (like getting hired for a job or promoting a concert), while others are just planning to unleash their self-expression. Either way, take a look at the following list to get a handle on the different types of sites you might want to create:

- **Personal** sites are all about you. Whether you want to share pictures of Junior with the relatives, chronicle a trip to Kuala Lumpur, or just post your latest thoughts and obsessions, a personal website is the place to do it. These days, you can use social networking sites like Facebook and Instagram to share your life with friends, but a personal site is a good choice if you're more ambitious (say you want to chart five generations of family history) or you want complete design control (forget Facebook blue).
- **Resumé** sites are a specialized type of personal site and a powerful career-building tool. Rather than photocopy a suitcase full of paper resúés, why not send emails and distribute business cards that point to your online resumé? Best of all, with a

little planning, your online vita can include more details than its tree-based counterpart, like links to former companies, an online portfolio, and even background music playing “YMCA” (which is definitely not recommended).

- **Topical** sites focus on a particular subject that interests you. If you’re more interested in talking about your favorite music, art, books, food, or political movement than you are in talking about your own life, a topical website is for you.

#### TIP

Before you set out to create a site, consider whether other people with a similar interest will want to visit it, and take a look at existing sites on the topic. The best topical websites attract people who share the same interest. The worst sites present the same dozen links you can find anywhere else. Remember, the Web is drowning in information. The last thing it needs is another *Justin Bieber Fan Emporium*.

- **Event** sites aren’t designed to weather the years — instead, they revolve around a specific event. A common example is a wedding website. The event hosts create it to provide directions, background information, links to gift registries, and a few romantic photos. When the wedding is over, the site disappears — or morphs into something different (like a personal site chronicling the honeymoon). Other events you might treat in a similar way include family reunions, costume parties, or do-it-yourself protest marches.
- **Promotion** sites are ideal when you want to show off your personally produced CD or hot-off-the-presses book. They’re geared to get the word out about a specific item, whether it’s handmade pottery or your own software. Sometimes, these websites evolve into small-business sites, where you actually sell your wares (see the “Small business” bullet point below).
- **Small business (or ecommerce)** sites show off the most successful use of the Web — selling everything from portable music players to prescription drugs. Ecommerce sites are so widespread now that it’s hard to believe that making a buck was far from anyone’s mind when the Web first debuted.

#### NOTE

Creating a full-blown ecommerce site like Amazon.com or eBay is far beyond the abilities of a single person. These sites need a team of programmers working with complex programming languages and sophisticated programming techniques. But if you’ve come to the Web to make money, don’t give up hope! Innovative companies like PayPal and Yahoo provide services that can help you build shopping cart–style sites and accept credit card payments. You can also host Google ads or hawk products from Amazon’s website to rake in some cash. You’ll learn more in [Chapter 13](#).

Once you pinpoint your website’s *raison d’être*, you should have a better idea about who your visitors will be. Knowing and understanding your audience is crucial to creating an effective site. (And don’t even try to suggest that you’re creating a site just for yourself — if you are, there’s no reason to put it on the Internet at all!)

## About This Book

No one owns the Web. As a result, no one is responsible for teaching you how to use it

or how to build an online home for yourself. That's where *Creating a Website: The Missing Manual* comes in. If the Web *did* have an instruction manual — one that detailed the basic ingredients and time-saving tricks every site needs — this book would be it.

## What You Need to Get Started

This book assumes that you don't have anything more than a reasonably up-to-date computer and raw ambition. Although there are dozens of high-powered web page editing programs that can help you build a site, you *don't* need one to use this book. In fact, if you use a web editor before you understand how websites work, you're liable to create more problems than you solve. That's because, as helpful as those programs are, they shield you from learning the principles of good site design — principles that can mean the difference between an attractive, easy-to-maintain web creation and a disorganized design nightmare.

Once you master the basics, you're welcome to use a fancy web page editor like Adobe Dreamweaver. In this book, you'll get an overview of how Dreamweaver works, and you'll discover a few great free alternatives (in [Chapter 5](#)).

### NOTE

Under no circumstances do you need to know anything about complex web programming technologies like Java or ASP.NET. You also don't need to know anything about databases or XML. These topics are fascinating but insanely difficult to implement without some solid programming experience. In this book, you'll learn how to create the best possible website without becoming a programmer. (You *will*, however, learn just enough about JavaScript to use many of the free script libraries you can find online.)

## About the Outline

This book is divided into five parts, each with several chapters:

- [Chapter 3](#). In this part, you'll learn the basics behind HTML, the language of the Web ([Chapter 1](#) and [Chapter 2](#)). Next, you'll learn your way around the CSS standard, which lets you apply fancy colors, fonts, and borders to your pages ([Chapter 3](#)) and you'll add pictures, too ([Chapter 4](#)). Finally, you'll look at how you can simplify your life using web page editing programs ([Chapter 5](#)).
- [Part 2](#). This section shows you how to scale up to a complete website made up of multiple pages. You'll learn how to link your pages together ([Chapter 6](#)), style your entire site in one blow ([Chapter 7](#)), and master some slick layouts ([Chapter 8](#)). Finally, you'll put your pages online with a reputable hosting company ([Chapter 9](#)).
- [Part 3](#). The third part of the book explains how to get your site noticed by search engines like Google ([Chapter 10](#)), and how to reel in web traffic ([Chapter 11](#)). You'll also take a look at *blogs* (short for *web logs*) and the free programs that help you create them ([Chapter 12](#)). Finally, you'll learn how to get on the path to web riches by displaying ads or selling your own products ([Chapter 13](#)).
- [Part 4](#). Now that you can create a professional, working website, why not deck it out with fancy features like glowing buttons and pop-out menus? You won't learn the brain-bending details of how to become a hardcore JavaScript programmer, but you'll learn enough to use free JavaScript mini-programs in your own pages to

perform basic tasks ([Chapter 14](#) and [Chapter 15](#)). You'll also dabble with movie clips and add an MP3 music player right inside an ordinary web page ([Chapter 16](#)).

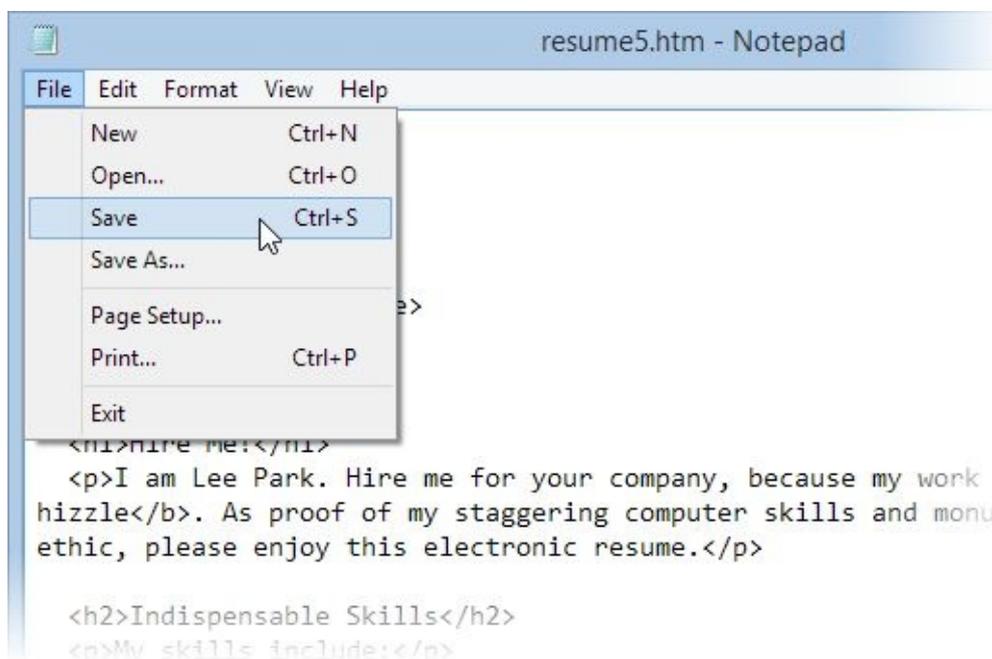
- **Part 5.** At the end of this book, you'll find two appendixes. The first appendix points to additional site-building resources for ambitious web designers who want to keep improving their skills. The second one gives you a quick reference for HTML. It lists and defines the essential HTML elements and points you to the appropriate chapter of this book for more detailed discussions.

## Of Windows and Macintosh PCs

One of the best things about the World Wide Web is that it truly is worldwide: Wherever you live, from Aruba to Zambia, the Web eagerly awaits your company. The same goes for the computer you use to develop your site. From an early-model Windows PC to the latest and greatest MacBook Pro, you can implement the tactics, tools, and tricks described in this book with pretty much whatever kind of computer you have. (Of course, a few programs favor one operating system over another, but you'll hear about those differences whenever they come up.) The good news is that this book is usable and suitable for owners of computers of all stripes.

### About → These → Arrows

Throughout this book, you'll find sentences like this one: "To save your document in Notepad, choose File → Save." That's shorthand for a somewhat longer set of instructions that goes like this: "Open the File menu by clicking File in the menu bar. Then, in the File menu, click Save." [Figure I-1](#) gives you a closer look.



*Figure I-1. In this book, arrow notations simplify folder and menu instructions. For example, "Choose File → Save" is a more compact way of saying, "From the File menu, choose Save," as shown here.*

## About the Online Resources

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you'll find example files that will give you hands-on experience, as well as links to all the websites mentioned in this book. Head over to [www.missingmanuals.com](http://www.missingmanuals.com), or go directly to one of the following sections.

## The Missing CD

This book doesn't have a CD pasted inside the back cover, but you're not missing out on anything. You can download all the companion content for this book from its Missing CD page at [www.missingmanuals.com/cds/caw4](http://www.missingmanuals.com/cds/caw4) or the book's companion site at <http://prosetech.com/web>.

The companion site includes three useful things:

- **Sample web pages.** You can never have too many examples. The Missing CD has you covered, with a collection that includes all the sample web pages featured in this book. You download them as a single ZIP file, and then unzip them on your computer. The sample files are organized in folders by chapter (so the files from **Chapter 1** are in a folder named **Chapter 1**), making it easy to find the examples that interest you.

### TIP

If you want to work on a specific example file, here's a quick way to find it: Look at the corresponding figure in this book. The filename is usually visible at the end of the web browser's address box. For example, if you see the URL `c:\Creating a Website\Chapter 1\popsicles.htm` (**Figure 1-6, Tutorial: Creating an HTML File**), you'll know that the corresponding example file is `popsicles.htm`.

- **Tutorials.** The Missing CD download also includes super-useful tutorial files, which you use with the practice exercises in this book. Here's how it works: When you start one of the book's tutorials, we'll refer you to a numbered tutorial folder. For example, if you're working on the first exercise in **Chapter 2**, you'll be sent to a folder named *Tutorial-2-1*. In that folder, you'll find any starter files you need to get going and the tutorial's solution files — the final, finished product. So if you try a tutorial and it doesn't quite work out, you can check your work and track down the problem.

### NOTE

This book features two types of tutorials. The most important, thorough exercises appear in their own sections of the book, with titles that begin with the word "Tutorial," as in **Tutorial: Creating an HTML File**. These lessons teach key skills, so you should definitely give them a try. You'll also come across shorter, optional tutorials for extra practice. These tutorials appear in the "Sharpen Up" sidebars.

- **Links.** This book mentions plenty of useful websites and online services. Fortunately, you don't need to wear down your fingers typing long web addresses into your browser. Instead, the companion site offers a list of clickable links for all the websites mentioned, organized by chapter, and listed in the order that they appear in the book.

## Registration

If you register this book at [www.oreilly.com](http://www.oreilly.com), you'll be eligible for special offers — like discounts on future editions of *Creating a Website: The Missing Manual*. Registering is free and takes only a few clicks. Type <http://tinyurl.com/registerbook> into your browser to hop directly to the registration page.

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## **Part 1. Building Basic Web Pages**

Chapter 1, *Creating Your First Page*

Chapter 2, *Becoming Fluent in HTML*

Chapter 3, *Building a Style Sheet*

Chapter 4, *Adding Graphics*

Chapter 5, *Working with a Web Editor*

# Chapter 1. Creating Your First Page

Every website is a collection of web pages, so it should come as no surprise that your journey to build a complete site starts *here*, with the writing of a single web page.

Technically, a web page is a special type of document written in a computer language called *HTML* (that's short for HyperText Markup Language). Web pages are written for web *browsers* — programs like Internet Explorer, Google Chrome, and Safari. These browsers have a simple but crucially important job: they read the HTML in a web page document and display the perfectly formatted result for you to read.

This chapter will introduce you to HTML. You'll see how a basic web page works and learn how to create one of your own. For now, you'll be working with web pages you store on your computer, visible only to you. Later on, in [Chapter 9](#), you'll learn to put web pages online so anyone with a web connection can see them.

## HTML: The Language of the Web

HTML is the single most important standard in web design — and the only one that's absolutely *required* if you plan to create a web page. Every web page is written in HTML. It doesn't matter whether your page contains a series of blog entries, a dozen pictures of your pet lemur, or a heavily formatted screenplay — odds are that, if you're looking at it in a browser, it's an HTML page.

HTML plays a key role in web pages: It tells browsers how to display the contents of a page, using special instructions called *tags* that tell a browser when to start a paragraph, italicize a word, or display a picture. To create your own web pages, you need to learn to use this family of tags.

HTML is such an important standard that you'll spend a good portion of this book digging through its features, frills, and occasional shortcomings. Every web page you build along the way will be a bona fide HTML document.

### NOTE

The HTML standard doesn't have anything to do with the way a web browser *retrieves* a page on the Web. That task is left to another standard, called HTTP (HyperText Transport Protocol), which is a communication technology that lets two computers exchange data over the Internet. To use the analogy of a phone conversation, the telephone wires represent HTTP, and the juicy tidbits of gossip you exchange with Aunt Martha are the HTML documents.

### FREQUENTLY ASKED QUESTION: THE WEB VS. THE INTERNET

*Is there a difference between the Web and the Internet?*

Newscasters, politicians, and regular people often use these terms interchangeably. Technically, however, the concepts are different — and confusing them is likely to put computer techies and other self-respecting nerds on edge.

The *Internet* is a network of connected computers that spans the globe. These computers are connected together to share information, but there are a number of ways to do that, including by email, instant

messaging, file sharing, transferring files through *FTP* (short for File Transfer Protocol), and through HTTP (with the help of a web browser).

The *World Wide Web* is a term that describes the billions of public web pages that you can visit on the Internet. In other words, the Web is just one way to use the Internet, although it's undeniably the most popular — and the one that interests us in this book.

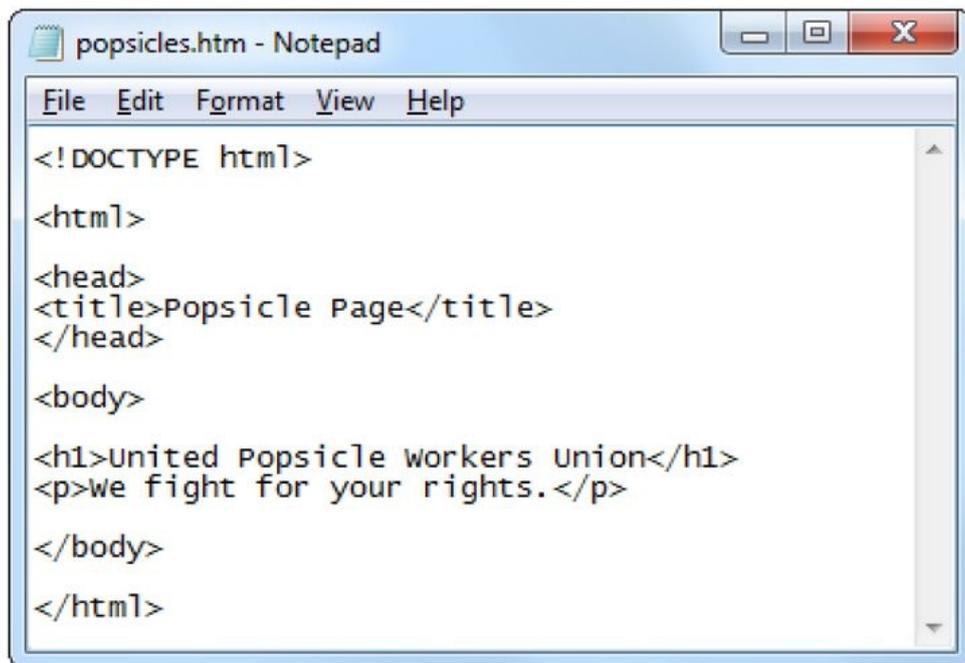
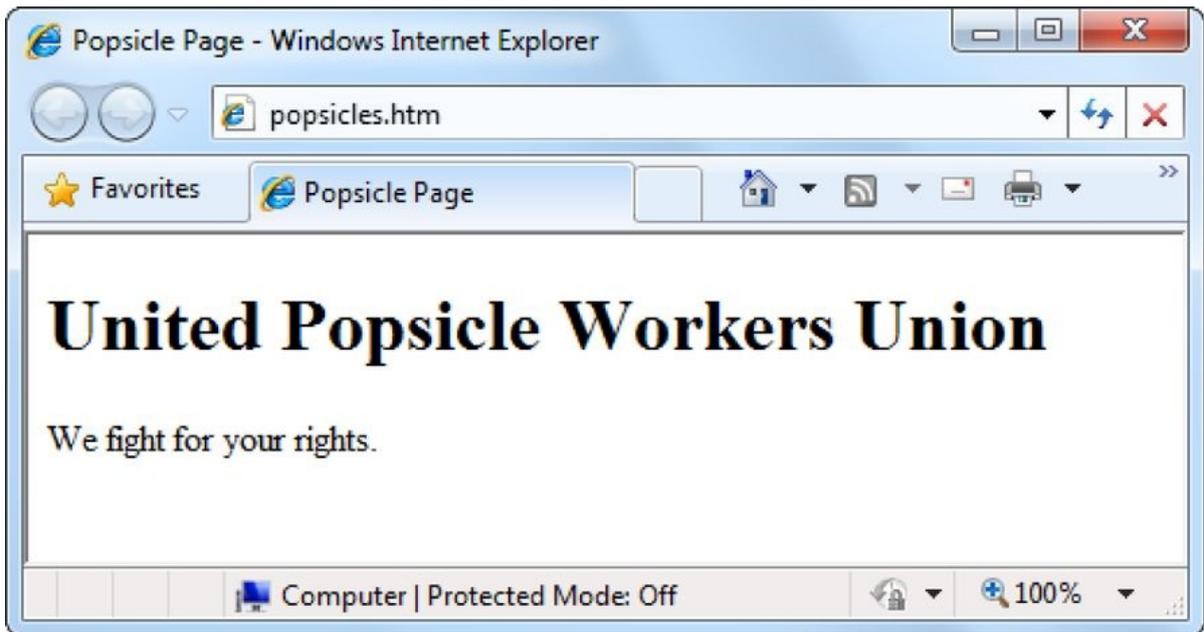
## Cracking Open an HTML File

On the inside, an HTML page is actually nothing more than a plain-vanilla text file. That means that the raw code behind every web page you create will consist entirely of letters, numbers, and a few special characters (like spaces, punctuation marks, and everything else you can spot on your keyboard). [Figure 1-1](#) dissects an ordinary (and very simple) HTML document.

Here's one of the secrets of web page writing: You don't need a live website to start creating your own web pages. That's because you can easily build and test pages using only your own computer. In fact, you don't even need an Internet connection. The only tools you need are a basic text editor and a standard web browser.

### Your Text Editor

A text editor lets you create or edit an HTML file (in a window like the one you can see in [Figure 1-1](#), bottom). Even many professional web designers stick with simple text-editing tools. There are plenty of fancier editing tools that are designed specifically for editing websites, but you don't actually *need* any of them. And if you start using them too soon, you're likely to end up drowning in a sea of extra frills and features before you really understand how HTML works.



*Figure 1-1. Every HTML document is actually an ordinary text file. Top: A web browser displays a simple HTML document, showing all its glorious formatting. Bottom: But when you open the same document in a text editor, you see all the text from the original document, along with a few extra pieces of information inside angle brackets < >. These HTML tags convey information about the document's structure and formatting.*

The type of text editor you use depends on your computer's operating system:

- If you have a Windows computer, you use the bare-bones Notepad editor. Sail on to the next section.
- If you have a Mac computer, you use the built-in TextEdit editor. But first, you need to make the adjustments described below.

Mac fans need to tweak the way TextEdit works because the program has an “HTML

view” that hides the tags in an HTML file and shows you the formatted page instead. This behavior is aimed at making life simpler for newbies, but it presents a serious danger for anyone who wants to write a real web page. To avoid confusion and to make sure you write real, raw HTML, you need to turn HTML view off. Here’s how:

1. **Choose TextEdit → Preferences.**

This opens a tabbed window of TextEdit options (Figure 1-2).

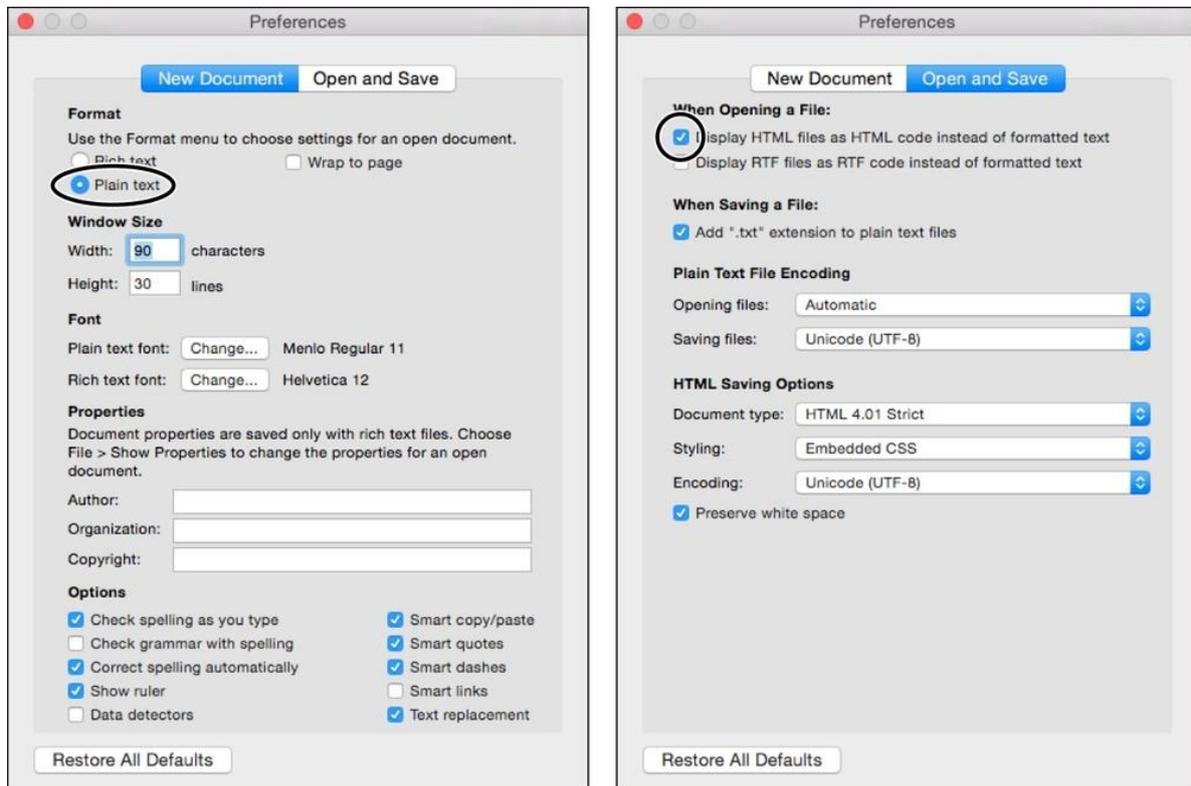


Figure 1-2. TextEdit’s Preferences window has two tabs of settings: “New Document” (left) and “Open and Save” (right).

2. **Click “New Document” and then, in the Format section, choose “Plain text.”**

This tells TextEdit to start you out with ordinary, unformatted text and to dispense with the formatting toolbar and ruler that would otherwise appear onscreen, which aren’t relevant to creating HTML files.

3. **Click “Open and Save” and switch on the first option, “Display HTML files as HTML code instead of formatted text.”**

This tells TextEdit to let you see (and edit) the real HTML markup, tags and all, not the formatted version of the page as it would appear in a web browser.

4. **Close the Preferences window, and then close TextEdit.**

Now, the next time you start TextEdit, you’ll begin in the plain-text mode that every self-respecting web developer uses.

## Your Web Browser

As you no doubt know, a web browser is a program that lets you navigate to and display web pages. Without browsers, the Web would still exist, but you wouldn’t be able to look at it.

A browser's job is surprisingly simple — in fact, the bulk of its work consists of two tasks. First, it requests web pages, which happens when you type in a website address (like [www.google.com](http://www.google.com)) or click a link in a web page. The browser sends that request to a far-off computer called a *web server*. A server is typically much more powerful than a home computer because it needs to handle multiple browser requests at once. The server heeds these requests and sends back the content of the desired web pages. When the browser gets that content, it puts its second skill into action and *renders*, or draws, the web page. Technically, this means the browser converts the plain text it receives from the server into a display document based on formatting instructions embedded in the page. The end result is a graphically rich page with different typefaces, colors, and links. **Figure 1-3** illustrates the process.



*Figure 1-3. A web browser is designed to do two things really well: contact remote computers to ask for web pages, and then display those pages on your computer.*

Although you usually ask your browser to retrieve pages from the Web, you can also use it to view a web page that's stored on your computer, which is particularly handy when you're practicing your HTML skills. In fact, your computer already knows that files that end in `.htm` or `.html` have web page content. So if you double-click one of these files, your computer launches your web browser automatically. (You can get the same result by dragging a web page file and dropping it on an already-open browser window.)

Although ordinary people need only a single web browser, it's a good idea for web developers-in-training (like yourself) to become familiar with the most common browsers out there (see **Figure 1-4**). That's because, when you design your website, you need to prepare for a wide audience of people with different browsers. To make sure your nifty pages don't turn funky when other people look at them, you should test your site using a variety of browsers, screen sizes, and operating systems.

The following list describes the most popular browsers of today:

- **Google Chrome** is the current king of web browsers, despite the fact that it's the newest kid on the block. Tech-savvy web fans love its features, like bookmarks you can synchronize across different computers, and its blistering speed. Get with Google Chrome at [www.google.com/chrome](http://www.google.com/chrome).
- **Internet Explorer** is the longest-lived browser and the official standard in many corporate and government environments. It's also the browser that comes pre-installed on Windows, so it's the one non-techie people use if they don't want (or don't know how) to install something new. Even hotshot web designers need to