

Introduction

This whole book idea started as a bet I had with my editor that we couldn't pick two random techie topics and tie them together in a book. Two darts flew through the air and the topics "Ajax" and "live CDs" ended up being the result. This book could've just as easily been about Blu-ray on Rails or iPod design patterns. So it's just dumb luck that you're picking up a book on Ajax and live CDs.

And if you believe that, maybe I can interest you in helping fund this startup company I've been thinking about launching! The truth is, Ajax and live CDs are surprisingly good bedfellows in that live CDs provide the perfect environment for building and testing Ajax applications. The whole idea of a "live CD" is that it includes a complete operating system on a single CD. Along with a complete operating system, you get to include any applications you want, such as a Web server that can serve up Ajax applications.

One thing that is unique about Ajax applications as compared to purely client-side applications developed solely in JavaScript is that they require something to happen on the server. In other words, the very premise of Ajax is communication between a client and a server. This means you not only need a server, but you need a server that you have a bit of control over. At the very least, you need the ability to quickly install and test server-side scripts that will handle the server-side processing for your Ajax applications. Live CDs fit the bill nicely in terms of giving you an unbelievably customizable platform for building, testing, and hosting Ajax applications.

As cool as live CDs can be, I have to be honest and say that this book is 95% about Ajax. The live CD facet of this book is primarily a convenience due to the fact that Ajax applications are more demanding of their environment than pure client applications.

OK, so the book is primarily about Ajax, but what does that really mean? It means that in a relatively few number of pages you learn how to do the following things with Ajax:

- Dynamically load e-book chapters for a Web-based book reader (Chapter 3)
- Instantly select and view live stock quotes (Chapter 4)
- Turn any Web page into a news aggregator that understands RSS news feeds (Chapter 5)
- Add auto-complete functionality to your Web site (Chapter 6)
- Validate form data and look up location data in real time (Chapter 7)
- Create a “Web 2.0” image viewer to modernize the way your pages handle images (Chapter 8)
- Use informational popup windows to dynamically display small nuggets of content (Chapter 9)
- Add a live weather condition popup window to any link (Chapter 10)
- Calculate shipping charges on the fly with a U.S. Postal Service Ajax request (Chapter 11)
- Incorporate an animated five-star rating system into your Web pages (Chapter 12)

These are the kinds of dynamic applications that Ajax makes possible. More importantly, this book uses a construction kit approach to guiding you through adding these features to Ajax applications. Although you will ultimately learn a lot about Ajax as you explore the many examples presented throughout this book, the focus of the book is not on teaching you Ajax. The focus is on showing you how to do cool things with Ajax. Sometimes this requires you to learn something entirely new; other times it simply requires cutting and pasting code. The point is that this book is about *doing* things.

In my opinion, doing is learning, so you’ll ultimately leave this book with a much more thorough understanding of Ajax than when you started. But more importantly, you’ll leave it with your own set of Ajax building blocks that you can take with you and apply to your own projects.

THE AUDIENCE FOR THIS BOOK

I won’t lie to you—this book by its very nature has to delve into JavaScript and PHP on a regular basis as the various Ajax examples are presented. However, the original goal of the book was for it to be approachable by anyone with knowledge of

HTML and CSS (Cascading Style Sheets), and not necessarily a background in scripting, either client (JavaScript) or server (PHP). I'm not entirely sure that was a realistic goal, but it served me well in trying extremely hard to present enough Ajax coverage for the examples to make sense but not so much to scare away scripting newcomers.

All that being said, you absolutely must know a thing or two about HTML to tackle this book. CSS isn't quite as critical, but it does come up from time to time, so you might as well consider a basic knowledge of CSS a prerequisite. From there, it would serve you well to know something about JavaScript because it is the basis of Ajax. However, I believe you can duck and weave your way through the JavaScript code in this book with a limited knowledge of Web scripting, and still leave with a toolbox full of Ajax goodies that can be readily reused. The PHP code that pops up throughout the book is very simple, and I explain exactly what's going on, so you can definitely get by without knowing anything about PHP.

THE ORGANIZATION OF THIS BOOK

Although this book follows the charter of the Negus Live Linux Series to provide hands-on experience quickly, the organization of the book is slightly unconventional. The book is divided into three parts:

- **Part I, “Ajax Boot Camp”**—This part of the book wastes no time laying just enough groundwork so that you aren't overwhelmed by the intensity of the sample Ajax applications to come. You explore several commercial real-world Ajax applications and get acquainted with the Ajax Toolkit that ships on the accompanying CD-ROM. You'll leave this part of the book revved up to see Ajax in action.
- **Part II, “Building Real-World Ajax Applications”**—This part of the book, which constitutes the remainder of the book, is focused entirely on using Ajax to solve real-world problems. From dynamically resolving a ZIP code into a city/state for a data entry form, to injecting an interactive five-star rating system into a page, this part of the book wastes no time and takes no prisoners. Don't get me wrong, it's still a fun read, but don't expect a bunch of tutorial talk or an essay on the history of Ajax. This part of the book in particular is all about doing!
- **Part III, “Appendices”**—This part provides additional information you may find helpful. Appendix A, “The Past, Present, and Future of Ajax,” paints a picture of where Ajax came from and where it's headed. This is in no way critical to understanding how to add Ajax-powered features to your Web

pages, but it does add some perspective to the buzz swirling around Ajax these days. Appendix B, “A Quick and Dirty XMLHttpRequest Reference” is exactly that—a reference for the JavaScript object that serves as the core of Ajax. This object is actually hidden for the most part throughout the book thanks to the Ajax Toolkit, but if you ever want to dig deeper into my code and modify the Toolkit itself, you’ll need to get to know the XMLHttpRequest object.

Finally, Appendix C, “Using the Live Linux CD,” is arguably the handiest of all the appendixes because it explains exactly how to use the live Linux CD that comes with the book. Don’t worry a bit if you’ve never used or even heard of a live CD, and don’t think you need to be a Linux expert or even have Linux installed. Appendix C addresses the role of the live CD and guides you through how to use it for your particular hardware setup.

ABOUT THE CD-ROM FOR THIS BOOK

The CD-ROM that comes with this book is where live CDs enter into the Ajax picture. The CD includes a bootable Ubuntu (Linux variant) operating system that includes the Apache Web server and all of the sample Ajax applications covered in the book. Perhaps more interesting is the fact that you can run the applications directly from the CD once it boots up, which is pretty powerful considering that you would otherwise be required to have your own Web server up and running.

There are actually a variety of different ways that you can access and use the Ajax sample applications on the live Linux CD. You don’t need to have Linux running on your computer—all you need is a computer with a Pentium III or better processor. The live CD can be run from Windows, Mac OS X, or another Linux variant. To find out more details about how to use the CD to explore the example applications, check out Appendix C, “Using the Live Linux CD.”

WHAT YOU NEED TO USE THIS BOOK

Live Linux CDs are available to run on a range of computer hardware, such as standard PC architecture (i386), PowerPC (PPC), and 64-bit AMD (AMD64). I recommend a minimum of a Pentium III-class PC and at least 128MB of RAM for running the CD that comes with the book. As for hard-disk requirements, you don’t even need to have a hard disk in the computer to run the live CD. You might consider

getting a USB flash drive (also sometimes called a pen drive, thumb drive, or memory stick). Because live CDs are typically run from read-only media, USB flash drives are good to keep handy in the event that an application needs to write data, as is the case in Chapter 12, “Adding an Ajax-Powered Rating System to Your Site.” And again, please refer to Appendix C for detailed instructions on how to use the live CD.

