

Table of Contents

| | |
|---|-----------|
| <i>Introduction</i> | 1 |
| About This Book..... | 1 |
| Conventions Used in This Book | 2 |
| Foolish Assumptions | 2 |
| How This Book Is Organized..... | 3 |
| Part I: Getting Started | 3 |
| Part II: Programming in Ajax | 3 |
| Part III: Ajax Frameworks | 3 |
| Part IV: In-Depth Ajax Power..... | 4 |
| Part V: The Part of Tens..... | 4 |
| Icons Used in This Book..... | 4 |
| Where to Go from Here..... | 5 |
| | |
| <i>Part 1: Getting Started</i> | 7 |
| | |
| Chapter 1: Ajax 101 | 9 |
| How Does Ajax Work? | 10 |
| A user's perspective..... | 10 |
| A developer's perspective..... | 11 |
| What Can You Do with Ajax?..... | 12 |
| Searching in real time with live searches..... | 12 |
| Getting the answer with autocomplete | 13 |
| Chatting with friends | 14 |
| Dragging and dropping with Ajax..... | 15 |
| Gaming with Ajax..... | 16 |
| Getting instant login feedback..... | 17 |
| Ajax-enabled pop-up menus..... | 18 |
| Modifying Web pages on the fly..... | 19 |
| Google Maps and Ajax | 19 |
| When Is Ajax a Good Choice? | 20 |
| | |
| Chapter 2: It's All About JavaScript | 21 |
| Taking a First Look at Ajax in Action | 21 |
| Taking a look at the code..... | 23 |
| Delving deeper into JavaScript..... | 24 |
| Enter JavaScript | 24 |
| Creating a script | 25 |
| Accessing the Web page from JavaScript..... | 26 |
| Oh, those semicolons | 28 |
| Adding comments to your JavaScript..... | 28 |
| Using separate script files..... | 29 |

| | |
|---|----|
| Examining script errors | 30 |
| Which browser are you using? | 32 |
| Making Something Happen: Browser Events | 33 |
| Putting browser events to work | 35 |
| Getting the quotation marks right | 36 |
| Dividing and Conquering: JavaScript Functions | 37 |
| Understanding the problem | 38 |
| Putting together a function | 39 |
| Calling the function | 40 |
| Passing a single argument to a function | 44 |
| Using <div> versus | 45 |
| Passing multiple arguments | 47 |
| You Must Remember This: Storing Data | 48 |
| Simple data storage with the var statement | 49 |
| Churning your data with operators | 50 |
| Altering a variable's data | 55 |
| Storing JavaScript objects in a variable | 56 |
| Oh, those functions! | 57 |
| Picking and Choosing with the if Statement | 59 |
| Using the if statement | 59 |
| Using the else statement | 61 |
| Determining browser type and version | 62 |
| It Just Gets Better: The for Loop | 64 |
| Over and Over with the while Loop! | 66 |
| Pushing Some Buttons | 69 |
| Displaying a message with a button click | 69 |
| Reading a text field with a button click | 71 |

***Part II: Programming in Ajax* 73**

Chapter 3: Getting to Know Ajax 75

| | |
|---|----|
| Writing Some Ajax | 76 |
| Creating the XMLHttpRequest object | 79 |
| Checking to make sure you have a valid XMLHttpRequest object | 83 |
| Opening the XMLHttpRequest object | 84 |
| When you're ready: Handling asynchronous downloads | 85 |
| You got the data! | 88 |
| Deciding on relative versus absolute URLs | 90 |
| Other ways of getting XMLHttpRequest objects | 91 |
| Interactive Mouseovers Using Ajax | 93 |
| Getting Interactive with Server-Side Scripting | 94 |
| Choosing a server-side scripting language | 95 |
| Connecting to a script on a server | 95 |

Time for Some XML.....97
 Getting XML from a PHP script.....98
 Setting up a Web page to read XML100
 Handling the XML you read from the server101
 Extracting data from XML102
 Listing the colors in the drop-down control104
 Passing Data to the Server with GET106
 Passing Data to the Server with POST.....109

Chapter 4: Ajax in Depth113

Returning JavaScript from the Server114
 When do you send back JavaScript from the server?114
 How does returning JavaScript work?114
 Returning a JavaScript object118
 Connecting to Google for a Live Search120
 Handling the data Google sends you121
 Detecting keystrokes.....122
 Connecting to Google Suggest123
 Showing Google’s response.....125
 Calling a Different Domain130
 Reversing the Roles: Performing Validation on the Server.....131
 Getting Some Amazing Data with HEAD Requests.....134
 Returning all the header data you can get135
 Finding the last-modified date136
 Does a URL exist?139
 Finding the Problem: Debugging Ajax140
 Setting up your browser for debugging.....140
 Debugging with Greasemonkey142
 Overload: Handling Multiple Concurrent Requests.....143
 Double the fun144
 Packing it all into an array.....146
 Getting the inside scoop on inner functions.....147

Part III: Ajax Frameworks 151

Chapter 5: Introducing Ajax Frameworks153

A Little More Ajax Power.....154
 Introducing the Ajax Gold Framework157
 Using GET to get text158
 Using GET to get XML162
 Using POST to post data and get text166
 Using POST to post data and get XML.....170
 Finding Ajax Frameworks in the Wild173
 Easy Ajax with AJAXLib174
 Grabbing XML with libXmlRequest.....176

Chapter 6: More Powerful Ajax Frameworks181

| | |
|--|-----|
| Dragging and Dropping with Shopping Carts | 182 |
| Handling mouse events | 185 |
| Handling mouse down events | 187 |
| Handling mouse-move events | 189 |
| Handling mouse up events | 189 |
| Updating the shopping cart | 191 |
| Looking at Some Heavier-Weight Frameworks | 194 |
| Getting XMLHttpRequest objects with XHConn | 194 |
| The Simple AJAX Code Kit: Sack | 196 |
| Parsing XML with Interactive Website Framework | 198 |
| Handling older browsers with XMLHttpRequest | 199 |
| Decoding XML with Sarissa | 201 |
| Creating visual effects with Rico | 204 |
| Overcoming caching with the Http framework | 211 |

Chapter 7: Server-Side Ajax Frameworks213

| | |
|---|-----|
| Writing JavaScript by Using Ajax Frameworks | 213 |
| Sajax and PHP | 214 |
| Xajax and PHP | 218 |
| LibAjax and PHP | 221 |
| JPSpan and PHP | 224 |
| Accessing Java with Direct Web Remoting | 225 |
| Setting up for Java on the Web | 225 |
| Connecting to Java by using DWR | 225 |
| Building Web Applications with Echo2 | 228 |
| Handling Ajax and JavaServer Pages with Ajax Tags | 229 |
| Handling Java with SWATO | 231 |
| Tracking Down the Many Other Frameworks Available | 232 |
| Developing amazing applications with WebORB | 232 |
| Ruby on Rails | 233 |
| Backbase | 234 |
| Dojo | 234 |
| Atlas.NET | 234 |

Part IV: In-Depth Ajax Power235**Chapter 8: Handling XML int Ajax Applications237**

| | |
|---|-----|
| Understanding Basic XML | 238 |
| What's in a tag? | 238 |
| Keeping XML documents well-formed | 239 |
| Making an XML document valid | 240 |
| Requesting XML Data in Ajax | 240 |

Extracting XML Data Using Properties243
 Right on the node243
 Introducing the JavaScript properties243
 Navigating an XML document using JavaScript properties245
 Extracting with nodeValue249
 Handling white space in Mozilla and Firefox250
 Removing white space in Mozilla and Firefox254
 Accessing XML Elements by Name258
 Accessing Attribute Values in XML Elements260
 Validating XML Documents in Ajax Applications263

Chapter 9: Working with Cascading Style Sheets in Ajax Applications269

An Ajax-Driven Menu System.....271
 Setting up the styles272
 Handling mouse events277
 Displaying a menu278
 Hiding a menu280
 Getting a menu’s item from the server281
 Handling the menu items282
 Displaying Text That Gets Noticed285
 Styling text.....287
 Handling colors and backgrounds289
 Positioning using styles292

Chapter 10: Working with Ajax and PHP297

Starting with PHP298
 Getting a Handle on Variables301
 Handling Your Data with Operators.....304
 Making Choices with the if Statement306
 Round and Round with Loops307
 Handling HTML Controls.....310
 Getting data from text fields311
 Checking out data from check boxes.....312
 Tuning in data from radio buttons314
 Sending Data to the Server316
 Reading Files317
 Writing Files319
 Working with Databases320

Part V: The Part of Tens323

Chapter 11: Ten Ajax Design Issues You Should Know About325

Breaking the Back Button and Bookmarks325
 Giving Visual Cues.....326
 Leaving the User in Control326

| | |
|--|------------|
| Remembering All the Different Browsers..... | 327 |
| Showing Users When Text Changes..... | 327 |
| Avoiding a Sluggish Browser | 328 |
| Handling Sensitive Data..... | 328 |
| Creating a Backup Plan..... | 328 |
| Showing Up in Search Engines | 328 |
| Sidestepping a Browser's Cache | 329 |
| Chapter 12: Ten Super-Useful Ajax Resources | 331 |
| The Original Ajax Page | 331 |
| The Ajax Patterns Page | 332 |
| The Wikipedia Ajax Page..... | 332 |
| Ajax Matters..... | 332 |
| XMLHttpRequest Object References | 333 |
| Ajax Blogs..... | 333 |
| Ajax Examples..... | 334 |
| Ajax Tutorials | 334 |
| Ajax Discussion Group | 334 |
| More Depth on XMLHttpRequest..... | 335 |
| <i>Index</i>..... | 337 |