

Designed for  
Microsoft  
Windows NT  
Windows 95



CD-ROM  
Included



Program

ACCOMPANYING  
SOFTWARE INSIDE  
FRONT COVER

IBM

# Inside Dynamic HTML

One of the creators  
of DHTML tells you  
how to build fast,  
interactive Web  
pages with:

- Dynamic Contents
- Dynamic Styles
- Dynamic Positioning

DO NOT SENSITIZE  
or De-SENSITIZE

Please DO NOT put in Book Drop  
Return to Circulation Area

Scott Isaacs

Microsoft Press

Designed for



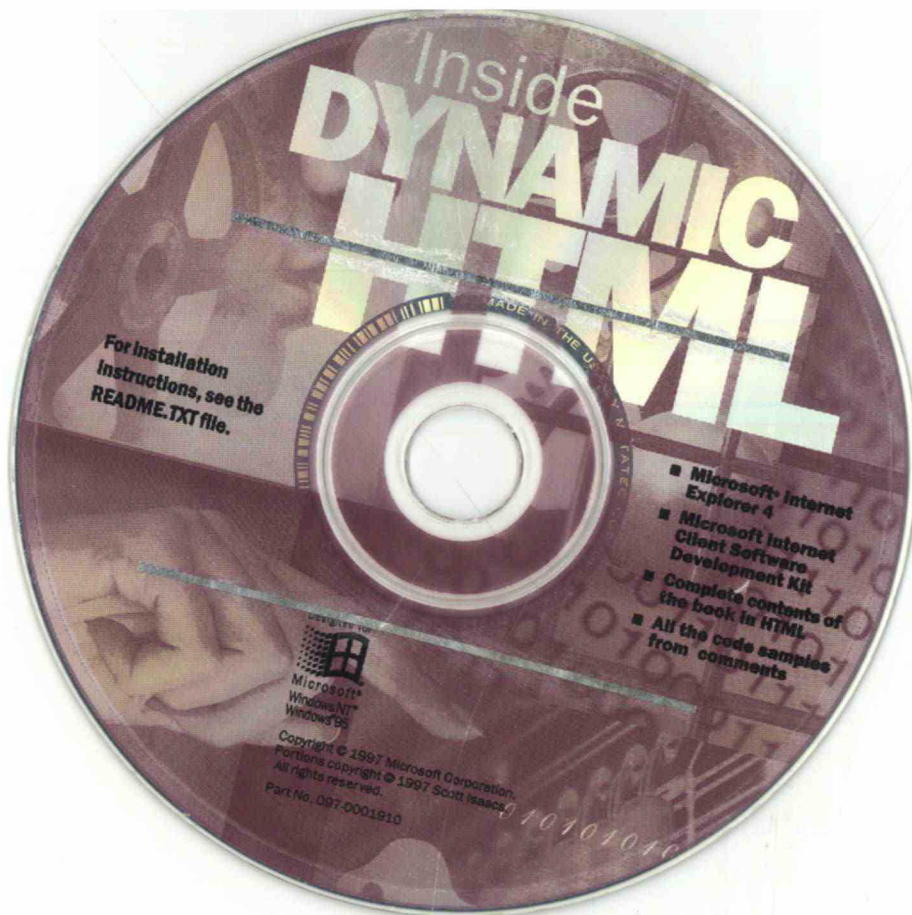
Microsoft®  
Windows NT®  
Windows 95



CD-ROM  
Included

# Inside Dynamic HTML

QA  
76.76  
.H94  
I83  
1997





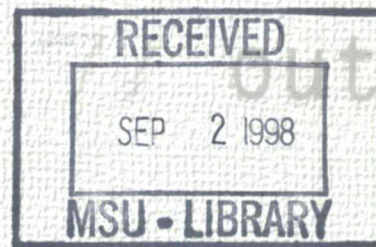
# Inside Dynamic HTML

Unless Recalled Earlier

DATE DUE

OCT 19 1998		
NOV 12 1998	JUN 10 2002	
DEC 21 1998	DEC 4 2002	
JAN -4 1999	JAN 13 2004	
FEB 27 1999	OCT 10 2006	
6661 - APR 1999		
MAY -7 1999		
JUN -2 1999		
DEC -8 1999		
DEC 20 1999		
MAY -3 2000		
JUL 28 2000		
DEC 6 2000		
JAN 24 2001		
APR 26 2001		
OCT 18 2001		
DEC -6 2001		

Demco, Inc. 38-293



**Scott Isaacs**

**Microsoft Press**

PUBLISHED BY  
Microsoft Press  
A Division of Microsoft Corporation  
One Microsoft Way  
Redmond, Washington 98052-6399

Copyright © 1997 by Scott Isaacs

All rights reserved. No part of the contents of this book may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Library of Congress Cataloging-in-Publication Data  
Isaacs, Scott, 1971-

Inside Dynamic HTML / Scott Isaacs.

p. cm.

Includes index.

ISBN 1-57231-686-1

1. HTML (Document markup language) I. Title.

QA76.76.H94I83 1997

005.7'2--dc21

97-33678

CIP

QA  
76.76  
.H94  
I83  
1997

Printed and bound in the United States of America.

1 2 3 4 5 6 7 8 9 QMQM 2 1 0 9 8 7

Distributed to the book trade in Canada by Macmillan of Canada, a division of Canada Publishing Corporation.

A CIP catalogue record for this book is available from the British Library.

Microsoft Press books are available through booksellers and distributors worldwide. For further information about international editions, contact your local Microsoft Corporation office. Or contact Microsoft Press International directly at fax (425) 936-7329. Visit our Web site at [mspress.microsoft.com](http://mspress.microsoft.com).

Java is a trademark of Sun Microsystems, Inc. Microsoft, Microsoft Press, the Microsoft Press logo, Visual Basic, Visual C++, Windows, Windows NT, and the Windows logo are registered trademarks and ActiveX, JScript, and the Microsoft Internet Explorer logo are trademarks of Microsoft Corporation. Other product and company names mentioned herein may be the trademarks of their respective owners.

**Acquisitions Editor:** Eric Stroo

**Project Editor:** Patricia Draher

**Manuscript Editor:** Jennifer Harris

**Technical Editors:** Gary Nelson and Kurt Meyer

37353984  
9-11-98

# CONTENTS

<i>Acknowledgments</i> .....	vii
<i>Introduction</i> .....	ix

## **PART I: HTML AND SCRIPTING**

### **CHAPTER ONE**

Overview of HTML and CSS	<b>3</b>
New HTML Features .....	4
Cascading Style Sheets .....	14
Examining an HTML DTD .....	26

### **CHAPTER TWO**

Fundamentals of HTML Scripting	<b>31</b>
Dynamic HTML Object Hierarchy .....	32
Authoring Scripts .....	37
Choosing a Scripting Language: JavaScript vs. VBScript .....	48
Advanced JavaScript Techniques .....	50
Scripting and Web Security .....	55

### **CHAPTER THREE**

Dynamic HTML Event Model	<b>57</b>
General Event Model .....	58
Event Binding .....	60
The <i>event</i> Object .....	69
Programming Standard User Events .....	74
Event Examples .....	80

## CHAPTER FOUR

The Browser Window	<b>89</b>
The <i>window</i> Object .....	90
The Window Environment .....	92
Window Events .....	97
Timer Events .....	102
The <i>clientInformation</i> or <i>navigator</i> Property .....	108

## CHAPTER FIVE

Window and Frame Management	<b>113</b>
Manipulating the Window .....	114
<del>Creating New Windows</del> .....	116
Manipulating Framesets .....	130
Special Event Considerations .....	144

# PART II: DOCUMENT STRUCTURE

## CHAPTER SIX

The HTML Document	<b>149</b>
Referencing the <i>document</i> Object .....	151
Changing the Document's Colors .....	151
Accessing Meta Information About the Document .....	155
Modifying the HTML Stream .....	164

## CHAPTER SEVEN

Document Element Collections	<b>167</b>
Using the Collections .....	168
The HTML Structure and Collections .....	177

## CHAPTER EIGHT

Scripts and Elements	<b>189</b>
Identifying Elements .....	190
Accessing an Element's Attributes .....	192
Parsing Information .....	196
Creating New Elements .....	200
Customizing Elements .....	201

**CHAPTER NINE**

Scripting Individual Elements	<b>207</b>
Programming the Body and Frameset Elements .....	208
Programming the Anchor Element .....	216
Programming the Link Element .....	222
Programming the IMG and Map Elements .....	226
Programming the Marquee Element .....	237
Programming the Object Element .....	239
Programming the Table Element .....	240

**CHAPTER TEN**

Forms and Intrinsic Controls	<b>251</b>
HTML Forms .....	252
Programming Text Input Elements .....	262
Programming List Elements .....	270
Programming Lists Using Radio Buttons and Check Boxes .....	277
Programming Command Button Elements .....	280
Programming Label and Fieldset Elements .....	283

**PART III: DOCUMENT STYLE AND ANIMATION****CHAPTER ELEVEN**

Dynamic Styles	<b>287</b>
Dynamic Styles and CSS .....	288
Style Sheet Properties .....	289
Inline Styles .....	291
Changing the <i>class</i> Attribute .....	292
Global Style Sheets .....	295
Adaptive Layout Techniques .....	311
Data Display Techniques .....	316
Text Animation Techniques .....	325

**CHAPTER TWELVE**

Dynamic Positioning	<b>329</b>
CSS Positioning .....	330
Scripting CSS Positioning .....	339
The Rendering Context .....	356



## **PART IV: DOCUMENT CONTENTS AND DATA BINDING**

### **CHAPTER THIRTEEN**

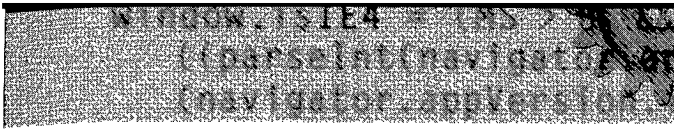
Dynamic Contents	<b>371</b>
Contents Manipulation .....	372
Dynamic Contents Properties .....	373
Dynamic Contents and <i>document.write</i> .....	387

### **CHAPTER FOURTEEN**

User Selection and Editing Operations	<b>395</b>
Introducing the <i>TextRange</i> Object .....	396
Programming the <i>TextRange</i> Object .....	399
Accessing the User's Selection .....	409
Executing Commands .....	410

### **CHAPTER FIFTEEN**

Data Binding with HTML	<b>413</b>
What Is Data Binding? .....	415
Data-Binding Architecture .....	416
Data Consumers: HTML Elements .....	422
Building Basic Pages Using Data Binding .....	431
Writing Scripts Using Data Binding .....	437
Advanced Features .....	445
<i>Index</i> .....	451



## ACKNOWLEDGMENTS

The foundations for this book were built from presentations I've made on Dynamic HTML. The issues and questions raised served as the basis for this book's organization and samples. To everyone who has heard me speak and asked a question, thank you.

To the entire Microsoft Internet Explorer 4.0 team—especially the Trident team—without your hard work, the vision of Dynamic HTML would never have been achieved. Thanks to all the individuals at Microsoft, too numerous to list, who previewed and helped improve the book.

To Richard Rollman, a special thanks for all his help with the chapter "Data Binding with HTML." My thanks also go to the Microsoft Press team for producing the book and the companion CD.

And finally, thanks to my wonderful wife, Jocelyn. Without her patience and support, this book would never have been written or finished.





# INTRODUCTION

The World Wide Web ignited a computer revolution by enabling anyone to publish HTML documents. Until recently, the information in these documents was mostly static, requiring the server to respond to user interactions. With the introduction of Dynamic HTML, the Web paradigm has shifted away from requiring server interactions to creating interactive Web sites and Web applications. Because Dynamic HTML allows HTML documents to interact with the user and change completely on the client, you can create rich Web applications.

Dynamic HTML is built on an object model that extends the traditional static HTML document. This book introduces you, the Web developer, to Dynamic HTML and teaches you how to create pages that are live and interactive on the client. This book assumes a working knowledge of HTML and basic programming principles. It does not teach you HTML or show you how to program in JavaScript, JScript, or VBScript; instead, these languages are used as tools for dynamically manipulating the page.

Near the end of this introduction, you'll find a description of the four parts of this book. Before continuing, read this overview to get a feel for how Dynamic HTML will be presented here through a series of building blocks. By the end of this book, all the pieces for creating live and interactive Web pages will be in place.

## Creating Interactive Pages

The concept of creating interactive Web pages is not new—Microsoft and Netscape initially defined a simple object model that was presented as a way of creating interactive pages. On closer inspection, the object model was found to be efficient only for basic form validation. Dynamic documents were mostly a myth prior to Microsoft Internet Explorer 4.0 because the only time a page could change was during its creation. Interactive documents were simulated by completely reloading the page or by embedding objects in the page. Many of these Java applets, ActiveX controls, and even animated GIFs were designed to perform textlike manipulation, which provided a way to work around the static nature of HTML. However, using objects as a replacement for style and contents control is a poor solution.

After examining many of the scenarios for these objects and animated GIFs, Internet Explorer developers realized the need for a more powerful API (application programming interface) for manipulating documents. With an object model that provides full access to the document, authors can take advantage of the layout abilities built into HTML and CSS (Cascading Style Sheets). This object model greatly improves performance by reducing the need for downloading large animated GIFs and applets. Information becomes instantaneously accessible because it is no longer hidden within images or objects.

Dynamic HTML provides the API necessary for complete control over the HTML document. No longer does a page need to be defined while it is loading. After loading, any portion of the page can be dynamically and immediately changed. For example, you can create an application that has expanding and collapsing outlines. When the user expands or collapses the outline, the contents are displayed or hidden instantaneously. Imagine being able to create pages that can automatically change and tailor themselves to the user. All this and more is possible with Dynamic HTML.

The ability to modify a document and have the document automatically reflow itself is the underlying innovation used throughout Dynamic HTML. Traditional browsers were basically document navigation tools that displayed a document and then waited for the user to point to a new document. When a change to the document was needed, either a request was sent to the server for a new page or an entire new page was generated on the client.

## **Programming Languages**

A programming language is used to manipulate the Dynamic HTML object model, but Dynamic HTML is designed to be platform independent and language neutral. Therefore, JavaScript, JScript, VBScript, C++, Java, or any other programming language can be used as the language of choice.

This book uses primarily JScript for accessing the document object model. JScript is Microsoft's implementation of the ECMA262 (European Computer Manufacturers Association) standard designed by Microsoft, Netscape, and other organizations. This standard formalizes the language constructs of JavaScript and JScript so that interoperable implementations can be created. It is important to remember that this standard defines only the constructs of the language. Even though the language is often associated with the object model, this standard does not define the object model. Therefore, when you are determining whether a browser supports a version of JavaScript or JScript, you must be careful to distinguish whether an object model or a language feature is being discussed. The JScript in Internet Explorer 4.0 is compliant with the ECMA standard, but the implementation of JavaScript 1.2 in Netscape 4.0 is not.



**NOTE:** The terms *JavaScript* and *JScript* can generally be used interchangeably to refer to the programming language. *JavaScript* is used throughout this book because it is more widely recognized.

Applets and objects on the page can also communicate with the page. For example, in Internet Explorer, an object written in Java, C++, or some other language can communicate with the page through the object model. The technique for creating applets that use Dynamic HTML is beyond the scope of this book. However, this book does provide a foundation for understanding the Dynamic HTML capabilities available to such objects.

If you are familiar with the existing JavaScript language and existing object model, you'll find that the extensions for the Dynamic HTML object model are a fully compatible superset. Any pages written for past versions of Internet Explorer or for Netscape Navigator 3.0 will continue to run in Internet Explorer 4.0. This compatibility allows Web developers to take advantage of their existing skills as they learn about these new innovations. If you are new to JavaScript, learning how to program the HTML page allows you to extend and enhance your pages and your users' experience in ways never before possible.

## New Features

Dynamic HTML removes all restrictions on access to the document. Dynamic HTML in Internet Explorer 4.0 empowers developers with a number of new features, which are discussed in the following sections.

- **HTML 4.0 and advanced CSS support** Internet Explorer 4.0 supports the latest HTML 4.0 standard, CSS1, and many of the new CSS enhancements. These HTML and CSS standards define what is exposed by the Dynamic HTML object model.
- **Full access to the document's structure** All elements in the document are available through the Dynamic HTML object model. You are no longer limited to scripting the form elements. The style and contents of any element can be dynamically changed, and these changes will be immediately reflected in the document.

In addition, the intrinsic controls have been enhanced to better support HTML and CSS, which allows the Web author to manipulate the appearance of these controls—including setting the text color, background color, and font—on buttons and text controls. The object model behind the intrinsic controls is similar to the object model behind the document and allows easy access to the style and contents.

- **Dynamic style** The document's CSS style sheets can be changed at any time. The document does not need to reload from the cache or communicate with the server. The object model is designed to allow a page to display any changes immediately. For example, the appearance of an element can change as the user moves the mouse or clicks on it.
- **Dynamic contents** The object model allows the contents of the document to be accessed and changed. Again, no server communications are involved, and the response is intended to be instantaneous. For example, you can write a ticking clock utility in standard HTML. You no longer need Java applets or ActiveX controls to change contents.
- **Instant user response** Dynamic HTML provides a powerful new event model that exposes all user actions to the page. Scripts in a document can respond to all the user's actions within the browser. Based on the user's actions, any aspect of the document's contents or style can be dynamically changed.
- **Client/server web pages** Internet Explorer 4.0 adds extensions to HTML elements to create data-bound tables and single-record forms and reports. Data is asynchronously downloaded and rendered in the document using a few basic HTML extensions. The data can be cached locally, allowing client-side searching and sorting without requiring assistance from the server. For example, search engines don't need to provide only a few matches at a time. Instead, a search engine can send responses to the client, where they are rendered as they are received. The user can immediately sort and further filter the data entirely on the client, without sending subsequent requests to the server.
- **Multimedia and animation effects** Internet Explorer 4.0 tightly integrates multimedia and animation effects with the document's contents. These effects include filters that can simulate light sources and shadows and other effects that operate directly on text or controls. Transition effects between images and text, and even between pages, can also be added.

All of these features are based on current discussion within the working groups of the W3C (World Wide Web Consortium). The Dynamic HTML object model is being reviewed by the Document Object Model working group. The

goal of this group is to define an object model that is language independent and platform neutral and that meets a set of requirements for structured documents. The object model defined in Internet Explorer 4.0 meets most of the requirements outlined by the Document Object Model working group.

## Defining an HTML Document

HTML is an application SGML (Standard Generalized Markup Language). In an SGML/HTML document, tags add structure to the document's contents. A traditional SGML document has three distinct aspects: structure, style, and contents. With the introduction of Dynamic HTML, HTML now includes a fourth component: behavior. The term *behavior* refers to the interaction between the HTML page and the user. This book's primary focus is on creating HTML-based applications by manipulating the different components of the document. Structure is exposed through a set of element collections; style is exposed on each element and through a style sheets collection; and contents are exposed through each element and through a *TextRange* object. Scripts manipulate structure, style, and contents in response to events to produce a document's behavior.

### Structure and Style

Structure provides context for the information contained within a document. For example, the Header elements H1 through H6 are meant to define various headers and their relative importance. An H1 element might be followed by another H1 or an H2 but should not be followed by an H3 element. As HTML quickly evolved, however, the separation between structure and presentation was often ignored. Authors used HTML tags not as a way to provide structure but as a way to define style. The H1 element was often used to mean big, bold text rather than to indicate top-level headers. As a further deviation from SGML, stylistic tags were invented. For example, the <B> and <I> tags were introduced to mark bold and italic text.

When viewing a page, the user (and many times the author) usually does not care about structure. The author's goal is to create an interesting page that will hopefully increase the number of hits, or visits, the Web site receives. This desire for originality was the justification for many of the stylistic tags that were created.

Abusing style does have consequences, however. For one, tools become less powerful. If an author correctly uses structure, an indexing tool can more intelligently index the document's contents. If the <STRONG> tag is used to

indicate that a word is of importance, an index tool can assign a greater weight. However, many authors use <STRONG> simply to display words in boldface, rather than to indicate they have greater importance, invalidating the usefulness of the tag.

A more important reason for properly structuring your page is to improve accessibility to the underlying information. Imagine a browser that speaks the information rather than displays it—perhaps a browser for visually impaired users or even a voice-based browser in your car. This browser needs to be able to extract various connotations from the text. Strong words should be spoken with greater emphasis, and headers should provide an outline of information on the page. If a document used markup for presentation only, the voice-based browser would not be able to properly deliver the document.

HTML also defines a set of rules representing the proper structure of the document. A DTD (document type definition) describes which elements can be contained within other elements. It is important to understand that not all HTML elements should be included anywhere within a document. Usually, when a Web page renders poorly across browsers, it is due to HTML that fails to conform to the DTD. Unfortunately, many of the pages on the Web do not conform to any HTML DTD, and rather than force users to define correct documents, browsers have evolved a lax set of rules for parsing the document that attempt to interpret the author's intent—often with less than ideal results.

Until mid-1996, style in HTML was controlled quite simply by using tags and stylistic attributes, such as ALIGN. Under these conditions, HTML was failing to be a true SGML language, in which structure and style are defined separately. In a true SGML language, a document can have an associated style sheet that defines how the structural elements are rendered. SGML provides a number of languages for defining a style sheet.

In mid-1996, a new language named Cascading Style Sheets was introduced for specifying style in HTML. The CSS specification was coauthored by Bert Bos and Håkon Lie of the W3C, with input from many W3C members, and has been adopted by the major browser implementations. Basically, with CSS a Strong element (and even a Bold element, for that matter) no longer indicates boldface text. Instead, the Strong element retains its traditional purpose, to indicate an important word. A style sheet now specifies that Strong element text should be rendered in boldface:

```
STRONG {font-weight:bold}
```

To take full advantage of Dynamic HTML, your document should properly separate the contents and structure from the presentation. Dynamic HTML is easier to use and works more predictably with valid HTML documents. And

as the following chapters will show, manipulating invalid HTML is more difficult and might create unpredictable behavior.

## **The Organization of This Book**

Learning to program interactive pages is a cumulative process. This book begins by explaining basic concepts and then builds on these concepts to teach you how to access the different components of the browser and the document. The following sections provide an outline of the four parts of this book.

### **Part I: HTML and Scripting**

Chapters 1 through 5 introduce the relationship between scripting and the HTML document, describe the browser window, and show you how to use the Dynamic HTML event model. This book assumes a working knowledge of HTML and programming in either JavaScript or VBScript.

Part I introduces the object hierarchy, which exposes the four aspects of the document: structure, style, contents, and behavior. These aspects are discussed in detail in Parts II through IV, and since these areas are closely related, the explanations overlap somewhat.

### **Part II: Document Structure**

In Dynamic HTML, all elements and their attributes are available programmatically. Part II shows you how to access and take advantage of the document element collections and how to manipulate the individual elements within the document. This part also demonstrates how to create rich, interactive forms that can process information on the client without requiring round-trips to the server.

### **Part III: Document Style and Animation**

Tightly coupled with individual elements is the concept of style, the topic of Part III. Using style sheets, the Web author can specify the document's appearance, spacing, colors, and so on.

Part III also shows you how to add basic animation to an HTML page. Dynamic HTML exposes a set of member functions that enable an HTML element to float and move over the HTML page, allowing the creation of simple presentation-like effects. In addition, Dynamic HTML includes a set of powerful extensions that let you add real multimedia animation and transition effects to your Web page. With these enhancements, the HTML contents can be animated using only a few lines of code.



## Part IV: Document Contents and Data Binding

Part IV demonstrates how Dynamic HTML allows pages to dynamically reshape themselves. The contents are exposed through properties on each element and through a text object model. With dynamic contents, HTML text and unformatted text can be easily accessed and changed.

Chapter 15, "Data Binding with HTML," shows you how to use Dynamic HTML to create client/server Web pages, including binding an HTML table to a set of data that can be locally manipulated. This feature allows you to create high-speed data-aware pages that can be sorted, filtered, and bulk-edited—all on the client.

## Companion CD

The companion CD includes the sample code from the book, together with an indexing page that contains links to all the samples and can sort and filter the links to help you find particular programs quickly.

Also on the CD are copies of Microsoft Internet Explorer 4.0 and the Microsoft Internet Client Software Development Kit. The documentation in the SDK includes a complete reference to Dynamic HTML as well as other helpful information.

The author's personal Web site ([www.insideDHTML.com](http://www.insideDHTML.com)) is a great source for additional information about Dynamic HTML. Microsoft maintains several Web sites related to Dynamic HTML, including the Site Builder ([www.microsoft.com/sitebuilder](http://www.microsoft.com/sitebuilder)) and JScript ([www.microsoft.com/JScript](http://www.microsoft.com/JScript)) sites.

## Support

Every effort has been made to ensure the accuracy of this book and the contents of the companion CD. Microsoft Press provides corrections for books through the World Wide Web at [mspress.microsoft.com/mspress/support/](http://mspress.microsoft.com/mspress/support/). If you have comments, questions, or ideas regarding this book or the companion CD, please send them to Microsoft Press using postal mail or e-mail:

Microsoft Press  
Attn: Inside Dynamic HTML Editor  
One Microsoft Way  
Redmond, WA 98052-6399  
[MSPINPUT@MICROSOFT.COM](mailto:MSPINPUT@MICROSOFT.COM)

Please note that product support is not offered through the above mail addresses.

### **Scott Isaacs**

Scott Isaacs is a Microsoft program manager working on Internet Explorer. He has worked on the design of Dynamic HTML from the beginning and frequently presents the technology at industry conferences. Scott also represents Microsoft on working groups of the World Wide Web Consortium (W3C) for standardizing HTML, CSS, and the document object model. Independently, Scott maintains a Web site, [www.insideDHTML.com](http://www.insideDHTML.com), that covers the latest Dynamic HTML developments.



**T**he manuscript for this book was prepared and submitted to Microsoft Press in electronic form. Text files were prepared using Microsoft Word 97. Pages were composed by Microsoft Press using Adobe PageMaker 6.5 for Windows, with text in New Baskerville and display type in Helvetica bold. Composed pages were delivered to the printer as electronic prepress files.

*Cover Graphic Designer*  
Tim Girvin Design

*Cover Illustrator*  
Glenn Mitsui

*Interior Graphic Designer*  
Pamela Hidaka

*Interior Graphic Artist*  
Joel Panchot

*Principal Compositor*  
Elizabeth Hansford

*Principal Proofreader*  
Roger LeBlanc

*Indexer*  
Liz Cunningham

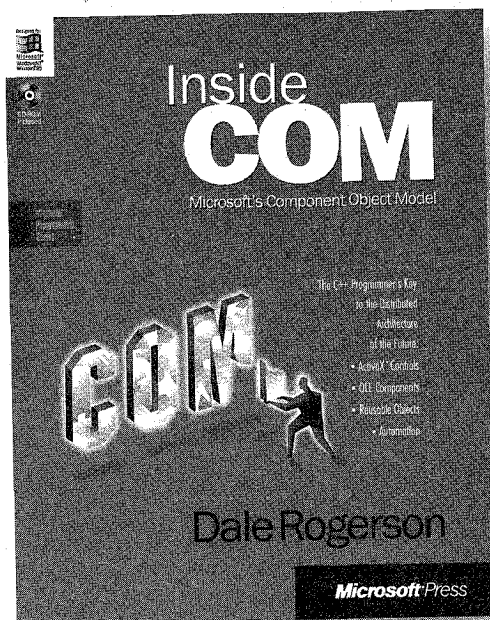






# COM

without the  
**complexity.**



**U.S.A.**      **\$34.99**  
**U.K.**      **£32.99 [V.A.T. included]**  
**Canada**    **\$46.99**  
**ISBN 1-57231-349-8**

The Component Object Model (COM) isn't just another standard. It's the basis of Microsoft's approach to distributed computing. It's also the method for customizing Microsoft® applications, present and future. And it's the foundation of OLE and ActiveX™. In short, COM is a major key to the future of development. And this is the book that unlocks COM. In it, you'll discover:

- A clear and simple, practical guide to building elegant, robust, portable COM components
- An eye-opening presentation of how accessible COM can be—especially for those already familiar with C++
- An insightful, progressive view of COM design
- Plenty of illustrations in the form of code samples

INSIDE COM is for intermediate to advanced C++ programmers; beginning to advanced COM, ActiveX, and OLE programmers; academics with an interest in component design; and even programmers who want to use COM when it's ported to UNIX, MVS, and other environments. To put it simply, if you work with COM, then INSIDE COM was written for you.

Microsoft Press® products are available worldwide wherever quality computer books are sold. For more information, contact your book or computer retailer, software reseller, or local Microsoft Sales Office, or visit our Web site at [mspress.microsoft.com](http://mspress.microsoft.com). To locate your nearest source for Microsoft Press products, or to order directly, call 1-800-MSPRESS in the U.S. (in Canada, call 1-800-268-2222).

Prices and availability dates are subject to change.

## Microsoft® Press

**IMPORTANT—READ CAREFULLY BEFORE OPENING SOFTWARE PACKET(S).** By opening the sealed packet(s) containing the software, you indicate your acceptance of the following Microsoft License Agreement.

## ***MICROSOFT LICENSE AGREEMENT***

(Book Companion CD)

This is a legal agreement between you (either an individual or an entity) and Microsoft Corporation. By opening the sealed software packet(s) you are agreeing to be bound by the terms of this agreement. If you do not agree to the terms of this agreement, promptly return the unopened software packet(s) and any accompanying written materials to the place you obtained them for a full refund.

### **MICROSOFT SOFTWARE LICENSE**

**1. GRANT OF LICENSE.** Microsoft grants to you the right to use one copy of the Microsoft software program included with this book (the "SOFTWARE") on a single terminal connected to a single computer. The SOFTWARE is in "use" on a computer when it is loaded into the temporary memory (i.e., RAM) or installed into the permanent memory (e.g., hard disk, CD-ROM, or other storage device) of that computer. You may not network the SOFTWARE or otherwise use it on more than one computer or computer terminal at the same time.

**2. COPYRIGHT.** The SOFTWARE is owned by Microsoft or its suppliers and is protected by United States copyright laws and international treaty provisions. Therefore, you must treat the SOFTWARE like any other copyrighted material (e.g., a book or musical recording) except that you may either (a) make one copy of the SOFTWARE solely for backup or archival purposes, or (b) transfer the SOFTWARE to a single hard disk provided you keep the original solely for backup or archival purposes. You may not copy the written materials accompanying the SOFTWARE.

**3. OTHER RESTRICTIONS.** You may not rent or lease the SOFTWARE, but you may transfer the SOFTWARE and accompanying written materials on a permanent basis provided you retain no copies and the recipient agrees to the terms of this Agreement. You may not reverse engineer, decompile, or disassemble the SOFTWARE. If the SOFTWARE is an update or has been updated, any transfer must include the most recent update and all prior versions.

**4. DUAL MEDIA SOFTWARE.** If the SOFTWARE package contains more than one kind of disk (3.5", 5.25", and CD-ROM), then you may use only the disks appropriate for your single-user computer. You may not use the other disks on another computer or loan, rent, lease, or transfer them to another user except as part of the permanent transfer (as provided above) of all SOFTWARE and written materials.

**5. SAMPLE CODE.** If the SOFTWARE includes Sample Code, then Microsoft grants you a royalty-free right to reproduce and distribute the sample code of the SOFTWARE provided that you: (a) distribute the sample code only in conjunction with and as a part of your software product; (b) do not use Microsoft's or its authors' names, logos, or trademarks to market your software product; (c) include the copyright notice that appears on the SOFTWARE on your product label and as a part of the sign-on message for your software product; and (d) agree to indemnify, hold harmless, and defend Microsoft and its authors from and against any claims or lawsuits, including attorneys' fees, that arise or result from the use or distribution of your software product.

### **DISCLAIMER OF WARRANTY**

The SOFTWARE (including instructions for its use) is provided "AS IS" WITHOUT WARRANTY OF ANY KIND. MICROSOFT FURTHER DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK ARISING OUT OF THE USE OR PERFORMANCE OF THE SOFTWARE AND DOCUMENTATION REMAINS WITH YOU.

IN NO EVENT SHALL MICROSOFT, ITS AUTHORS, OR ANYONE ELSE INVOLVED IN THE CREATION, PRODUCTION, OR DELIVERY OF THE SOFTWARE BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE OR DOCUMENTATION, EVEN IF MICROSOFT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES/COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

### **U.S. GOVERNMENT RESTRICTED RIGHTS**

The SOFTWARE and documentation are provided with RESTRICTED RIGHTS. Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of The Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software — Restricted Rights 48 CFR 52.227-19, as applicable. Manufacturer is Microsoft Corporation, One Microsoft Way, Redmond, WA 98052-6399.

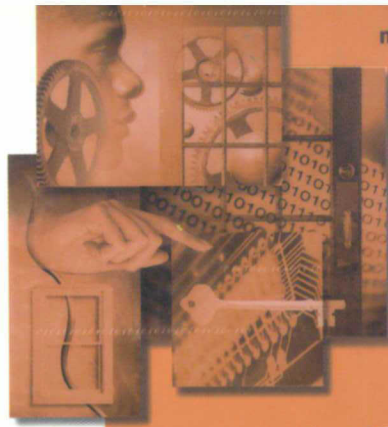
If you acquired this product in the United States, this Agreement is governed by the laws of the State of Washington.

Should you have any questions concerning this Agreement, or if you desire to contact Microsoft Press for any reason, please write: Microsoft Press, One Microsoft Way, Redmond, WA 98052-6399.

If you do not agree to these terms, please  
return the book and all the disk packs, unopened,  
along with the rest of the package contents,  
to Microsoft Press.



# Inside Dynamic HTML



## To really understand Dynamic HTML, go to the source.

Web sites developed for Microsoft® Internet Explorer 4 can offer the most advanced, most exciting interactive features, thanks to Dynamic HTML—a technology that author Scott Isaacs helped create. Now he's written the programmer's bible on this important subject. Part technical manifesto, part application sourcebook, **INSIDE DYNAMIC HTML** starts by laying out core concepts and tools—HTML, cascading style sheets, and scripting fundamentals. Subsequent chapters explain the object model and element collections.

Beyond presenting the technical blueprint to Dynamic HTML, this book also delivers what you need most—provocative, reusable techniques that demonstrate key benefits of the new object model. In addition, the companion CD-ROM supplies you with a copy of Microsoft Internet Explorer 4, the Internet Client Software Development Kit (SDK), sample scripts, and more.

**INSIDE DYNAMIC HTML** is for Web developers, sophisticated content providers, users of scripting tools such as VBScript and JavaScript, and anyone else who wants the lowdown on this widely embraced approach to a livelier Web. Give your pages the power of dynamic content. Get **INSIDE DYNAMIC HTML**.



### Inside on CD-ROM:

- Microsoft Internet Explorer 4
- Microsoft Internet Client Software Development Kit
- Complete, fully searchable contents of the book in HTML
- All code samples from the book
- Additional samples and comments

### About the Author:

**Scott Isaacs** is a leading member of the development team for Microsoft Internet Explorer 4. He is also Microsoft's representative to the W3C for standardizing HTML, CSS, and the object model.



### Microsoft Programming Series. The resources you need for making great software.

**Inside** titles: Inside information, from actual insiders, on the hows and whys of software design. **Programming** titles: Definitive shop manuals for professional programmers. **Workshop** titles: Working toolkits complete with ready-to-use code on CD-ROM. **Active** titles: The keys to using active Web technologies with Visual Basic® to create dazzling, active Web sites.

**U.S.A.**     **\$39.99**  
**U.K.**     **£37.49** [V.A.T. included]  
**Canada**   **\$55.99**  
 [Recommended]

Internet/Programming/Dynamic HTML



ISBN 1-57231-686-1



9 0000



**Microsoft Press**