JAVASCRIPT
Developer's Resource

▶ Covers the JavaScript Development Environment including the new Netscape Navigator™ 3.0 browser

▶ Contains examples of advanced topics including Forms, Frames and LiveWire

▶ Special tips for optimizing your scripts

● CD includes Macromedia® Shockwave™ and other Netscape plug-ins plus all code examples from the book

CLIENT-SIDE PROGRAMMING USING HTML, NETSCAPE PLUG-INS AND JAVA APPLETS

Kamran Husain • Jason Levitt

JAVASCRIPT

⚒Developer's Resource

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Jason Levitt

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This book is dedicated to my father,
Dr. Bilal Riaz Husain.

May he go to Heaven.

Kamran Husain

For the places: Flight Path, Ro, Flipnotics,
and Ruta Maya;

And the people: Flint, Linda, and Natasha.

Jason Levitt

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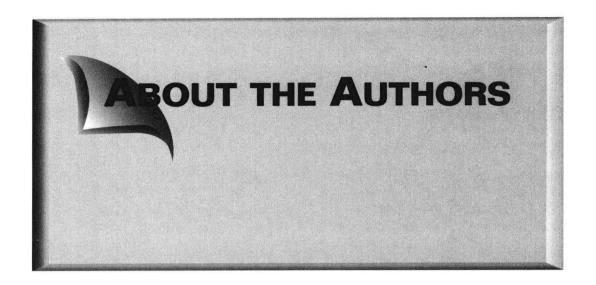
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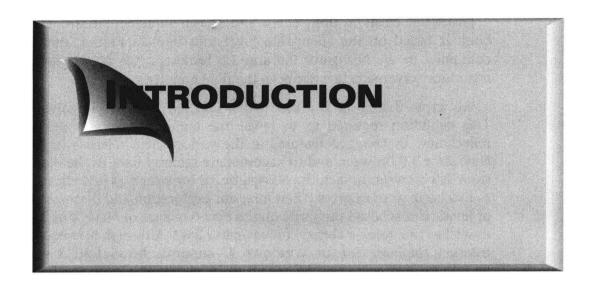
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INTRODUCTION

Welcome to the *JavaScript Developer's Resource*, a book designed for Web developers who desire a quick introduction to JavaScript and the technology behind it, along with in-depth discussions of its functionality and real examples intended to put that functionality to work. This book will provide you with the both the knowledge and the tools required to create powerful JavaScript scripts, enabling you to take full advantage of the capabilities inherent in JavaScript and to develop useful and interesting Web sites that push the limits of Web development.

JavaScript is a powerful scripting language that is quickly gaining mindshare among Internet users. Much of its popularity can be attributed to the ease with which developers and non-developers alike can tap into its power. A JavaScript interpreter is built into today's most popular Web browsers: Netscape's Navigator 2.0 and 3.0, and Microsoft's Internet Explorer 3.0. Unlike most other scripting and programming languages, you don't need any other tools, aside from one of these browsers, in order to get started writing and executing JavaScript scripts. JavaScript scripts, of course, are already all over the Internet, being used to enhance the impact and delivery of Web pages at countless sites and, after reading this book, you will have the skills to enable your site to compete with the best of them.

JavaScript exists in both client and server implementations. This book is based on the client-side JavaScript implementation that is contained in the Navigator 2.0 and 3.0 browsers. We do, however, introduce server-side JavaScript in the final chapter.

We wrote this book at a time when JavaScript was still evolving. This evolution required us to revise the contents several times to reflect new or changed features in the various beta releases of the Navigator 3.0 browser, and to accomodate security fixes in the Navigator 2.0 browser. In fact, the Navigator 3.0 browser was just released as this book went to press. Therefore, our exploration and discusssion of JavaScript is based primarily on the beta 6 release of Navigator 3.0, as well as the release version of Navigator 2.02. Although Microsoft's Internet Explorer 3.0 for Windows 95 supports JavaScript, it was backwards-engineered by Microsoft to be compatible with the Java-Script implementation in Navigator 2.02. Some of the examples in this book don't work properly with it.

There are several audiences who may find this book useful. Web page developers and Internet application developers should find this book suitable both as a tutorial on the language and as a guide to its more advanced applications. Developers with limited programming experience, and even casual Web addicts, will find usable code and can go directly to those JavaScript features that interest them. Finally, seasoned developers will find interesting, and certainly more advanced, material in Part III.

How this Book is Organized

Part I of this book, "The JavaScript Basics," which contains Chapters 1 through 4, covers just that: the basics of JavaScript. This part is designed to get you grounded in the JavaScript language, including an introduction to the language and its tools and syntax, as well as a solid treatment of its variables, operators, statements, and objects. An understanding of the material presented in Part I will prepare you for the more advanced chapters contained in Parts II and III.

Part II, "The JavaScript Objects," contains Chapters 5 through 9, and picks up right where Chapter 4 left off. In this part, we get into heavy detail about the objects built in to JavaScript, including the basic navigational objects, event handlers that enable interactive Web pages, and more advanced uses of objects for creating on-the-fly

HTML, windows and frames, and even a section on creating your own objects. By the end of Part II, you should have everything you need to begin creating dynamic Web pages using JavaScript.

But wait, there's more . . . Part III, "Advanced JavaScript: Using Live-Connect and LiveWire," which contains Chapters 10 through 12, provides you with a beyond-the-basics look at what's probably the most powerful feature of JavaScript: its ability to interact within Netscape's Internet Application Architecture to create Internet applications that offer far greater capabilities than JavaScript alone can provide. With the introduction of Navigator 3.0 and it's LiveConnect capabilities, Netscape gave JavaScript developers the tools to let their scripts communicate with Java applets and plug-ins. In this part, we'll explore what this means to JavaScript developers who wish to add sound, video, animation, and more to their Web sites. Finally, we'll take a brief look at server-side JavaScript implementation with the LiveWire tool.

How to Use This Book

You'll notice as you read this book that there are a number of elements and we've tried to be consistent about attaching certain conventions to certain elements to make them stand out. These conventions have been used to make especially useful material easier to read and to find later on when referring back to our book during your programming sessions.

Source Code

All source code, whether it be complete Program listings or just code snippets, has been styled in a special font, as follows:

```
<HTML>

<BODY>

<APPLET CODE= xxx>

</APPLET>

</BODY>

</HTML>
```

Please note also that all set-off source code appearing in the body of this book has been included on the accompanying CD-ROM for easy reference and use.

As well, we often use coding terms that run into the main text in our discussions. These terms have also been set in a special font, like so: "You can address the properties of the `aHouse` object using any number of `myHouse` statements." This applies to filenames and URLs as well.

Icons and Other Conventions

A number of special icons have been created and set in the margins of this book to call your attention to particularly useful and important information that might otherwise get lost in the running discussion of the text. As well, we've styled other key information distinctively so that you won't have to weed through the main text as you quickly scan for relevant Tips and Notes. These conventions are as follows:

This icon alerts readers to software bugs and possible methods of avoiding them.

This icon flags information that, while useful, may cause unexpected results or serious frustration.

Tip — This convention is used to highlight particularly useful information that will save the reader time, emphasize a valuable technique, or offer some special advice.

Note This convention highlights information that deserves special attention, such as an interesting fact about the topic at hand, or information that you may want to keep in mind while programming.

And Finally . . .

In the true spirit of online presentation, this book is accompanied by two forms of online media that we know you will find useful: the CD-ROM that accompanies this book, and a special Web supplement that has been created especially for this book.

Look for additional information related to JavaScript at this book's web site: www.prenhall.com/developers_resource_series

About the CD-ROM
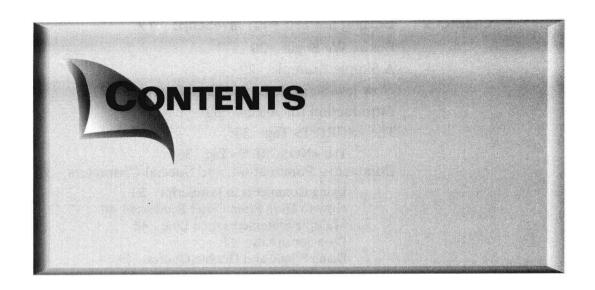
The CD-ROM contains the source code for all the code samples in this book. Hopefully, these samples will provide the basis for writing useful JavaScript applications. The code is provided for the Navigator 2.02 and 3.0 browsers running under Windows, Macintosh, and Unix, and has been tested to the best of our abilities.

Even though we made the best effort to get the source code on the CD-ROM to work across Windows, Macintosh, and Unix systems, you should be aware that the code will not always run consistently across platforms. That's because there are incompatibilities between the JavaScript implementation in Netscape's Navigator (versions 2.x and 3.0) and Microsoft's Internet Explorer 3.0. Alas, in some cases, even the same version of browser on different operating systems behaved differently! If you are running a Windows 95 system with the Netscape Navigator 3.0 browser, you are most likely to get all the examples to work right. Macintosh and Unix users should definitely read the errata files on the disc.

Perhaps when all the subtle and the not-so-subtle differences are ironed out, we can confirm that our JavaScript code will work regardless of platform for a given version number. There are still folks out there on the Net who use Navigator 2.02 because of all the "reported bugs" in Navigator 3.0.

Finally, writing JavaScript code is not a black art. It's a simple, yet uniquely powerful language to work with. Despite its power, JavaScript has its limitations and you should be aware of them before deciding to write a major application in it. JavaScript is simply a tool and you should know when to use it and when to use something else like Perl, Java or even C! Hopefully, this book will provide you with enough information to get you started.

Also, to help you along, we have added a number of shareware plug-ins. You should carefully read the notices and requirements for each plug-in before installation and use.

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