



# Programming the Web: An Introduction

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## PROGRAMMING THE WEB: AN INTRODUCTION

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# Preface

## Overview

*Programming the Web: An Introduction*, a part of McGraw-Hill's Web Developer Series, is designed for the first course in a Web programming curriculum. It presents a technical introduction to the technologies and languages used to program the Web. The scope of the book will provide a foundation to meet the prerequisites for the more in-depth courses on particular languages that make up the Web programming curriculum.

*Programming the Web: An Introduction* differs from similar works in that it dedicates two chapters to teaching fundamental programming skills that are used in the majority of the languages covered. It also will go into enough detail on HTML, XML, Java, JavaScript, ASP, and Perl/CGI so that students have the exposure they need to be successful in the more in-depth courses later in the curriculum.

## Author's Notes

The book is organized into five parts following a logical progression of the technologies and topics related to Web programming. Part One introduces and explains basic Web browser technologies such as HTML, XML, and CSS. Part Two deals with computer programming fundamentals and the application of programming languages to enhance the functionality of Web pages. Part Three presents programming constructs and syntax specific to JavaScript and VBScript, which are used to write programs to make Web pages dynamic and interactive. This section is designed to get readers recognizing, writing, and analyzing scripts. Part Four builds on everything readers have learned to this point by showing them how to put the knowledge to practical use. In this section, readers will trail through the building of Web pages implementing DHTML and using industry standard tools, Dreamweaver and FrontPage. Part Five shows the readers how to extend their Web pages by writing programs that interact with Web servers.

Following this order should instill confidence in the readers' ability to recognize, use, and analyze the basic technologies in Web programming. The level and scope of material is such that it gives readers enough exposure through explanations and examples to enable them to build, troubleshoot, and improve.

## Part One

Part One covers the basic Web browser technologies.

### **Chapter 1. Internet Fundamentals**

This chapter will help readers draw the relationship between the Web, a browser, and the technologies that sit behind it.

### **Chapter 2. Building a Web Page with HTML**

This is an introduction to get readers recognizing and writing HTML. This chapter will build a foundation for making HTML documents accessible on a wide range of browsers.

### **Chapter 3. XML and XHTML**

This chapter is an introduction to XML technologies. It presents the principles and use of XML (Extensible Markup Language) beginning with the concepts of tagging and markup, then moving on to a few advanced topics such as validation and presentation.

### **Chapter 4. Markup Transformations**

This chapter introduces Cascading Style Sheets (CSS) as a simple mechanism for adding style (e.g., fonts, colors, spacing) to Web documents. The chapter begins with a quick introduction to CSS to acquaint readers with the reasoning behind CSS, what it is, and how it works.

## Part Two

Part Two provides the programming fundamentals needed to work with the languages in the rest of the book.

### **Chapter 5. Web Programming: A Programmer's Perspective**

This chapter discusses programming techniques and issues as they relate to the Internet and Web. It begins with a general introduction to the discipline of computer science to prepare the readers for learning to use the various programming languages introduced in this book and lead them through general techniques and important programming concepts, such as algorithms, data types, and data structures.



## **Chapter 6. Object Programming**

To use an object-oriented language, students need to understand the underlying concepts before attempting to write code. This chapter helps readers to understand what an object is, what a class is, the relationship between objects and classes, and how objects use messages to communicate. The chapter begins by describing the concepts behind object-oriented programming and progress to show readers how to translate the concepts into code. The chapter contains some source code designed to give the readers exposure and to help them associate it with the concepts and terminology presented in the chapter.

### **Part Three**

Part Three gets the readers recognizing, writing, and analyzing scripts.

## **Chapter 7. Client-Side Scripting with JavaScript**

In this chapter, readers learn to create Web-based applications that run completely within a Web browser using JavaScript.

## **Chapter 8. Client-Side Scripting with VBScript**

Readers learn to use or create VBScript variables, arithmetic and logical operators, built-in and custom functions, and conditional statements and loops, as well as understand variant subtypes. It's presented here because it is considered the preferred scripting language for Active Server Pages (ASP).

### **Part Four**

Part Four extends the Web page with server-side programming.

## **Chapter 9. Understanding Dynamic HTML**

Dynamic HTML is a combination of technologies: HTML or XML, JavaScript, DOM, and CSS. All of these technologies have been discussed in the earlier chapters. In this chapter, readers trail the process of creating Web pages that use DHTML.

## **Chapter 10. Beginning Active Server Pages**

## **Chapter 11. Introduction to Java Applet Programming**

## Part Five

Part Five brings together the technologies and techniques from the first four parts and gets readers working with the technologies.

### Chapter 12. CGI with Perl

The chapter leads readers through a quick primer on CGI in order to implement CGI scripting using Perl.

### Chapter 13. Dynamic Action with Macromedia Dreamweaver MX

In this chapter, the readers will apply key object-oriented programming fundamentals presented in Chapter 6 and the Java programming language explained in this chapter. Readers learn to write small server-side applications (servlets).

### Chapter 14. Creating Dynamic Web Pages with FrontPage

### Appendix A: Creating a Virtual Directory

## STUDENT CD

The accompanying Student CD contains all the code examples found throughout the chapters and exercises in the text, which is also available on the book's Web site.

## Instructor's Resource Kit

The Instructor's Resource Kit is a CD-ROM containing the Instructor's Manual in MS Word, a Test Bank in both MS Word format and Computerized Brownstone test-generating software, and PowerPoint presentation slides.

### Instructor's Manual

- Chapter learning objectives
- Overview of chapter
- Teaching tips and strategies
- Lecture notes
- Solutions to all QuickCheck Questions, Review Questions, and Exercises



## Test Bank

The Test Bank, using Diploma Network Testing Software by Brownstone, contains 1,000 questions that are identified by the level of difficulty, which is clearly indicated for each question.

There are 100 questions per chapter. The Test Bank consists of 60 Multiple Choice and 40 True/False questions per chapter.

## PowerPoint Presentation Slides

PowerPoint presentation slides are available as a lecture presentation program developed in Microsoft PowerPoint. These slides are developed to correspond to related text material and are available for every chapter to enhance class presentations of the text material.

## Custom Web Site

<http://www.mhhe.com/webdev/sosinsky>

The course Web site includes a Student Center and an Instructor Center. For the Student Center, there are code examples from the text, answers to QuickCheck questions from the text, and additional multiple question exercises for every chapter. The Instructor Center has all the materials from the Instructor's Resource Kit and any or all updates, all of which are available for downloading.

## Digital Solutions for Instructors and Students

## PageOut

PageOut is our Course Web Site Development Center that offers a syllabus page, URL, Custom Web Site content, online quizzes, gradebook, discussion board, and an area for student Web pages. For more information, visit the PageOut Web site at [www.pageout.net](http://www.pageout.net).

## Acknowledgments

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