Introduction

Dynamic Web Programming and HTML5

Standard Web Technologies

- HTTP—The Hypertext Transfer Protocol employed by the Web. The current version is HTTP 1.1.

- HTML5—The new standard markup language, and its associated technologies, for coding regular and mobile webpages.

- CSS3—The current Cascading Style Sheet standard, offering improved styling, transformation, animation, and styling subject to media conditions (media queries).

- JavaScript—A standard scripting language for browser control and user interaction.

- DOM—Document Object Model, an application programming interface (API) for accessing and manipulating in-memory

webpage style and content.

- PHP—A widely used server-side active page programming language and tool that is open and free.

- MySQL—A relational database system that is freely available and used widely for online business and commerce.

- DHTML—Dynamic HTML, a technique for producing responsive and interactive webpages through client-side programming.

- SVG, MathML, and XML—Scalable Vector Graphics (for 2D graphics) and Mathematics Markup Language are part of HTML5. They are important applications of XML, the Extensible Markup Language.

- AJAX—Asynchronous JavaScript and XML providing client-side JavaScript-controlled access to the Web and Web services.

- Web Services—Combining HTTP and XML or JSON (JavaScript Object Notation) to serve data on the Web to other programs.

- HTML5-related APIs—JavaScript-based APIs introduced by HTML5 and other projects for a good number of useful purposes.

- LAMP—Industry standard Web hosts supported by Linux (OS), Apache (Web server), MySQL (database), and PHP (active page).

HTML5: A New Web Standard

- Among the topics covered in this text, the new and exciting HTML5 is a major focus.

- The term HTML5 can narrowly mean the new version of the HTML language. But often HTML5 is used in the broad sense of an *open Web platform* encompassing an array of Web standards, centered around the HTML5 markup language, that work together to support the modern Web.

- HTML5 aims to reduce the need for browser plug-ins (such as Flash), better handle errors, provide markups to replace scripting, and be device independent. HTML5 promises to revolutionize the Web, making it not only more functional, dynamic, and powerful, but also easier to program and deploy on different platforms such as mobile devices.

HTML5 Hightlights

- HTML5 introduces new elements to better organize and structure Web documents.

- New `audio` and `video` elements promise to make sound and video media as easy to deploy as still images.

- A dynamic drawing area, called a `canvas`, makes interactive and dynamic graphics possible.

- HTML5 fill-out forms are more powerful and easier to use/program.

- New features empower Web applications with audio/video playback control, rich-text editing, drag-and-drop programming, client-side file access, browser cache, and local storage for offline use.

- HTML5 APIs provide increased power, dynamism, and efficiency for Web development.

- MathML and SVG enjoy native support in HTML5, making mathematical formulas and 2D graphics markup in a webpage much easier.

Website Development

- The central topic of this book is how to develop websites that are highly functional and dynamic.

- The theme is how HTML5 and other Web programming technologies combine effectively for practical Web projects.

- PHP is is key for dynamic websites.

- A good introduction to relational databases, SQL, the MySQL database system, and examples of their application in practice such as online selling and payment processing.

- Developing functional and attractive mobile websites.

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Concepts and Programming

- Helping the reader learn different languages, APIs, coding, and techniques to combine them for practical purposes is our goal.

- Many realistic examples, complete and ready to run at the DWP website, are used to illustrate and demonstrate Web programming.

- Also, true programming abilities rest more in a good understanding of concepts, theory, and principles than language syntax or specific API information.

- You will find a healthy dose of conceptual materials to go with any programming presentation.

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The DWP Website

Provides reference listings, useful resources, online versions of the figures (in full size and color), demo examples cross-referenced to in-text descriptions, and an example package ready to download.

`http://dwp.sofpower.com`