Dynamic Web programming and HTML5

Date Reviewed: Sep 19 2013

The ubiquity of web access on devices from the desktop PC to the handheld smartphone creates a demand among programmers for learning how to write code to provide web services. How do you teach web development for any type of device, and what do you include? What do you use for instructional materials? Where do you begin if you want to teach yourself? This book is where you start. It is suitable for instruction at the upper-division undergraduate level or the first-year of graduate school, as well as for self-study. The scope of topics is broad, including Hypertext Markup Language (HTML) and HTML5, cascading style sheets (CSS), the document object model (DOM), JavaScript, PHP programming, MySQL database support, Apache web hosting, Extensible Markup Language (XML), Ajax, scalable vector graphics (SVG) and MathML, and mobile device computing. This is an ambitious list of topics to cover in a little over 600 pages. Fortunately, it looks like the author succeeded in his goal.

The principal software technologies in this set of topics are HTML5, CSS, PHP, JavaScript, and MySQL. They appear and reappear in the 13 chapters of the book. The manner in which these technologies are threaded together in the book coherently demonstrates how they are interrelated.

HTML5 is the focus of the first three chapters. The first chapter is a general description of how web access works and the role of HTML in its operation. Chapter 2 discusses static HTML5 markup, including static graphical images. Incorporating audio and visual components into web pages is featured in chapter 3, along with some of the higher-order tasks of managing web pages, such as metadata, subordination of web pages, and organizing files in a website. HTML5 resumes prominence in the discussion in chapter 7, on DOM, and chapter 13, on programming for mobile devices. Cascading style sheets are key tools in creating websites with a consistent visual image. CSS is the sole topic discussed in chapter 4, and it reappears in chapter 5 on the presentation of forms, in chapter 6 on dynamic user interfaces with JavaScript, and in chapter 13 on mobile devices. PHP processing first appears in chapter 5, on forms and form processing; resurfaces again in chapter 8, on server-side programming (with handling forms and user dialog as featured applications); appears again in chapter 9, on databases; and surfaces again in chapter 10, on web hosting. JavaScript is the featured technology in chapter 6, on dynamic user interfaces. Many websites are hosted on LAMP web servers. MySQL, as the database software product, is featured in chapter 9, on database-driven websites. The nuts and bolts of setting up a web server with LAMP are covered in chapter 10, including installation, testing, and administering a web server. XML/JSON and SVG/MathML are more narrowly defined topics covered in their own separate chapters.

Readers will find sets of questions and problems at the end of each chapter. The style of writing is straightforward. The figures and illustrations are easy to read. The library of files on the supporting website make it possible to bring together the many broad topics covered in this book. When the page of resources is printed out, it works out to 14 pages of links to reference materials, manuals, and technical reports about the software technologies and
tools. These documents would occupy a good portion of a bookcase. The appendices in the book point to more fully developed appendices online. The figures in the book and example programs for each chapter can be downloaded from the website as well. Instructors using this book can request lecture notes and slides from the website as well, and it even has instructions and support materials for instructors who want to use the book for team projects and for students who are involved in such projects.

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