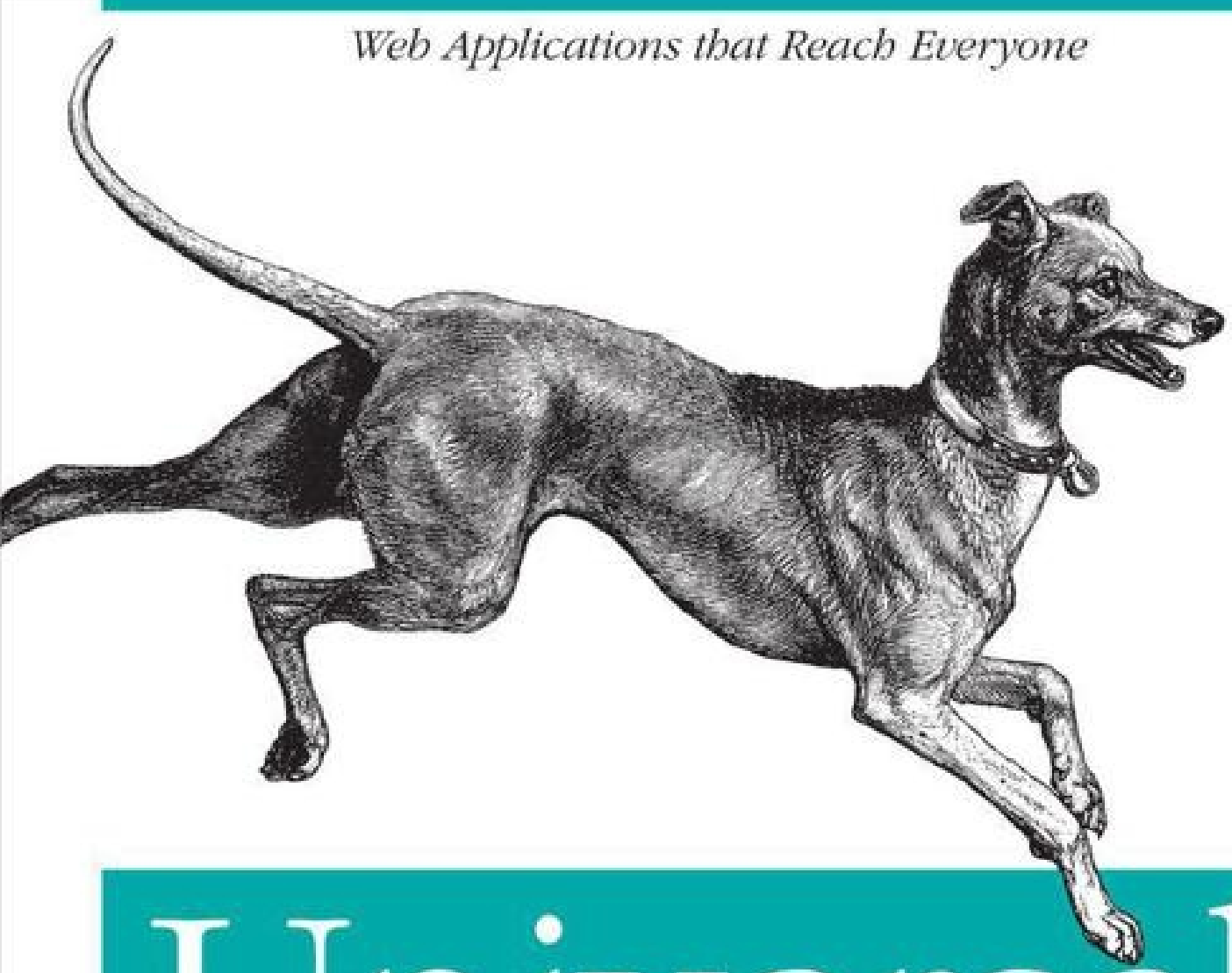
Web Applications that Reach Everyone



Universal Design

for Web Applications

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Wendy Chisholm & Matt May

Universal Design for Web Applications

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DEDICATION

To my family, especially John and Zeb
—Wendy

To Kristen and Rosalie
—Matt

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Preface

As you may have guessed, *Universal Design for Web Applications* addresses the architectural principle of universal design as applied to the Web. Practitioners of universal design are concerned with making their web content work as efficiently as possible across the range of capabilities exhibited by both people and their chosen browsing technologies.

The ultimate goal of universal design for the Web is to increase usability for people with disabilities and in scenarios involving mobile and embedded devices. As we discuss in Chapter 2, the proportion of web usage worldwide by means other than the desktop browser is increasing at an incredible rate, and users who have learned universal design practices are in the best position to design and maintain sites that meet those users' needs without returning to the bad old days of having to build one interface for every kind of browser.

Audience

Readers should be familiar with web page technology, particularly (X)HTML and CSS. There are separate chapters addressing JavaScript; Ajax and ARIA; and Rich Internet Applications in Flash, Flex, and Silverlight. If you don't use all of these technologies, feel free to skip those chapters.

This book should help:

- Web developers and designers who are looking to build universal design practices into their wor
- Managers and trainers who are looking to help their organizations do the same
- Accessibility advocates looking for advice relevant to modern web design practices
- Anyone with web development or design skills who needs a refresher

How to Read This Book

This book is primarily built on the framework of the Web Content Accessibility Guidelines 2.0 (WCAG 2.0) and the Mobile Web Best Practices 1.0 (MWBP 1.0) produced by the World Wide Web Consortium. The information we have chosen to cover is primarily based on the Level A Success Criteria of the Web Content Accessibility Guidelines 2.0. This is not to say that the other levels are not important, but we assume most people will want to start somewhere and this is the best place to start—the minimum level of conformance. We strongly encourage you to look at the success criteria in the other levels and do as much as you can to address those.

However, this is not a WCAG 2.0 tutorial. We don't discuss how to claim conformance to WCAG 2.0 What we hope to achieve is a reference that helps the reader approach web design as we do—we hope you learn to ask some of the same questions that we ask, and make some of the same decisions. To that end, we have organized the book to focus on the process of design, and chapters are based on types of information—forms, document structure, and scripting.

We've also included a series of questions and show you how each maps to WCAG 2.0 and MWBP 1.0 and where to find more information about that particular topic within the book.

Where possible, we also point you to related references, such as the Authoring Tool Accessibility Guidelines 2.0 (ATAG 2.0), articles about universal design from the DO-IT program at the University of Washington, Internationalization Techniques, User Agent Accessibility Guidelines, and the Section 508 standards.

A Chapter Breakdown

Following is a detailed breakdown of the Table of Contents, including a brief description of what's covered in each chapter.

Chapter 1, Introducing Universal Design

Our take on universal design and how it applies to the Web, accessibility, and the mobile market.

Chapter 2, Selling It

How to convince your boss (or yourself) that universal design is imperative to the success of your website.

Chapter 3, Metadata

The story of the building blocks of universal design; information on alt text, long descriptions, labels, document-level language and encoding, and link text.

Chapter 4, Structure and Design

What you need to know about HTML and HTTP, including semantic markup, the use of color, styl web-friendly fonts, avoiding flicker, and designing for HTML-based email.

Chapter 5, Forms

How to use the features of HTML to design full-featured and usable forms; tab order, error handlir on both client and server side, and the problems with CAPTCHA are covered.

Chapter 6, Tabular Data

How to mark up tables with the information necessary for users of all stripes to navigate them effectively.

Chapter 7, Video and Audio

A history of video on the Web, including support for different formats across device classes; and HOW-TOs for captioning, audio description, and transcription.

Chapter 8, Scripting

The keys to building JavaScript into web applications: progressive enhancement, unobtrusive scrip and proper use of events.

Chapter 9, Ajax and WAI-ARIA

An introduction to accessibility for Ajax-based applications, including the basics of the W3C/WAI Accessible Rich Internet Applications (ARIA) specification.

Chapter 10, Rich Internet Applications

Universal design practices for Flash, Flex, and Silverlight.

Chapter 11, The Process

Tips on integrating universal design processes into the workflows of organizations of any size.

Conventions Used in This Book

The following typographical conventions are used in this book:

`Constant width`

Indicates command-line elements, computer output, and code examples

`Constant width italic`

Indicates variables in examples and registry keys

`Constant width bold`

Indicates user input

Italic

Introduces new terms and indicates URLs, commands, file extensions, filenames, directory or fold
names, and UNC pathnames

NOTE

Indicates a tip, suggestion, or general note.

WARNING

Indicates a warning or caution.

Using Code Examples

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