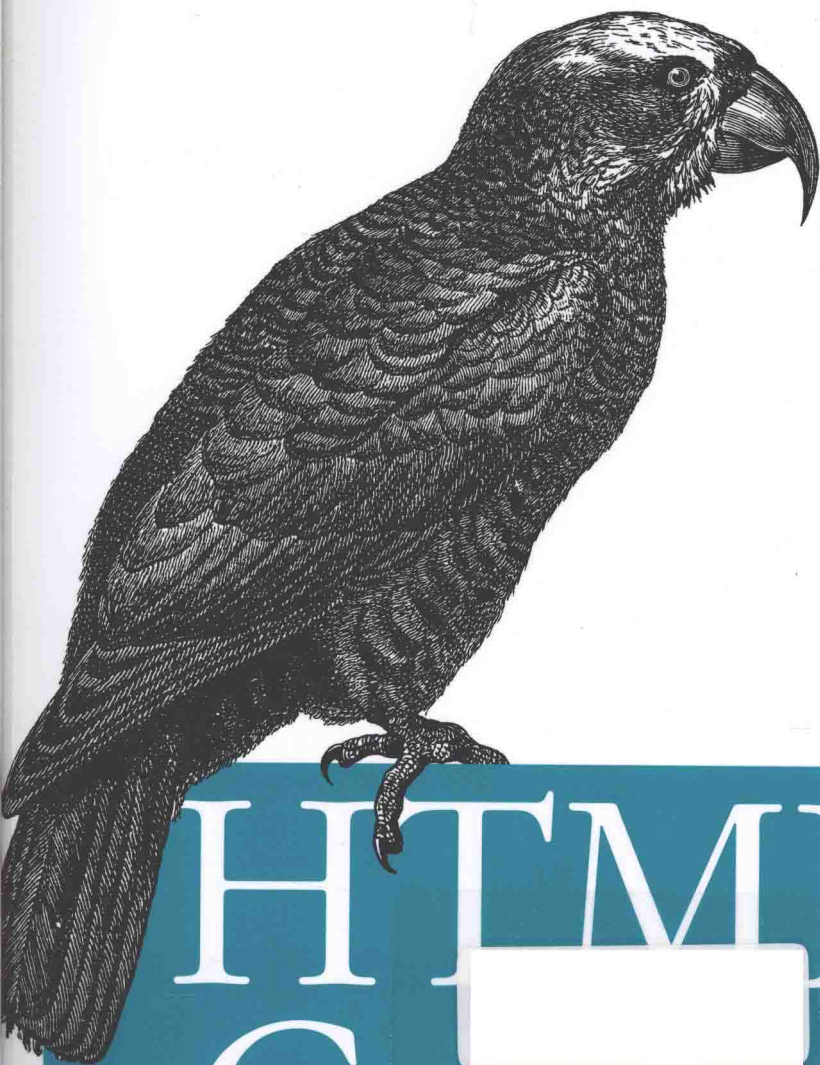


HTML5 Canvas
——网站本地化交互和动画设计(影印版)

第二版



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东南大学出版社

Steve Fulton & Jeff Fulton 著

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Preface

Introduction to the Second Edition

In the past two years, since the release of this book, usage of the HTML5 Canvas has grown by leaps and bounds. The original edition of this book was one of the first publications dedicated to the Canvas. While we were proud to get out of the gate fast, it also meant that we had to do a lot of research and exploration of our own. Back in 2011, there were only a handful of examples of HTML5 Canvas applications, and still fewer tutorials. In 2013, the landscape has changed. There are many resources to choose from regarding the HTML5 Canvas, from frameworks and APIs to dedicated websites and books. To create this second edition, we took a hard look at what worked and what did not work the first time around. The following sections describe some of the exciting changes and updates that you can look forward to within these pages.

First Edition Updates

Most of the content from the first edition of this book remains intact. It remains because this book is geared towards a wide range of developers, from those who have never seen a Canvas to those who want to learn some intermediate-to-advanced ways to make use of the Canvas.

Every chapter has been revised with updated code and optimizations, as well as updates to address browser compatibility and other issues that have arisen over the past two years. A few parts have been removed. Some of the redundant code listings have been moved to the source distribution to make the book easier to read. We have also replaced parts of Chapter 4 with more, shorter demos, and we've completely rewritten Chapter 10 to remove the discussion of Phonegap because similar content is now widely available.

We have also added a ton of new content that we believe will help take your Canvas applications to the next level. This includes the following:

- A new animated Hello World application
- A discussion of accessibility and the sub-dom concept
- Multiple methods to clear the Canvas
- Finding points in the current path
- Drawing focus rings
- Animating gradients with text
- Using pixel data to detect collisions
- Five new examples that focus on using Box2Dweb for physics-based animations
- Using `getUserMedia()` to capture video on the Canvas
- Making use of the new Web Audio API
- A* path finding and animation
- Coarse and fine tile-based scrolling
- Development of mobile web (iOS) full-screen, scaled applications
- A new game named Retro Blaster Touch
- A new drag-and-drop example
- A discussion of building your own Canvas application framework
- A short tutorial for building an HTML5 application for Windows 8

What You Need to Run the Examples in the Book

The best part about the programming HTML5 Canvas is that the barrier to entry is very low. All you need is a modern web browser and a text editor.

As far as compatible browsers go, we suggest that you download and use the latest version of the following web browsers. The browsers are listed in the order that we suggest you test them:

- Chrome
- Safari
- Firefox
- Internet Explorer (version 10)
- Opera

Every example in this book was tested with Google Chrome, Safari, and Firefox. While we made every attempt to ensure that these examples worked across as many browsers as possible, we suggest that you use Google Chrome or Safari for the best results.

What You Need to Know

It would be good if you knew your way around programming in some kind of modern language like C, C++, C#, ActionScript 2, ActionScript 3, Java, or JavaScript. However, we will introduce the Canvas in the first chapter in a way that should ease you into web programming at the same time.

For Flash developers

JavaScript and ActionScript 1 are essentially the same language. While Adobe took some liberties with ActionScript 2, you should be very comfortable with JavaScript. If you have experience with only ActionScript 3, JavaScript might feel like a step backwards.

For Silverlight/C# developers

Take a deep breath, and think about a time before ASP.NET/C# when you might have had to develop web apps in VBScript. Keep your mind there, because that is just about the same space you are about to enter.

How This Book Is Organized

This book is organized into 11 chapters. All the chapters in the second edition have been updated, revised, and expanded. The first four chapters step you through the HTML Canvas API by example. The topics covered include text, images, and drawing. These chapters contain a few finished apps, but for the most part consist of demos designed to show you the facets of the Canvas API. The next six chapters build upon the Canvas API by expanding the scope of the examples to application length. In these chapters, we discuss math and physics applications, video, audio and games, and mobile. The final chapters introduce a few experimental areas: 3D, multiplayer, Windows 8, and a Canvas object model.

What you won't get in this book is a simple run-down and retelling of the published W3C Canvas API. While we cover portions of the API in detail, some of it is not applicable to games. However, if you want to explore the API further, you can find it at this site (<http://dev.w3.org/html5/2dcontext>).

Instead, we want to bring to light the ways the Canvas can be used to create animation, games, and entertainment applications for the Web and mobile web.

Conventions Used in This Book

The following typographical conventions are used in this book:

Italic

Indicates new terms, URLs, email addresses, filenames, and file extensions.

Constant width

Used for program listings, as well as within paragraphs to refer to program elements such as variable or function names, databases, data types, environment variables, statements, and keywords.

Constant width bold

Shows commands or other text that should be typed literally by the user.

Constant width italic

Shows text that should be replaced with user-supplied values or by values determined by context.



This icon signifies a tip, suggestion, or general note.



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Steve Fulton

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Jeff Fulton

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