front matter

preface

One of the hard parts of learning a new language or skill is extrapolating the individual skills learned into the thing we're trying to build. Although we may know the mechanics of grid or understand how flex works, learning which to choose and when (or how) to achieve a specific end that we're envisioning can be challenging. Rather than start with the theory and then apply it to our projects, in this book we took the opposite approach. We started with the project and then looked at which skills and techniques are necessary to achieve our end.

But why talk about CSS? We can write an entire application using nothing but browser-provided defaults, but it wouldn't have much personality, now, would it? With CSS, we can achieve a lot for both our users and our business needs. For everything from brand recognition to guiding users with consistent styles and design paradigms to making the project eye-catching, CSS is an important tool in our toolbox.

Regardless of libraries, preprocessors, or frameworks, the underlying technology that drives how our applications and websites look is CSS. With that in mind, so as not to get sidetracked by the individual quirks and functionality of libraries and frameworks, we chose to go back to the basics, writing this book in plain old vanilla CSS because, if we understand CSS, applying it to any other tech stack or environment becomes much easier down the line.

acknowledgments

We, Martine and Michael, thank Andrew Waldron, acquisitions editor, and Ian Hough, assistant acquisitions editor, for all their support and

enthusiasm about getting the book off the ground and during the development process. We thank Elesha Hyde, development editor, who was a huge source of support from start to finish, providing professional guidance, editing, and encouragement. Louis Lazaris, technical proofreader, and Arthur Zubarev, technical development editor, provided thoughtful, useful technical feedback and code reviews. Thank you both for all your input. Finally, we send a huge thank-you to all the early-access readers and reviewers throughout the process, whose input helped shape and develop this book.

We thank all the reviewers: Abhijith Nayak, Al Norman, Alain Couniot, Aldo Solis Zenteno, Andy Robinson, Anil Radhakrishna, Anton Rich, Aryan Maurya, Ashley Eatly, Beardsley Ruml, Bruno Sonnino, Carla Butler, Charles Lam, Danilo Zekovic´, Derick Hitchcock, Francesco Argese, Hiroyuki Musha, Humberto A. Sanchez II, James Alonso, James Carella, Jereme Allen, Jeremy Chen, Joel Clermont, Joel Holmes, Jon Riddle, Jonathan Reeves, Jonny Nisbet, Josh Cohen, Kelum Senanayake, Lee Harding, Lin Zhang, Lucian Enache, Marco Carnini, Marc-Oliver Scheele, Margret “Pax” Williams, Matt Deimel, Mladen Đuric´, Neil Croll, Nick McGinness, Nitin Ainani, Pavel Šimon, Ranjit Sahai, Ricardo Marotti, Rodney Weis, Steffen Gläser, Stephan Max, Steve Grey-Wilson, and Vincent Delcoigne. Your suggestions helped make this book better.

Martine Dowden: I thank my family, friends, and coworkers at Andromeda Galactic Solutions for their unwavering support and encouragement through my career and the writing of this book.

I’d also like to recognize the Mozilla Foundation and the countless individual contributors to the MDN docs for their tireless efforts in providing the developer community documentation for web languages such as CSS. Finally, I’d like to thank the creators, Lennart Schoors and Alexis Deveria, and all the contributors to Caniuse, for making it easy to know which browsers will support which CSS features.

Michael Gearon: This being my first book, producing it has been a fun and challenging process. I’d like to thank all my family members for their support, especially my wife, Amy Smith, who has been there

through the whole process. I must also say a special thank-you to my cats, Puffin and Porg, who tried (and failed) to get the odd word in the book.

about this book

Tiny CSS Projects enables designers and developers to learn CSS through a series of 12 projects.

Who should read this book?

Tiny CSS Projects is for readers who know the basics of HTML and frontend development. No experience in CSS is required. Both beginners and experienced coders will develop a deeper understanding of CSS through this book. Rather than present a theoretical view of CSS, each chapter applies a different part of CSS to a project to demonstrate in practice how CSS works.

How this book is organized: A roadmap

The book has 12 chapters, each of which is a self-contained project:

- Chapter 1, “CSS introduction”—This chapter’s project walks readers through the basics of CSS, examining cascade, specificity, and selectors.
- Chapter 2, “Designing a layout using CSS grids”—This chapter explores CSS grids by designing a layout for an article while, in the process, looking at concepts such as grid tracks, `minmax()`, repeat functions, and the fractions unit.
- Chapter 3, “Creating a responsive animated loading screen”—This project uses CSS to create a responsive animated loading screen, using scalable vector graphics and animation to style an HTML progress bar.
- Chapter 4, “Creating a responsive web newspaper layout”—This chapter is about designing a multicolumn responsive web newspaper layout. It explores the CSS Multi-column Layout Module, counter styles, and broken images, as well as how to adapt the layout by using media queries.

- Chapter 5, “Summary cards with hover interactions”—This project creates a series of cards using background images, transitions to reveal content on hover, and media queries to check capabilities and browser window size.
- Chapter 6, “Creating a profile card”—This chapter’s project creates a profile card and explores custom properties and background gradients, as well as setting image sizes and using Flexbox for layout.
- Chapter 7, “Harnessing the full power of float”—This chapter shows the power of CSS floats to position images, shape content around CSS shapes, and even create a drop cap.
- Chapter 8, “Designing a checkout cart”—This chapter is about designing a checkout cart, which involves styling responsive tables, using a CSS grid for layout, formatting numbers, and setting CSS conditionally based on viewport size by using media queries.
- Chapter 9, “Creating a virtual credit card”—This chapter focuses on creating a virtual credit card and achieving a 3D effect by flipping the card over on hover.
- Chapter 10, “Styling forms”—This chapter looks at designing forms, including radio buttons, inputs, and drop-down menus, as well as promoting accessibility.
- Chapter 11, “Animated social media share links”—This project employs CSS transitions to animate social media share links and examines CSS architecture options such as OOCSS, SMACSS, and BEM.
- Chapter 12, “Using preprocessors”—The final chapter demonstrates how we can use preprocessors when writing CSS and presents the Sass syntax.

About the code

This book contains many examples of source code, both in numbered listings and inline with normal text. In both cases, source code is formatted in a `fixed-width font like this` to separate it from ordinary text. Sometimes code is also **`in bold`** to highlight changes from previous steps in the chapter, such as when a new feature adds to an existing line of code.

In many cases, the original source code has been reformatted; we've added line breaks and reworked indentation to accommodate the available page space in the book. In some cases, even this was not enough, and listings include line-continuation markers (➥). Code annotations accompany many of the listings, highlighting important concepts.

You can get executable snippets of code from the liveBook (online) version of this book at **https://livebook.manning.com/book/tiny-css-projects**. The complete code for the examples in the book is available for download from the Manning website at **https://www.manning.com** and from GitHub at **https://github.com/michaelgearon/Tiny-CSS-Projects**.

liveBook discussion forum

Purchase of *Tiny CSS Projects* includes free access to liveBook, Manning's online reading platform. Using liveBook's exclusive discussion features, you can attach comments to the book globally or to specific sections or paragraphs. It's a snap to make notes for yourself, ask and answer technical questions, and receive help from the authors and other users. To access the forum, go to **https://livebook.manning.com/book/tiny-css-projects/discussion**. You can also learn more about Manning's forums and the rules of conduct at **https://livebook.manning.com/discussion**.

Manning's commitment to our readers is to provide a venue where a meaningful dialogue between individual readers and between readers and authors can take place. It is not a commitment to any specific amount of participation on the part of the authors, whose contributions to the forum remain voluntary (and unpaid). We suggest that you try asking them some challenging questions lest their interest stray! The forum and the archives of previous discussions will be accessible from the publisher's website for as long as the book is in print.

Other online resources

Often, we can't remember how a property works or what values are available to us. One great resource for looking up how a particular property, function, or value works is the MDN docs (**https://developer.mozilla.org/en-US**).

Although any given aspect of CSS functionality may be defined in the CSS specification, that doesn't mean all browsers support it yet. We often find ourselves needing to understand which browsers support what and whether we should create a fallback or use alternative methods to achieve our goal. Caniuse (**https://caniuse.com**) is a great resource that allows us to check a particular property or function to see how well supported it is in browsers by version.

Finally, to make sure that everyone can access and use our websites and applications, we can't forget the importance of accessibility. The documents provided by the World Wide Web Consortium's Web Accessibility Initiative are great places to start, and they link to many other resources, including Web Content Accessibility Guidelines (**https://www.w3.org/WAI/fundamentals**).

about the authors

Martine Dowden is an author, international speaker, and award-winning chief technology officer of Andromeda Galactic Solutions. Her expertise includes psychology, design, art, accessibility, education, consulting, and software development. *Tiny CSS Projects* is her fourth book about web technologies and draws on 15 years of experience in building web interfaces that are beautiful, functional, and accessible. For her community contributions, Martine has been named a Microsoft MVP in Developer Technologies and a Google Developer Expert in Web Technologies and Angular.

MICHAEL GEARON is a user experience designer and frontend developer from Wales, UK. He earned a BS in Media Technology at the University of South Wales while practicing coding and design. Since then, Mike has worked with well-known UK brands, including Go.Compare and Ageas. He now works in the Civil Service, previously for Companies House and currently at Government Digital Service.

about the cover illustration

The figure on the cover of *Tiny CSS Projects* is captioned “M’de. de bouquets à Vienne,” or “Flower seller from Vienna,” and is taken from a collection by Jacques Grasset de Saint-Sauveur, published in 1797. Each illustration is finely drawn and colored by hand.

In those days, it was easy to identify where people lived and what their trade or station in life was just by their dress. Manning celebrates the inventiveness and initiative of the computer business with book covers based on the rich diversity of regional culture centuries ago, brought back to life by pictures from collections such as this one.