

Extracted from:

Seven Web Frameworks in Seven Weeks
Adventures in Better Web Apps

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Seven Web Frameworks in Seven Weeks

Adventures in Better Web Apps



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*I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.*

► *Robert Frost*

Preface

It is usually not long after we start writing web apps that we wonder if it can be done differently or if there is a better way to get the job done. While no framework is perfect, exploring the landscape of ideas that are collected in other frameworks is both satisfying in its own right and extremely helpful in finding new ways to solve problems with our current tools.

This book documents some of our own explorations in a quest to find new ideas and better ways of building apps. We hope that you will enjoy this tour of the modern, and still mostly unexplored, world of web programming.

Why Seven Web Frameworks?

You likely already have a framework that you use for your job or that you work with as a hobby. You might love or hate it, but chances are that you've wondered if there isn't something better out there. Even if you aren't looking to switch frameworks or learn a new language, we think that exposure to the great ideas of other developers can only positively affect your own work and thinking.

We are lifelong learners with a passion for new ideas and adventurous programming. With so many web frameworks and languages available these days, it's easy to have a lot of fun and learn interesting, new things, and it's difficult to get bored. We've experimented with many frameworks during our careers. Some of these became our new favorites, others just inspired us, and a few gave us good ideas that we put into practice in more familiar territory.

This book aims to give you a taste of seven very different web frameworks, both to expose you to their key ideas but also to tickle your own curiosity and sense of adventure. Each framework we explore has something unique to teach us. Compared to mainstream frameworks, they are roads less traveled, full of wonder and surprise, adventure and reward.

About This Book

This book follows in the footsteps of the Pragmatic Bookshelf’s “Seven in Seven” series, including [Seven Languages in Seven Weeks \[Tat10\]](#) and [Seven Databases in Seven Weeks \[RW12\]](#). Each chapter in this book covers a different web framework, often in a different language, with the goal of providing you with a broad overview of the ideas, styles, and techniques used to develop modern web apps.

Each chapter is self-contained and organized around three days in which we’ll introduce the framework and show off its unique features in a practical setting. While there is a loose ordering of the frameworks covered, you do not need to consume the chapters in order and should feel free to jump into any framework you find interesting.

Each framework was chosen for its unique features, and not necessarily for its mainstream popularity. There are bound to be both languages and frameworks that you’ve never heard of, but sometimes that is where the best ideas are hiding.

We start off in [Chapter 1, Sinatra, on page ?](#), with one of the simplest frameworks the Ruby world has produced. While we explore this small, elegant framework, we’ll build and test a bookmarking application.

In [Chapter 2, CanJS, on page ?](#), we look at one of the newest trends in web apps: client-side frameworks. Using JavaScript and the Sinatra back end, we’ll reimplement the bookmarking application and show off the power of dynamic models that can observe and react.

[Chapter 3, AngularJS, on page ?](#), tours another client-side JavaScript framework with a completely different style. AngularJS is declarative and integrates directly into your HTML. You tell it what you want, but not how to do it.

Lispers have a saying that “code is data,” and in [Chapter 4, Ring, on page ?](#), you’ll see that web applications are data too. Ring apps build on top of a sophisticated but simple abstraction, and they leverage functional programming techniques.

Your view of how web apps work is sure to be challenged in [Chapter 5, Web-machine, on page ?](#). This Erlang-based framework models HTTP as a state machine and allows you to harness the full power of the protocol—power that most frameworks hide from you.

[Chapter 6, *Yesod*, on page ?](#), puts Haskell's strong, static type system to work, preventing many common web app errors. Your application won't pass through the compiler if you have broken links or fail to properly sanitize user-generated content.

Finally, [Chapter 7, *Immutant*, on page ?](#), reinvents the enterprise Java web framework by wrapping the JBoss system in Clojure and removing all the ceremony and craft. The result is a combination of enterprise class features that you'll enjoy using.

What This Book Is Not

It's difficult to do justice to so many ideas in a single book, and so we've had to trim features that you might expect to find in books dedicated to a single language or framework.

Not a Web Programming Tutorial

We assume you have some familiarity with web applications already. We provide no explanations of HTML, CSS, or the basics around how web applications work. Hopefully you've built one or two web applications already, but if not, the level of knowledge assumed is fairly basic.

Not a Language Tutorial

We cover seven web frameworks across five different programming languages. Some of these languages are probably familiar to you, like Ruby and JavaScript, and some are quite strange. We don't have enough room in the book to include language introductions, but we have tried to accommodate readers who are seeing these languages for the first time. Even if you don't know one of the languages, you should still be able to grasp the key ideas presented in each framework. Many of these ideas are applicable in any language.

Not an Installation or Deployment Guide

Installing languages and web frameworks is getting easier every day, but in order to keep chapters focused on essentials, we do not go into much detail about installation or deployment. In most cases, package managers and build tools take care of the hard work, but if you run into problems, you can turn to online tutorials for help with each language that you can find via your favorite search engine.

Code Examples and Conventions

We aspire to cover as much as possible about each framework within a single chapter, but in some cases we have omitted code from the text that is not relevant to our explanation but is still required for the apps to run. In some cases this code is generated by scaffolding applications that we demonstrate how to use, but in other cases you'll have to get the code from the downloadable code package. You'll find the complete source code for every application in the book there. Feel free to work directly from the downloadable code instead of typing everything in by hand.

For each language in the book, we have tried to stick to the popular conventions and tooling used by the language's community at the time of writing.

Online Resources

The apps and examples shown in this book can be found at the Pragmatic Programmer's website for this book.¹ You'll also find the community forum and the errata submission form, which is where you can report problems with the text or make suggestions for future versions.

We hope you enjoy your adventure through these seven unique frameworks, and let the many good ideas they contain inspire you.

Jack Moffitt and Fred Daoud

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1. <http://pragprog.com/book/7web/seven-web-frameworks-in-seven-weeks>