SPA Design And Architecture: Understanding Single Page Web Applications

Understanding single-page web applications

SPA
Design and Architecture

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Synopsis

Summary SPA Design and Architecture teaches you the design and development skills you need to create SPAs. Includes an overview of MV* frameworks, unit testing, routing, layout management, data access, pub/sub, and client-side task automation. This book is full of easy-to-follow examples you can apply to the library or framework of your choice. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the TechnologyThe next step in the development of web-based software, single-page web applications deliver the sleekness and fluidity of a native desktop application in a browser. If you're ready to make the leap from traditional web applications to SPAs, but don't know where to begin, this book will get you going.About the BookSPA Design and Architecture teaches you the design and development skills you need to create SPAs. You'll start with an introduction to the SPA model and see how it builds on the standard approach using linked pages. The author guides you through the practical issues of building an SPA, including an overview of MV* frameworks, unit testing, routing, layout management, data access, pub/sub, and client-side task automation. This book is full of easy-to-follow examples you can apply to the library or framework of your choice.What's InsideWorking with modular JavaScriptUnderstanding MV* frameworksLayout managementClient-side task automationTesting SPAsAbout the ReaderThis book assumes you are a web developer and know JavaScript basics.About the AuthorEmmit Scott is a senior software engineer and architect with experience building large-scale, web-based applications.Table of ContentsPART 1 THE BASICSWhat is a single-page application?The role of MV* frameworksModular JavaScriptPART 2 CORE CONCEPTSNavigating the single pageView composition and layoutInter-module interactionCommunicating with the serverUnit testingClient-side task automationAPPENDIXESEmployee directory example walk-throughReview of the XMLHttpRequest APIChapter 7 server-side setup and summaryInstalling Node.js and Gulp.js

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Customer Reviews

I have spent the last decade developing J2EE web applications with traditional frameworks like Struts and Spring MVC. I am very new to SPA and have only looked briefly at a few frameworks and frankly I had a lot of concerns of how SPA could be used for creating complex applications and more importantly how you could troubleshoot and support a SPA application. This book did a great job of explaining how to organize your project code, how to maintain code integrity with modules (great section for me), how to use the browser history without going to the server (important for support), how to test your code, and how to automate tasks. These were all areas of concerns for me and how to implement SPA at work. The book does not pick a framework but evaluates many and even better shows extensive examples in AngularJS, Backbone, and Knockout. This book did what it says and I now feel like I have the understanding and design concepts to proceed with a SPA framework.

This book gives an excellent overview of what it takes to start building a single-page Web application, but only grazes the surface.Pros:+ Broad overview of SPA architecture, project layout, and build process.+ Well-structured. Easy to read and understand.Cons:- Advanced architectural topics that are impacted by an SPA vs. a server-side-heavy framework, e.g. state-management and caching, are unfortunately not discussed in this book.- The book contains too much text on general software engineering best-practices, such as why the Separation of Concerns principle, modularization, and testing are good things.- Code samples in multiple frameworks lead to confusion. The repeated "this may be different in other frameworks" disclaimer on every page wastes a lot of text. In my opinion, it would have been better to stick to 1 technology and point out significant strengths and weaknesses compared to other competitors.Conclusion: A useful book for beginners and developers who have never seen an SPA or JavaScript-heavy Web application before. Experienced developers will not really find anything new in this book and are better off diving into their SPA framework of choice. However, it is a quick read, so experienced developers may still want to read this to ensure they don't have any knowledge gaps.

This book filled in some knowledge gaps I had on how to build a single page web app. It is a design book which explains the architecture of building a SPA along with guiding principles. The sections on the MV* frameworks were well written with diagrams explaining the differences between them.I found the choice of Backbone, Knockout, and Angular to be disappointing though. The chapters often switch between the frameworks and the author never states an opinion about which he prefers. Also the author dismisses React.js as not being part of the MV* family, even though React is more popular and superior in many ways to these frameworks. Backbone, and Knockout are getting dated at this point... this would not be a problem except the copyright for this book is 2016, not 2013. Also, there was no mention until the Appendix that Angular version 2 is a complete rewrite with different syntax than Angular version 1.This is still a decent book, but by the end the author has presented so many different choices of frameworks and technologies that I did not get a clear picture of the best way to build a SPA. The author suggests that SPA architecture should be technology agnostic; because Javascript technologies are changing quickly... it would have been a stronger book to choose one framework, state why, and go in depth more.

I have worked with SPA applications in the past and after browsing this book, I was pleasantly surprised the way all the content in this book is organised. Its easy to understand and grasp the concept of SPA. I will definitely recommend it to anyone who wants to learn how to develop SPA applications...

This book is an excellent guide to getting started with SPA development. I had read two SPA books previously but both created their own ad hoc framework so many of the overarching concepts were lost.This book does not land on one specific framework but rather provides examples for a small set of common frameworks (Angular, Backbone, and Knockout). Some reviewers have suggested this as a minus rather than a plus. I am using AmpersandJS as a framework but am able to apply the concepts from Backbone almost directly. This approach also allows the reader to better assess those frameworks before making a selection.Once you have written your first SPA application you will want to consult your framework documentation directly to learn more about caching and other advanced topics.

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