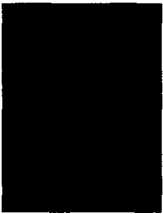


Engineering Long-Lasting Software: An Agile  
Approach Using SaaS and Cloud Computing  
Beta Edition 0.9.0

Armando Fox and David Patterson

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To help understand the nature of engineering software, we contrast it with hardware engineering with regards to product lifetimes, development processes, productivity, and assurance. The similarities and differences led to popular processes for software development: Waterfall, Spiral, and Agile. We show the synergy between Software as a Service (SaaS), Cloud Computing, and Agile software development. We conclude with a tour of the remainder the book.

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Whether creating a new system or preparing to modify an existing one, understanding its architecture at multiple levels is essential. Happily, good software leverages patterns at many levels—proven solutions to similar architectural problems, adapted to the needs of a specific problem. Judicious use of patterns helps simplify design, reveal intent, and compose software components into larger systems. We'll examine the patterns present at various logical layers of SaaS apps, discuss why each pattern was chosen, and where appropriate, note the opportunity cost of not choosing the alternative. Patterns aren't perfect for every problem, but the ability to separate the things that change from those that stay the same is a powerful tool for organizing and implementing large systems.

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This chapter explores three sets of mechanisms for DRYing out your code, thereby making it more concise, beautiful and maintainable. Model validations and controller filters centralize what invariants must hold in order for a model object to be valid (for example, a movie must have a nonblank title) or for a controller action to proceed (for example, the user must be logged in as an admin). ActiveRecord Associations use Ruby language features to represent and manipulate relationships among different types of ActiveRecord models, while using relational-database functionality to represent these relationships as foreign-key associations. Finally, scopes let you encapsulate different ActiveRecord queries into composable "building blocks" that you can easily reuse to add new query functionality to your app. In each case, tastefully-chosen language features and framework architecture support DRY and concise app code.

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Out of every dollar spent on software, 36% is spent on enhancements, 10% on fixing bugs, 11% on adapting to environmental changes such as new library versions or API changes, and 3% on *refactoring* to make the software more maintainable. In total, therefore, about 60% of software expenses is devoted to software maintenance, so your first job is more likely to involve improving existing code than creating a brand-new system from a clean slate. In Chapters 5 and 6 we looked at disciplined ways to evolve new code. Although thorough formal documentation of legacy systems may be lacking or inaccurate, the Agile techniques we already know can be pressed into service to help understand the structure of legacy software and create a foundation for extending and modifying it with confidence. We will describe what good code looks like and why, and show how to apply refactoring techniques to legacy code both to make it more testable (and therefore modifiable with confidence) and to leave it in better shape than we found it for the next developers.

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Proper use of JavaScript enhances the user experience for newer browsers without excluding older browsers or those in which JavaScript is disabled. The Web's client-side

programming language has a bad reputation because most people who use it lack the programming experience to use its unusual features to write beautiful code. Fortunately, your Ruby knowledge will let you grasp JavaScript's unusual features easily, your SaaS knowledge will let you quickly understand frameworks like jQuery, and your TDD and BDD experience will apply directly to using Jasmine for test-driven JavaScript development.

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Use transference to leverage software plus services with external cloud providers to significantly reduce GHG and energy consumption impact in the enterprise. Ensure proper environmental service level agreements (SLAs) are in place for your organization. Use a holistic design approach. Use a holistic design approach to the architecture: Carefully examine the environmental components in each tier, as well as the environmental impact on external systems supporting the overall solution. Use a plan of action that leverages technologies, processes, and strategies. Best Practices for Sustainable A Parallelization using modern parallel computing frameworks, such as MapReduce, CUDA, or Dryad gained in popularity and acceptance, resulting in new ML libraries developed on top of these frameworks. We will briefly introduce the most prominent industrial and academic outcomes, such as Apache Mahout, GraphLab or Jubatus. We will investigate how cloud computing paradigm impacted the field of ML. Last approach on the radar of this survey is ML as Software-as-a-Service, several BigData start-ups (and large companies as well) already opening their solutions to the market. Trends in data growth. Figures - uploaded by Daniel Pop. BigML 29 is a SaaS approach to machine learning. Users can setup datasources, create, visualize and share. Torrent Downloads » Other » David Patterson, Armando Fox - Engineering Long Lasting Software An Agile Approach Using SaaS and Cloud Computing, Alpha Edition - 2012 mobi. An Agile Approach Using SaaS and Cloud Computing, Alpha Edition - 2012.mobi (Size: 2.73 MB) (Files: 1). David Patterson, Armando Fox - Engineering Long Lasting Software. An Agile Approach Using SaaS and Cloud Computing, Alpha Edition - 2012.mobi.