

Agile Software Development Essentials

Skill Level: Intermediate-Advanced

Duration: 3-Days (9am-5pm)

Delivery Type: Classroom - Public or Private On-Site

OVERVIEW

In this unique training we cover the critical skills needed to build software that can easily change. We identify and give names to the qualities that make software flexible so all team members can communicate with high fidelity. We then look at specific principles and practices which support the development of quality software.

In addition to covering a core set of patterns every developer should know we also examine the forces that underlie patterns and make them valuable to agility. This expanded view of patterns gives attendees a powerful framework to allow them to encapsulate and abstract virtually any problem for maximum flexibility without overcomplicating the solution. These techniques apply equally well to new development as they do to maintaining or extending existing systems.

Attendees learn how to find elegant solutions by understanding the forces of problems. This leads to discovering the right abstractions that make software less complex and more manageable. Using advanced techniques like commonality-variability analysis, “refactoring to the open-closed”, encapsulating construction and pattern-oriented design, participants learn how to emerge designs just-in-time and with minimal waste.

There are no “magic bullets” in software development but developers can make better choices if they understand the tradeoffs of their decisions. This training helps attendees evaluate tradeoffs in design that can then be immediately applied to virtually any problem. This practical approach will impact the way attendees create software on a day to day basis. Participants leave this training confident and empowered to improve the quality of the software they produce.

This is a lecture-style course with a group exercise done at whiteboards. Examples and demonstrations are provided in Java using Eclipse. Issues specific to .NET, C# and C++ are discussed.

SKILLS TAUGHT

After completing this training attendees will be able to:

- Identify six code qualities that make software easier to maintain
- Build a common vocabulary for evaluating and communicating designs
- Understand how applying key principles leads to easily extendible designs
- Evaluate the tradeoffs of alternate designs without having to code them
- Learn twelve core patterns that every developer should know and use
- See how to apply patterns just-in-time and avoid up-front overdesign
- Employ proven techniques to dramatically reduce defects
- Recognize pathologies of poor code and how to fix them
- Discover how to refactor code without breaking callers
- Master an easy way to find patterns in any problem

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COURSE OUTLINE

Day 1

- Introduction
- Architecture and Design
- CREATE Software Quality
- Software Patterns
- Encapsulating Varying Behavior

Day 2

- Review
- Paradigms, Principles and Perspectives
- Encapsulating Foreignness
- Group Exercise
- Group Exercise Debrief

Day 3

- Review
- Core Practices
- Encapsulating Sequence and Cardinality
- Encapsulating Construction
- Refactoring and Emerging Systems

AUDIENCE

This training is for developers, testers, designers, architects, technical leads and managers of development teams.

PREREQUISITES

Attendees should be familiar with basic Object-Oriented (OO) concepts and terminology.

INSTRUCTOR

David Bernstein has been writing software for over a quarter of a century. A noted speaker and presenter, David has been responsible for successfully delivering systems that drive leading econometric and financial firms as well as helping to develop application and operating system software. He has nearly two decades of experience “preaching what he practices” for clients such as IBM, Microsoft, as well as many other Fortune 500 companies and has personally trained over 6,000 developers on how to improve the design and construction of software. In addition to his deep technical knowledge and passion for software development, David has experience running all aspects of a startup software company and is also an award-winning video producer.

FOR MORE INFORMATION AND TO ENROLL:

Contact:

David Bernstein

Direct: (425) 562-2975

Or Email:

info@techniquesofdesign.com

Or Visit:

<http://www.techniquesofdesign.com>