

# Software Effectiveness Catalog

**More Effective Software Teams Start Here**

**Team Training & Workshops**  
**Team Coaching**  
**Organizational Consulting**  
**Technical Due Diligence**  
**Resources**

*Software development training and consulting from instructors with unparalleled depth and breadth of experience with Fortune 1000 enterprises, using a customized combination of private training at your location and online options.*

Customized software development training  
from professionals who have seen it all

Adobe ADP Agile Amazon  
Apple Baker Hughes Bobcat  
Datalogics Dell Cisco Costco  
Erste Bank Expedia Expeditors  
GE Hewlett Packard Intel  
Mentor Graphics Micro Encoder  
Microsoft Nike Qualcomm  
Rockwell SAP Shell Soliant  
Starbucks Tableau Tune Visa

**Ready to take your team, yourself, and your organization to the next level?** Get on the fast path to success through world-class training, consulting, coaching, and more. Leverage our experience with hundreds of teams across the world to boost your team's performance.



# Software Leadership

# summit

Training and consulting will improve your team. Make sure you take the time to enhance your own capabilities too.

**Construx's Software Leadership Summit** is a unique event that puts software leaders in direct contact with industry thought leaders as well as a wide range of peer leaders from other organizations.

### *The Summit features:*

- Keynotes by industry thought leaders
- Nuts-and-bolts peer discussion groups among software leaders
- Strategies for leading software teams at the organizational level
- Unmatched networking opportunities

### *Topics have included:*

- Designing, Building, and Refining a Software Organization
- Leading a Distributed and Remote Workforce
- Growing Staff Capability
- Improving Productivity
- Excelling as a Software Leader

*Put the Summit on your calendar this fall!*

Learn more at [construx.com/summit](http://construx.com/summit)



## Customized Training Solutions

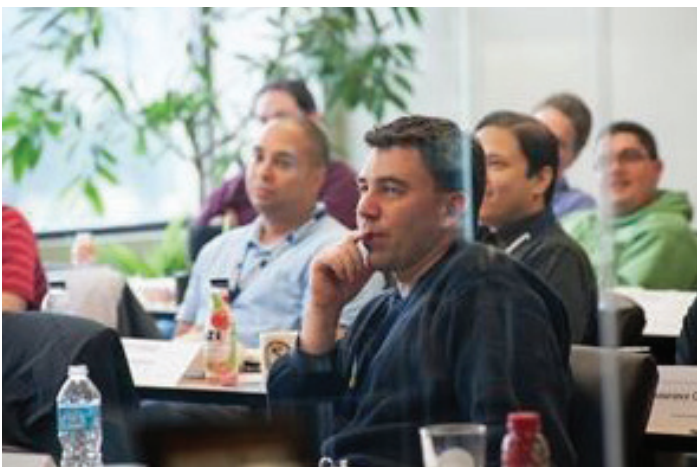
*Let Construx customize a training solution for you that optimizes your staff's professional development and delivers lasting value for your training investment.*

- [hello@construx.com](mailto:hello@construx.com)
- +1 (425) 636-0100
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# Construx Private Learning

# at your site



Construx has helped hundreds of companies with the highest impact classroom training available. Schedule a convenient private Construx class for your team.

Classes at your location eliminate travel time, are customized for your specific situation, and allow for candid, confidential discussions that focus on your specific issues.

Learn more and get in touch at [construx.com/courses](https://construx.com/courses).

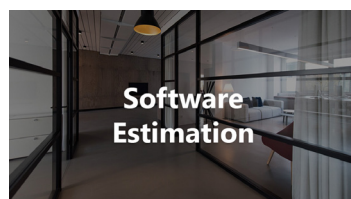
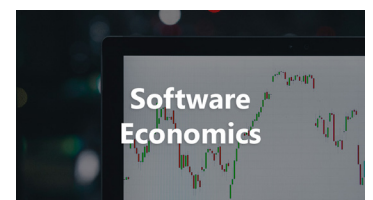
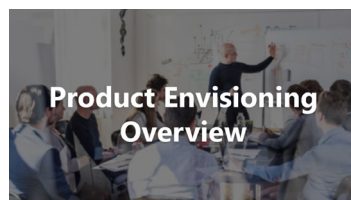
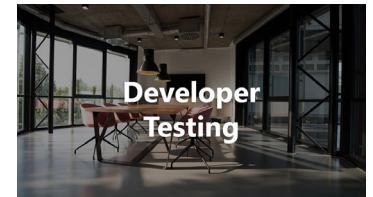
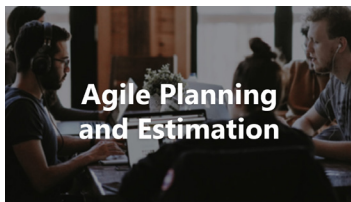
**“I think this seminar will have fantastic ROI for our company as we continue to develop.”**

*Jason Foura, Software Developer & Team Lead, Frogslayer*



# Construx Online Learning

# on demand



Our online learning platform, **Construx OnDemand**, provides in-depth, world-class training from our respected thought leaders to individuals and teams. Our 24 courses cover crucial topics that software teams need to know to be more effective.

Contact us for a free, no-risk team trial and to learn about our innovative enterprise pricing.

**“This was a very well-thought-out training course. It presented a large amount of useful information clearly and with lots of great examples from extensive real-world experience. It was interesting, informative and entertaining—I learned a lot.”**

*Richard Eyre-Todd, Software Manager, Tafe*

# Case Studies

## CASE STUDY #1

### Scaling Agile Across the Enterprise

Bolstered by its success with small-scale Scrum projects, a Fortune 500 computer hardware company hoped that it could transform the organization by simply replicating its small-project successes across the enterprise.

If only it were that simple.

After a shaky start, the company enlisted Construx to develop a customized Scrum seminar that was piloted, refined, and delivered to the 2500-person staff at sites worldwide. Construx supported the rollout with executive briefings, onsite coaching, and continuous fine-tuning. The result was a consistent, efficient and fully integrated adoption of Scrum throughout the enterprise.

**“Melvin is excellent. Patient, knowledgeable. This was the missing piece to our organization’s Agile transformation.”**

*Michael O’Keefe, Architect, RSA*

## CASE STUDY #2

### Taking the Team to the Next Level: Success with Larger Projects

A medium-sized scientific instruments company consistently experienced success with project teams of 5–9 members. But projects with teams of 15–100+ struggled or failed outright.

Construx developed a customized training program that focused on the unique challenges of succeeding with Scrum at scale.

Training throughout the company included team- and management-level best practices that have proven successful for larger projects. Our experienced Agile experts also provided customized coaching and mentoring, and we helped the staff round out their skill sets with online training in planning, estimation, requirements, and quality assurance.





## CASE STUDY #3

### Customized Agile Training for a Small Team

A small company in a narrow vertical market needed to improve its skills in Agile requirements, in performing the Scrum Master and Product Owner roles, and in the basics of Scrum. Their challenges included having a total staff size of 9 people and a modest training budget.

Construx delivered a customized blended program that included:

- Three online courses that team members could consume in sections as needed: Scrum in Depth, Agile Requirements, and The Scrum Product Owner
- An onsite, in-person coaching workshop to fine-tune the on-the-ground practices and team interactions
- Follow-up support and coaching via phone and web sessions

The blending of online and private training was especially effective for helping the company identify and address specific issues, integrate lasting improvements into the team's dynamics, and achieve maximum effectiveness with its Scrum and Agile practices.

## CASE STUDY #4

### Agile Adoption in a Regulated Industry

A company working under FDA regulation wanted to adopt Scrum but was uncertain how to do so without risking non-compliance with rigorous FDA requirements.

Construx provided customized Scrum training to the team that had been designated to pilot Scrum on an FDA-compliant project. After a highly successful pilot, Construx supported an incremental Scrum rollout strategy by providing training and coaching to additional teams throughout the organization. Internal stakeholder satisfaction soared, and the company made a transformational migration to Scrum while consistently meeting all FDA regulatory requirements.



## More Effective Scrum **NEW**

Based on Steve McConnell's newest book and informed by experience with hundreds of teams around the world. This course will teach you how you can make Scrum more effective in your organization. Gain a deep understanding of Scrum processes and roles and how they apply to software development. How to staff your Scrum team, plan your releases, launch your project, and guide your project to a successful conclusion.

## Scrum in Depth

This course provides everything you need to know to ensure your transition to Scrum is successful. In the years since the Agile Manifesto, Scrum has emerged as the most popular Agile process for managing software development projects. More companies are switching to Scrum, but many are struggling. This customizable course combines key aspects from Certified Scrum Master and Certified Scrum Product Owner-specific training plus specific best practices based upon the instructor's direct experience on Scrum transitions and experience gained from Construx's consulting engagements.

## The Scrum Product Owner

The Product Owner role is arguably the most important role in Scrum—and the most challenging. The Product Owner is part project manager, part product manager, and part customer advocate. This person must ensure the customer's wants and needs are understood while ensuring that the team delivers the greatest-value features as quickly as possible—all while responding to ever-changing requirements. Ultimately, the Product Owner owns a Scrum project's success or failure. This course drills down into the detailed information needed to successfully plan releases, reflect stakeholder priorities, ensure the team builds the right product, and communicate with marketing, sales, executives, and other project stakeholders.

## Scaling Scrum

As the needs of the business expand beyond what individual teams can accomplish, organizations need to scale Scrum while remaining Agile. Using an extended case study, this course presents the best practices necessary to scale software projects to multi-team projects, multiple geographies, and work that spans multiple iterations. You'll examine scaling tactics from a Scrum perspective, including Lean, Kanban, and Scrum of Scrums. Learn the dos and don'ts of scaling Scrum gleaned from Construx's extensive experience helping clients scale Scrum across the globe.

## Kanban Overview

The Kanban Method is a powerful approach to visualizing work items and workflow, creating a pull-based system without bottlenecks, and driving incremental improvements to your specific software development process, whatever it might be. This course gets you started with Kanban by describing its fundamentals, how to set up a Kanban system in your environment, and how to use Kanban metrics to analyze, deeply understand, and pursue changes to your development system that will make it work better for your team and for your business. Start with what you do now, agree as a team to evolve your system incrementally, and encourage acts of leadership that deeply involve participants at all levels.

## Agile Practices for Developers

This course teaches how to deliver high-quality, valuable, working software frequently while accommodating changing requirements. It goes over Agile roles and responsibilities for the development team, working from a product backlog and refining it, implementing a test automation strategy, automating acceptance tests and unit tests, coding standards, simple design, TDD, code coverage, key design principles and patterns, refactoring, and more.

## Agile Team Metrics **NEW**

Inspect and adapt is a core principle in Agile software development. But how do you "inspect"? And how do you determine whether your "adapt" efforts are effective? This course illustrates metrics Agile teams can use to improve—the metrics have been chosen to work specifically with Agile development approaches. Aimed at the team level, the course is organized by 29 common questions teams ask themselves.

## Agile Planning and Estimation

Learn state-of-the-art methods and practices for planning and estimating Agile projects at different levels of your organization. The real-world practices presented in this course are based upon evolved concepts and support both basic Scrum projects and Agile at scale—and they have been proven on the ground through extensive use by Construx's clients. Effectively plan and estimate your projects in days instead of weeks, and confidently forecast project completion with accuracy.



## Software Project Management

The transition to Agile frameworks has created confusion and inconsistency in the project manager role. This course will help you make the transition to solid software project leadership, including how to play a valuable role in Agile projects. It teaches the concepts and techniques necessary to manage software projects successfully.

## Increasing Software Innovation

Much is written about the “secrets of innovation.” Why then are so few companies innovating? What’s missing? This course will challenge your thinking about everything you’ve ever heard about innovation. It provides a predictive model that explains why some companies innovate and others don’t—a model to help you avoid wasting time and effort on “secrets of innovation” that won’t work for your organization. You’ll leave this course knowing how to benchmark your organization’s ability to innovate and implement innovation practices specific to your organization.

## Software Risk Management

If you don’t attack project risks, they will attack you! Learn intermediate and advanced strategies you can use on both general and project-specific risks. Discover how to identify, address, and eliminate sources of risk before they grow into major problems. This course focuses on intermediate and advanced strategies you can use to manage general risks and details practical techniques you can use to control your project’s specific risks.

## Software Economics

Companies are in business to maximize the return on their investment. Unfortunately, most software professionals lack the skills to evaluate the business impacts of the technical choices they make, which can lead to waste in time, money, and personnel. Grounded in engineering economics and business decision making, this course teaches you the essential concepts and techniques that will help you make technical decisions that positively impact the all-important bottom line.

See complete course descriptions at [construx.com/courses](https://construx.com/courses)

## More Effective Requirements **NEW**

Agile development shifts traditional requirements work to a “just in time” approach. How does this affect good requirements practices? This class explains Agile approaches to traditional requirements sources including MRDs, PRDs, feature lists, and user scenarios. It dives into techniques for developing requirements on Agile projects, including the Agile Work Breakdown Structure (WBS), using story mapping to define the scope of the project, writing user stories, sizing stories (Agile estimation), and developing acceptance criteria for user stories.

## Agile Requirements Modeling

This course gives hands-on experience using five basic requirement models to more efficiently and effectively elicit and analyze functional requirements. You’ll create Context Diagrams, Activity Models (aka workflow models), Domain Models (aka E-R models, class models, data models), Use Cases, and State Models. You’ll gain proficiency at using these models in practical and Agile ways to more precisely and concisely capture requirements without getting caught up in modeling semantics.

## Model-Based Requirements

This course provides in-depth, hands-on coverage of developing and documenting model-based functional requirements as part of a Model-Driven Architecture (MDA) software development approach. Software requirements are documented using a subset of the Unified Modeling Language (UML) rather than in a Natural Language like English. Model-based requirements are more complete, more concise, and less ambiguous than Natural Language requirements, leading to higher quality software with less cost and shorter schedules. No prior knowledge of object-oriented development, UML, or MDA is required for this course.

**“Steve is a great instructor—  
tremendous value given his  
multi-disciplinary background  
and experience”**

*Patty Santry, Scrum Master,  
Sharp Laboratories*

## Code Complete Essentials

In this intense and detailed course, you will learn dozens of proven tips, techniques, and principles to produce clean, industrial-strength code. Capturing the body of knowledge available from research, academia, and everyday commercial practice, this class synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. It uses dozens of examples of good and bad code in Java, C++, C#, and Visual Basic to explain how to shorten development time, reduce errors, and make debugging easier.

## Software Design

Different designers will create designs that differ by at least a factor of 10 in the code volume produced. How do you invent simple, straightforward designs and avoid complex, error-prone designs? Understand the fundamental design principles that lead to high-quality designs requiring low implementation effort. Learn both Agile and traditional approaches to create great designs quickly and economically.

## Design Patterns

Design patterns are powerful, predefined solutions to common software design problems. Patterns provide an efficient form of reuse because they are transportable across different languages and software architectures. This course introduces and explains the highest-leverage design patterns in a clear way that's easy to understand. You will learn how to use specific design patterns to improve your designs, and you will practice applying design patterns to sample design problems. You'll also see how design patterns can improve your design process overall.

See complete course descriptions at [construx.com/courses](https://construx.com/courses)

## Agile Testing for Developers

Learn how to effectively incorporate developer testing into Agile development. This Agile testing training explores developer-focused Agile testing practices, including Test-Driven Development (TDD), Acceptance Test-Driven Development (ATDD), and Behavior-Driven Development (BDD). You will learn the ins and outs of unit testing, including unit test patterns and anti-patterns, and how to use TDD to improve the efficiency of your projects while also learning what pitfalls to avoid. You'll also learn patterns, principles, and refactorings to make your software more testable.

## Developer Testing

Developer testing is a critical component of software development, yet studies show that developer testing is typically inefficient and ineffective. Significant developer effort is spent without finding defects that should have been found. Learn how to be more efficient and effective by achieving higher test coverage and how to make the software itself more testable. See how to plan and carry out an efficient and effective developer testing strategy. Avoid common testing pitfalls, and learn to determine how much developer testing is enough.

## More Effective Quality Planning **NEW**

A project's approach to quality ultimately determines its quality—and also its cost, schedule, and functionality. Learn how to define end-to-end project quality in terms that support project goals, with a focus on customizing practices to the needs of individual projects. Your team will learn how to achieve quality throughout the project lifecycle—including numerous alternatives to end-of-project testing.

**“Tailored to our needs. Loved it!”**

*Nicole Myers, Sr. BSA, Starbucks*



# Methods & Processes

## 10x Software Development - Teams

How do you maximize team productivity? Decades of research have found at least a ten-fold—“10x”—difference in productivity and quality between the best teams and the worst. Discover the 8 Key Principles of 10x Software Development and how the most effective teams utilize them. Gain a deeper understanding of the factors that affect productivity, and avoid the productivity traps of “minus-x” engineering. Learn and apply critical techniques that will turn your team into a high-performing, 10x Team.

## 10x Individuals and Interactions

How can a person increase personal productivity? As with team productivity, decades of research have found at least a “10x” difference in productivity and quality between different developers. In this course, you will learn and apply effective techniques that will allow you to vastly increase your personal productivity. You will learn the 8 Key Principles of 10x Software Development, discover the tactics and factors that affect individual productivity, and avoid the productivity traps of “minus-x” engineering.

# Keynotes

Kick off your company’s training or other initiatives with an inspirational keynote session by Steve McConnell, one of the most well-respected thought leaders in the software industry and a highly rated public speaker.

Get in touch today about scheduling a keynote with Steve or another of our highly respected software leaders.

Reach out to us at [construx.com/contact-us](https://construx.com/contact-us)



# Consulting & Coaching Services

Construx provides software development consulting services that help you deliver high-quality solutions that delight your customers. We have helped hundreds of companies implement practices that are best suited for their needs.

Request our consulting and coaching brochure at [hello@construx.com](mailto:hello@construx.com).



We can help you answer questions like:

- What are the strengths and weaknesses of my Agile adoption?
- How does my software organization compare to others?
- How can I make my software projects more predictable?
- Will the software I’m about to acquire support my business objectives?
- How do we adopt Agile in a regulated industry?
- Will the quality of our released software meet our customers’ expectations?

Learn more at [construx.com/consulting-services](https://construx.com/consulting-services)

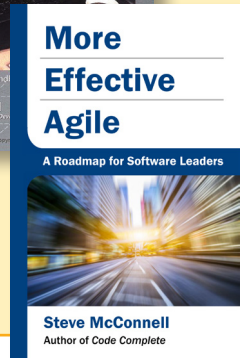
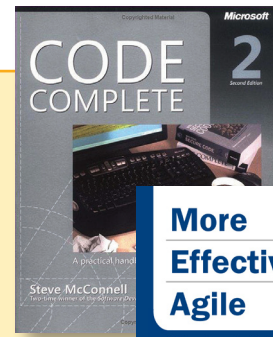
# Our Advantage Is Our Experts



## A Message from Steve McConnell

Thank you for taking the time to review our training and consulting offerings. Construx consultants are some of the most capable software development experts in the world. Technical expertise is most important, of course, but the training experience matters too. We have made significant investments in course development and training skills so that your staff will receive the most useful, relevant, high-impact training available. I personally oversee all course development and delivery at Construx, so if you have any questions, please feel free to contact me directly at [stevemcc@construx.com](mailto:stevemcc@construx.com).

*Steve McConnell is CEO of Construx Software, author of the industry classic **Code Complete**, and author of the new book **More Effective Agile: A Roadmap for Software Leaders**.*



**Earl Beede** is a Senior Fellow at Construx Software, where he designs and leads seminars and provides consulting services on early project-lifecycle practices, estimation, requirements, quality assurance, contract management, and software methodologies. With more than 20 years experience in quality assurance, systems analysis, process architecture, and management, Earl has designed and written software development

processes for a wide variety of industries. He is a member of the IEEE Computer Society and was a coordinator of the Seattle Area Software Process Improvement Network.



**John Clifford** is a Senior Fellow at Construx Software, where he focuses on software development, project management, and team management practices with an emphasis on Agile practices. With more than three decades of IT experience, John has held leadership roles as a development engineer, product feature team manager, group QA manager, group project manager, and development director. John holds Certified Scrum

Master, Certified Scrum Product Owner, and Certified Scrum Practitioner certifications from the Scrum Alliance.



**Melvin Perez-Cedano** is a Senior Fellow at Construx Software, focusing on software design, software construction, software process, and configuration management. He has a successful track record transforming dysfunctional and immature organizations into performance- and quality-oriented environments. Melvin has deep experience in Agile practices, including code cleaning, refactoring, and unit testing, and is also

well versed in UML, RUP, and CMMI. He has lectured extensively throughout the Americas and is a former IEEE Distinguished Lecturer for Latin America.



**Erik Simmons** is a Senior Fellow with Construx Software. He has nearly 30 years of experience as an engineer, consultant, and change agent in software and systems in both the public and private sector. Erik is internationally recognized for his expertise in areas such as Agile, software and systems lifecycles, Solutions Thinking, complex adaptive systems engineering, and requirements engineering.



**Jenny Stuart** is the Vice President of Consulting at Construx Software. Jenny applies her 20+ years of leadership experience in software testing, process improvement, quality assurance, and Agile techniques to help companies make dramatic improvements in their software development processes. She holds a BSEE from the University of Washington and CSDP certification. Jenny is a member of the Computer

Society of the IEEE, the Association for Computing Machinery, the American Society for Quality, and the Quality Assurance Institute.



**Steve Tockey** is the author of *Return On Software*, a guide for companies that want to maximize their investment in software development, and the new book *How to Engineer Software: A Model-Based Approach*. As a Principal Consultant at Construx, Steve focuses on software project management, estimation, software quality, object-oriented development, and distributed object computing. He is a Certified Software

Development Professional (CSDP) and chairs the CSDP Certification Committee of the IEEE Computer Society. He is also a charter member of the OMG, the group that oversees development of the UML.



**Bob Webber** is a Senior Fellow at Construx with over 30 years of software experience delivering innovative products in telecommunications, entertainment, and life sciences. Bob's roles have ranged from software developer to executive R&D positions at GTE and AT&T, followed by engineering and product management leadership at three successful start-up companies. As

CEO, Bob led Transenda International to successful acquisition by BioClinica (BIOC), where he became Vice-President of Product Management.

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