23A - Metrics, Measures and KPI's Definition with Goal-Question-Metric Methodology

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This seminar is designed to provide participants with an overall understanding of the key components of quantitative software project management such as metrics, key process indicators and management dashboards and teach managers and practitioners how to define measures and indicators that directly support an organization's strategy and goals related to software development process. It will also cover topics of project performance management, measurement strategy and alignment of business strategy with project goals and deliverables.

The objective of this seminar is to equip participants with needed knowledge on how to define a measurement program and best setup effective KPI's and metrics that will allow them to better monitor and control their development projects. The participants will learn a step-by-step approach on how to use Goal-Question-Metric methodology to define effective measures that are aligned with the organizational strategy, goals and critical success factors as well as support the measurement requirements of the CMMI Measurement and Analysis process area.

This seminar will address four major activities in the measurement process:

1. Aligning business strategy and project goals with measurements and KPI's for better cross-functional collaboration and project control
2. Selecting measures to address specific project areas and critical issues
3. Designing project management dashboards
4. Integrating project management dashboards into the management decision making process

Presenter:

Joseph Raynus has 25 years of experience providing vision and strategic direction in the areas of Corporate Quality, Information Technology, Software Lifecycle Management, definition and implementation of innovative processes methodologies to his clients such as Sun Microsystems Inc., Oracle, US Air Force, US Marine Corp., and US Coast Guard R&D Centre. He provides education, training, mentoring and is a frequent speaker on all aspects of Quantitative Process Performance Management and unified project measures such as Key Process Indicators and Metrics.Mr. Raynus led multi-national teams in developing innovative solutions to control and manage programs, quality, and customer satisfaction, and helped companies on turning around broken product development processes. He conducted analysis and improvement of SDLC and defined quantitative quality and measurements framework mapped against ISO/IEC 15939, to measure, monitor, and track project performance and provided leadership in development of Six Sigma application. Mr. Raynus introduced innovative quality concept to predict executive customer escalations to one of his major clients that successfully predicted business events using data mining technology and reduced associated business cost of $25 Million annually. During his work with Department of Defense, he participated as a non-Government advisor to the Source Selection Evaluation Board (SSEB) during a major USAF System acquisition. As a certified Software Engineering Institute (SEI) CMM assessor, Joseph Raynus conducted CMM based assessments, training and implementation of SW/CMM processes across the phases of a project life cycle and authored a book on software process improvement, quantification methodology, and metrics, which is sold by all major book sellers throughout the world.

23B - "Testing the Untestable"

Robin F. Goldsmith, JD; President
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Testability of requirements and design is a major concern for testers. When something is not testable, it's usually because it's not clear, which increases chances of development errors; and regardless, one cannot reliably do the job of testing whether implementation is correct. Defining testable Quality Factors (often called "nonfunctional requirements") is especially challenging. In this eye-opening interactive presentation, Robin Goldsmith shows how tests indeed can be created for seemingly untestable requirements/designs, with the side benefit of helping correct likely problem sources without engendering so much of the resistance testers typically tend to encounter.

* Common characteristics of untestable requirements and designs.
* Why others often resist testers' concerns about testability.
* Creating test cases for seemingly untestable requirements/designs.

Presenter:

Robin F. Goldsmith, JD has been President of Go Pro Management, Inc. consultancy since 1982. He works directly with and trains professionals in business engineering, requirements analysis, software acquisition, project management, quality and testing. He partners with ProveIT.net in providing ROI Value Modeling™ tools, training, and advisory services.

Previously he was a developer, systems programmer/DBA/QA, and project leader with the City of Cleveland, leading financial institutions, and a “Big 4” consulting firm.

Author of numerous articles and the recent book *Discovering REAL Business Requirements for Software Project Success*, and a frequent speaker at leading professional conferences, he was formerly International Vice President of the Association for Systems Management and Executive Editor of the *Journal of Systems Management*. He was Founding Chairman of the New England Center for Organizational Effectiveness. He belongs to the Boston SPIN and served on the SEPG’95 Planning and Program Committees.

Mr. Goldsmith Chaired BOSCON 2000 and 2001, ASQ Boston Section’s Annual Quality Conferences, and is a member of the ASQ Software Division Methods Committee.

He holds the following degrees: Kenyon College, A.B. with Honors in Psychology; Pennsylvania State University, M.S. in Psychology; Suffolk University, J.D.; Boston University, LL.M. in Tax Law. Mr. Goldsmith is a member of the Massachusetts Bar and licensed to practice law in Massachusetts.

23C - How To Keep And Motivate Your QA Team --Without Increasing Your Budget

Marina Gil-Santamaria, Web Community Manager
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Have you ever heard comments such as “Anybody can do QA”, “QA is boring” or “A QA Engineer is really a Developer Wannabe”? If you have, and you are not in agreement with them, you should attend this session! We will discuss some free and simple pointers that can be easily applied within any organization to boost morale and motivate your team.

Key points covered:

- 5 worst QA miss-conceptions that we have all heard about
- Reason why they are wrong (so you can neutralize them if needed)
- 8 helpful (and free) pointers and guidelines that you could easily apply within your organization to boost QA team’s morale and sense of appreciation

Presenter:

Marina Gil-Santamaria is the Web community manager for Empirix's Web BU, where she manages and evangelizes all services and tools associated with QAZone --Empirix's new online community dedicated to fostering communication and collaboration among QA & IT professionals worldwide. During the last ten years Marina has held positions in QA, development, services and product management organizations at CA, Wily, and Empirix. Marina is a frequent contributor to industry publications and forums. Marina holds an MS in electrical engineering from the Universidad Politecnica de Madrid, Spain.

23D - "Assuring Reliability and Security During Software Development"

Suvajit Gupta, Managing Consultant
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Most enterprise applications are implicitly expected to work with a high level of uptime and deal gracefully with external challenges like disk/network/remote service failures and security attacks. Many teams are experienced in their problem domain & functionality but are less adept at delivering the non-functional capabilities. Some "destructive" activities (like architectural risk analysis, risk-based testing, code vulnerability scans, et al) paired up with the usual "constructive" activities can help "bake in" reliability and security.

Our experience shows that "thinking like an attacker" and applying assurance activities throughout the software development lifecycle (SDLC) can strengthen applications during conception & construction. This talk will cover the techniques to apply, roles to fill, artifacts to create, and tools to use at different phases of the SDLC to assure appropriate reliability & security.

Attendees will learn a combination of theory and practice and pick up skills they can take back to their jobs and apply immediately. The key security-related roles and responsibilities are summarized below:

- Security Analyst: documents security requirements, works with Systems Analysts/Architects on abuse cases and threat modeling (applying knowledge of common software vulnerabilities and standard attack patterns)
- Security Architect/Developer: applies germane security policies and standards, designs defenses against high-risk security threats, develops and integrates [reusable] security components (code)
- Security Tester: maps security requirements to test cases, performs risk-based security testing (manual or automated), uses tools to scan code for security vulnerabilities and works with Developers to get these fixed

Presenter:

Suvajit is a Managing Consultant in charge of major software/security initiatives for Cigital's premier customers. He brings over 16 years of enterprise-class software development and leadership experience to build secure, reliable, and scalable applications. Suvajit's key areas of expertise include distributed object-oriented architectures, Agile development methodologies, and leadership of high-performance technical teams.

Prior to joining Cigital, Suvajit was the VP of Engineering at Entrieva where he was responsible for their Engineering team and software products/tools. He was Development Director at TEOCO Corporation where he helped the company double revenue and size. Additionally, Suvajit managed the development of software for medical information at Focus Technologies, enterprise application integration at SAGA Software, content management at Thomson Technology Services Group, wireless network design at LCC, and electromagnetic simulation tools at Ansoft.

Suvajit has a MS in Computer and Systems Engineering from Rensselaer and an undergraduate in Electronics and Communications Engineering from IIT Kharagpur in India. He is a co-founder of the mid-Atlantic chapter of the International Association of Software Architects (IASA). He frequently presents at local IASA and IEEE chapters on software development methodologies and architecture. Suvajit has published several technical papers in IEEE journals.

23E - Improving Software Reliability

Steven R. Rakitin, President
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We depend on software for most everything – from making our morning coffee, to managing our banking and finances, to improving our health care, controlling our cars, communications, entertainment, etc. Software has become an integral part not only of daily life but of doing business. Most companies today are software companies – software is essential for their success. Yet, most software is unreliable, full of defects, often delivered late with far fewer features than were promised.

In this session, you will learn to:

- **define** what is meant by software reliability in terms specific to your products
- **measure** software reliability based on your definition
- **improve** reliability by using proven techniques for preventing and finding defects

By understanding the basic principles of software development and by applying proven software reliability techniques, we can develop software that is reliable, robust and less likely to result in lawsuits.

Presenter:

Steven R. Rakitin has over 30 years experience as a software engineer and software quality manager in a broad range of industries. He has written extensively on the subject of software quality and published a book titled: Software Verification & Validation for Practitioners and Managers. He helped write the first IEEE Software Engineering Standard (for Software Quality Assurance Plans, IEEE-STD-730) and is currently on the IEEE Standard 1012 (Software Verification & Validation) Working Group.

Mr. Rakitin received a BSEE from Northeastern University and an MSCS from Rensselaer Polytechnic Institute. He has earned certifications from the American Society for Quality (ASQ) as a Software Quality Engineer (CSQE) and Quality Auditor (CQA). He is a member of the IEEE Computer Society, the ASQ Software Division, and is on the Editorial Review Board for the ASQ Journal *Software Quality Professional*. He presents papers and workshops at conferences worldwide. As President of Software Quality Consulting Inc., he helps companies establish a more predictable software development process.