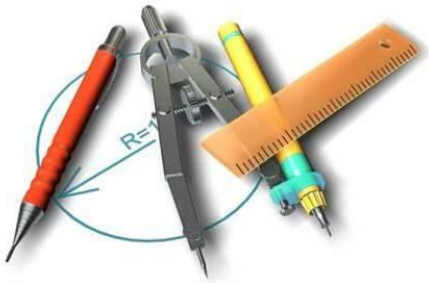
1-day Workshop
“Software Planning and Monitoring by Numbers”



Introduction
We manage things "by the numbers" in many aspects of our lives. These numbers give us insight and help steer our actions. Software metrics extend the concept of "managing by the numbers" into the realm of software development. The software industry still isn't doing a very good job at managing by the numbers.

Oftentimes, software projects are managed by just three indicators:
schedule, effort and critical defects found during testing

This is a flatland view for a multi-dimensional terrain problem: "flying a plane using only a watch and a fuel gauge". Many other useful key performance indicators are ignored, but must be in the equation as well. They represent what will be built, how it is built and the expected quality of the final outcome. When quantitative information is missing, management is like an emperor without clothes: decisions are not based on facts but on intuition.

Focus on the essentials
When initially planning a software project, given initial estimates for timeline and budget, it is important to focus on the essential questions:

- Are the constraints feasible?
- What is the work breakdown structure?
- What is the critical path that needs extra attention?
- How can we staff this project?
- What are the Key Performance Indicators to monitor progress made?

Most projects are over budget, exceed their schedules, and don’t meet customer expectations. This is because they do not address these essential questions and get drowned in the minutia. The same holds true when collecting project data. Capture only what you need and can use: focus on Key Performance Indicators.

In this workshop, a powerful set of 16 best practice KPIs is presented, using a multi-dimensional perspective. This enables the planning and objectively monitoring of software projects.

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Target Audience
Software measurement and metrics specialists, project managers, functional managers, testers, quality engineering, developers, and other software project stakeholders involved in monitoring and controlling software projects.

Duration
1 day (08:30 – 17:00).

Criteria
The workshop "Software Estimation by Numbers" is highly recommended as a pre-requisite for this course.

Program

1. Planning a Project.
    a. Work Breakdown Structure.
    b. Critical path analysis.
    c. Resource allocation.
2. Defining a Reporting Cockpit.
    a. Project performance (schedule, effort, staffing rate, productivity).
    b. Process efficiency (cost of quality).
    c. Product scope (features, size and re-use).
    d. Product quality (complexity, test coverage, defect density, removal efficiency).
3. Monitoring a Project.
    a. Milestone-trend Analysis.
    b. Earned Value Analysis.
    c. Quality Assurance and Configuration Management.
    d. Using the Reporting Cockpit.
4. Risk Management.
    a. Identification.
    b. Quantification.
    c. Implementation.

Focus on exercices and quantitative techniques
This workshop is taught through (limited) lecture and interactive discussion. Actual examples from the software industry are utilized to make the information relevant. The focus is on team exercises (one case study), in which learned skills are practiced. The emphasis of this workshop is on *quantitative* techniques that allow the attendees to transition the skills learned in this workshop to their own work environments. Solutions to all exercises will be provided.

Customization
SE-CURE AG can also customize this workshop or any of our other standard workshops or develop unique software engineering, quality and project management workshops to meet your exact in-house training needs and specifications. For example, class exercises can be tailored to include actual examples from your organization in order to make the workshop more relevant to your environment.

Contact us at sales@se-cure.ch or visit our website: www.se-cure.ch.

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