

Title / Titel

Distributed Agile Development with an Integrated Quality System

Speaker(s) / Referent(s)

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To whom is the presentation addressed? / An wen richtet sich der Beitrag?

SQA professionals, Development Managers, Project Managers, Program Managers

Keywords / Stichwörter

Agile Development, Scrum, Regulatory Environment, Quality Systems

Abstract / Zusammenfassung

Introduction

Elements of Agile software development methodologies such as Scrum, Extreme Programming, and Lean Software Development have been adopted by a wide spectrum of organizations. Whereas initial concepts focused on small collocated teams and projects, many organizations started using Agile development approaches for large projects with many people distributed across the globe. Several difficulties are often encountered: (1) Obtaining buy-in of all stakeholders such as product management, development, and especially software quality assurance (SQA). Since Agile puts more emphasis on working code than documentation it can conflict with the traditional SQA approach, which relies on upfront software requirements specifications. (2) Sharing of information among groups, in particular for remote teams, can be an obstacle. Backlog, project plans, development tasks, defects, and software quality metrics are generally retained in different systems. Whereas collocated teams can use an Agile wall or a Kanban Task Board, remote teams need to maintain an electronic representation from all involved systems. (3) Software that is created for safety critical applications needs additional documentation for regulatory bodies and audits.

Objective

This presentation discusses a case study of a software company that has introduced Scrum across several development centers. In a first part, three different Scrum projects are compared and success and failure factors discussed. Patterns distilled from the projects' burndown charts are presented and discussed. Management recommendations are formulated for each scenario.

In a second part, it is shown how information can effectively be managed across several different systems. SQA relevant information and artifacts such as test plans, test cases, and test defects are managed in a separate system than development and project management tasks. It is demonstrated how data is successfully shared with off-the-shelf applications. Its impact on the project is evaluated.

Integrating SQA into Agile development teams is organizationally challenging. It is presented what different approaches were used to overcome the problems of buy-in, timing, missing up-front requirements, and the use of testing tools. Regulatory documentation challenges are evaluated.

The listener will obtain a good understanding of the following key points:

§ Factors of success and failure during Agile development

§ Integration of development and quality systems

§ Workflow and sequence of development and SQA

§ Integration of SQA into Agile teams

§ Agile development in a regulated industry

Conclusion and Benefits

SQA professionals will obtain insight into Agile development practices. In particular the organizational interdependence of software development and SQA will be emphasized. Integration of software development and quality systems is presented using commercially available software tools. Regulatory compliance is discussed and how Agile methods can be used in such environments.

References

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Biography / Biografie

Dr. Martin Luethi is Senior Director of Software Development at Picis, Inc. a global provider of ED, OR, anesthesia and critical care information solutions for high-acuity care areas. Martin has more than 10 years of experience in the entire software development life-cycle for clinical software products including positions as Architect and SQA Manager. His interests include software development methodologies, information systems architectures, and human computer interaction and usability. He is based in Chicago, IL, frequently travels to Europe, and is familiar with European health care regulations. Martin received his Ph.D. from the Institute of Information Systems, Department of Information Engineering of the University of Bern, Switzerland.

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