Practical Software and Systems Measurement

Objective Information for Decision Makers

Applying Measurement to Software Architecture

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What is Software Architecture?

***Software Architecture**: the structure or structures of the system, which comprise software elements, the externally visible properties of those elements and the relationships among them*

Bass, Clements and Kazman

***Architecture** is the fundamental organization of a system embodied in its components, their relationships to each other and to the environment, and the principles guiding its design and evolution*

IEEE

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Why is Software Architecture important?

- ***It provides a communication channel between different stakeholders.***
- ***It's an early manifestation of design decisions.***
- ***It's a transferable and reusable system abstraction.***

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But…

- ***The value of Software Architecture is difficult to demonstrate:***
  - ***Issues to estimate time and effort of SA design***
  - ***Issues to evaluate the impact of SA in Software Life Cycle***
  - ***Issues to evaluate the quality of SA design artifacts***
  - ***How do we evaluate the ROI of SA design?***

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Workshop focus

The focus of the workshop will be to answer these issues and questions to identify measurement categories and specific measures for SA design. Particular attention will be given to the integration of architectural design with agile methods

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Objectives of the Workshop

1. ***Identify measurement categories and specific measures for SA Design***

2. ***Write measures specifications for candidate measures***

3. ***Outline a white paper about SA Design Measurement***

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