Events

Available trainings
- Hyvä Järjestelmäkuvaus (HJK), 17.4.-18.4.2018
- Courses on selected ISO/IEC standards by requests

Events

Work group meetings
- Research Forum, Q2/2018.
- Scope Manager Forum, Q1/2018.
- Summer seminar day on software project failures and cost management 13.4.2018

Details of the events are available in the web www.fisma.fi when final dates have been confirmed.

Contact

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FiSMA delegation participated the ISO/IEC SC7’s (Software and Systems Engineering) standards meeting at Mexico City, 6-10.11.2017. This Interim meeting had 76 registered participants and about 20 local observers. Finnish participants were Pekka Forselius (WG4, WG10), Markku Tukiainen (WG6) and Timo Varkoi (WG7, WG10).

Main topics in WG 4 (Tools and methods) were Feature based product lines, Product line technical probe, Product line transition management, Issue management tools, Review tools and Software safety and security verification tools.

WG6 (Software product quality measurement and evaluation) discussed of renewing the Quality in Use model with main characteristics of Operational outcome, Satisfaction outcome, Usage consequences and Societal impact.

WG7 (Life cycle management) has many standards in maintenance. In addition, System of Systems standards were discussed. The new ISO/IEC/IEEE 12207 Software life cycle processes is now published.

WG10 (Process assessment) agreed on significant changes of the capability model 33020 Process measurement framework for assessment of process capability. E.g. capability level 3 has a new process attribute PA 3.3. Process assurance.

More detailed information on the development of the standards can be obtained at FiSMA/SFS SR 314 Software and systems engineering committee meetings.

Timo Varkoi, senior advisor, FiSMA

Meeting sustainability demonstrated by Markku (left).

Research article: Framework for Observing the Maintenance Needs and the Overall Quality-in-Use

A research team composing Timo Hynninen and Ossi Taipale from LUT and Jussi Kasurinen from XAMK has been studying the ability to observe and assess the maintenance needs, runtime metrics and quality-in-use of software systems. Their most recent advancement proposes a run-time framework for measuring software quality characteristics applying the ISO/IEC 25010 software quality and software quality in use models as the starting point, with a proof-of-concept implementation on open source assets. The article discussing this topic, “Framework for Observing the Maintenance needs, Runtime Metrics and the Overall Quality-in-Use”, was recently accepted to the Journal of Software Engineering and Applications, and will be published during the Q2/2018.

FiSMA members can access this manuscript by contacting the authors for more information via email timo.hynninen@lut.fi or ossi.taipale@lut.fi.
The Use of the Best Practices in Practice

It is claimed from time to time that the known best practices (standards, frameworks, methods) are not utilized in organizations as largely as possible (see e.g. Kasurinen 2017). Some known studies support this claim, for example Fitzgerald (1998) and Truex et al. (2000) pointed out that information system methods are rarely used rigidly. There are user specific reasons, but there seem to be challenges in organizational attitudes as well, as Cater-Steel et al. (2006) stated "From a somewhat negative perspective, some will see implementation of these frameworks either as bureaucratic overkill, 'flavour of the month' or as certification hunting by individuals and organizations. Information technology organizations are not unknown for chasing the next new thing." This raises a question: what is generally known about the reasons why organizations are not using the known best practices? In this study IT organizations were seen especially interesting: in the IT sector there is a plethora of different kind of standards, frameworks and methods, so the presumption was that lack of suitable best practices is not the case.

A systematic literature review was done during fall 2017. The main question was: what reasons could be found for IT organizations to neglect the best practices. ABI/Inform ProQuest, EBSCO and Google Scholar databases were used in searches and the searches were limited to peer-reviewed articles published from 2008 to 2017. Altogether 2419 articles were found with searches, but only 32 of them touch on the question.

The found reasons could be classified into two categories: 1. arguments that the costs of the best practices are higher than the benefits achieved with them, and 2. arguments that the best practices are not useful (or are too limiting) for a company.

However, in the systematic literature review it was possible to find studies which disprove the found reasons. In addition empirical studies were rare, so it is hard to estimate whether the found reasons were carefully evaluated in the organizations, and bounded rational (see e.g. Simon (1997)), or were the proposed reasons only used as an excuse for not to make changes in established practices, which sound more or less as functional stupidity (see e.g. Alvesson and Spicer (2012)). This should be studied more thoroughly in future studies.

In addition, when most of the found reasons were more like opinions than real research results, it seems that the phenomenon is studied empirically really rarely. There seems to be a research gap here.

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References


Is societal impact a product quality characteristic?

Product quality experts in software and systems engineering standardization community have made an interesting proposal. Societal impact is mentioned as a product quality characteristic in the latest version of new ISO/IEC 25010 standard. This is first time when I see any social aspect as an explicit factor in measuring quality. Societal impact can be seen as a quite radical proposal to be standardized!

Standard ISO/IEC 25010 is the key part in the whole family of product quality standards, branded as “SQUARE”. This standard has a defined quality model for software and system products. Service and data quality models are specified in separate parts, 25011 and 25012. In fact, 25010 has three quality models; internal, external and in use. Obviously, societal impact is one characteristic in in quality in use model. It is intended to measure quality experienced by different stakeholders during operative use of software or system. Typical stakeholders are end users, managers and even customers. Because software and system is in use more and more widely at all levels of society, societal impact is a relevant idea as a quality characteristic.

How to measure societal impact, will be seen when standardization progresses to necessary details. Current draft specifies health & safety impacts, environmental impacts and economic impacts as sub-characteristics of societal impact. Their measures will be specified in next version of ISO/IEC 25022. Exciting to see what will happen!

Risto Nevalainen, FiSMA Senior Advisor
Markku Tukiainen, professor in University of Eastern Finland, nominated expert in SQUARE standardization

First class FiSMA Knight!

When Finland celebrated its 100 years of independence, the long-time FiSMA managing director and present senior advisor Risto Nevalainen received a special mark of honour. His outstanding civilian conduct was recognized by The Order of The Lion of Finland with a decoration of Knight First Class.

On behalf of the newsletter staff, and all FiSMA members, congratulations Risto!

Editorial Staff

Jussi Kasurinen (editor-in-chief),
FiSMA senior staff,
Volunteering members

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