

The Fourth Semat Workshop: Revolution within Software Engineering

December 15 – 17, 2011 Stockholm Sweden

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The 4th Semat workshop was held on December 15-17, 2011 in Stockholm, Sweden. The workshop was attended by a group of people who are actively participating in Semat's work, including kernel and kernel language track leaders, track members, and a representative from the Latin American Semat Chapter. Over recent months the tracks have been working toward a proposal submission in response to the OMG RFP¹. The primary goal of this workshop was to bring the track work together through integrated working groups and identify priority issues that need to be worked prior to the February OMG submission.

Ivar summarized the meeting by saying: "Semat has been working almost two years without having reached a point at which concrete results could be published. We are approaching such a point in time rapidly. On February 22, 2012 we will publish a proposal for a new standard in working with methods, a proposal that is fundamentally different from anything we as a community have done in the past. It seems clear that we will get a new standard. The real question is whether this new standard will make a difference to the world. Will we be able to reach the millions of developers, which so far have had no or very little interest in working with methods?"

I think so. First, the millions we target do work with methods all the time. They think about how to write good code, they think about how to test and how to capture what to build. They will with Semat get the tools that help them to do this job better without overloading them with process freaky stuff. I believe that the many differentiators, which Semat brings to the table, will break through the barriers and give developers a great tool to improve their way of working.

Second, our approach to work with methods is very attractive to the academic community – both education and research. The interest from this community is large and growing day by day. The education in software engineering will move away from teaching specific methods to teaching the essence of software engineering through a kernel, on top of which any practices can be added. Methods are not just described but they allow the students to run projects measuring progress and health along the time. Thus after a few years we will get huge groups of graduate students educated in the essence of software engineering and ready to put their knowledge at work.

I have of course for many years believed that the Semat vision could be a reality. Now, I am more confident than ever that we as a community will be fundamentally more systematic when working with methods."

1 The Activities Day 1 and Day 2: Presentation and Working Sessions

The first day was initiated with a presentation by Ian Spence, the Kernel track leader, addressing the kernel status and providing recommended working group activities for the remainder of the workshop. Michael Striwe, the Kernel Language track leader, presented the status of the language and recommended working group activities. Brian Elvsaeter presented the status of the Scrum practice

¹ http://www.semat.org/pub/Main/WebHome/Foundation_for_SE_Methods_RFP_ad-11-06-26.pdf

reference example. Presentations were followed by a group discussion leading to two separate working groups being formed and conducted through the remainder of Day 1. Group 1 reviewed the OMG RFP requirements, and Group 2 reviewed the Semat Glossary of terms. Day 1 concluded with reports from each working group.

Day 2 began with Group 1 accepting an action to continue the RFP review at a later time and provide a findings report. With the goal of focusing on the most important areas that needed to be addressed in the limited face-to-face time available, a decision was made to focus on two key elements -- Activity Spaces and Competencies. Two groups were formed, each asked to brainstorm a list of Universal Activities, and Competencies. After both groups completed this exercise, Ian Spence led a discussion with all workshop participants on Activity Spaces and Competencies.

2 Public Presentations

On Friday, December 16 at 3PM-6PM a series of presentations, open to the general public, were provided under the general title: "Revolution within Software Engineering" Six presentations were given followed by an open question and answer session. The presentations included:

- 1) "What is Semat?" by Ivar Jacobson
- 2) "Establishing and Exploiting the Common Ground: An Introduction to the Semat Kernel" by Ian Spence
- 3) "Semat Kernel Language" by Michael Striewe
- 4) "Scrum Practice – Reference Example" by Brian Elvesaeter
- 5) "What are the Semat differentiators?" by Paul McMahon
- 6) "The Semat three year vision" by Ivar Jacobson

The presentations and question and answer session were recorded and we are working to make this video available for public viewing.

3 The Activities Day 3: Planning the work forward

On Day 3 the group discussed the priority work that needed to be completed over the next 9 weeks leading to the OMG submission. The OMG submission is due in February. If multiple groups submit we may be asked to collaborate.

Towards the submission, it was agreed that there will be two Semat groups moving forward in parallel.

Group 1: OMG submission team, Paul McMahon, Editor-in-Chief

The Proposal to OMG will include the follow aspects:

- 1) Rationale
- 2) Kernel
- 3) Language Specification
- 4) Glossary
- 5) Examples

Group 2: Public coordination, Mira Kajko-Mattsson, Director of public relations. This group will make the current work documents available to public review. The tasks include producing the follow documents:

- 1) Semat website, serves as public repository
- 2) Users guide
- 3) Language specification
- 4) Kernel specification
- 5) Semat Glossary
- 6) Semat Practices

4 Key points agreed to at the workshop

- 1) Some people think in terms of actions, others in terms of things. After discussion it was agreed we should be able to identify a complete set of Activity Spaces for the February kernel submission. These activity spaces will complement our existing seven kernel elements (alphas).
- 2) A state is useful if it changes your behavior. We need to discuss further how we decide which states of which alphas should have metrics, and how we guide practitioners in selecting these metrics.
- 3) The language has 5 key items (Alphas, Work products, Activity Spaces, Activities, and Competencies). Alphas are essential things we monitor and control. Only alphas are mandatory when defining practices.
- 4) The language is simple and easy to use. A practitioner should be able to learn it in just a few hours. Some may think the language is missing key elements such as phases or milestones. If these are important to you they can be addressed through the pattern construct in the language. A pattern in the language is an arrangement of the 5 key items in a prescribed state.
- 5) There is abstract stuff in the kernel and concrete stuff. You associate concrete work products with alphas, and you plug concrete Activities into Activity Spaces.
- 6) Competency is a bigger challenge. Some initial thinking on competencies: Just like activities fill activity spaces, so too skills fill competencies (competencies are containers of multiple skills). Use Cases could be viewed as requiring three skills; read, build, and model. Skills such as Java cannot be in the kernel because everyone doesn't need this skill.
- 7) We need examples that represent how the practitioner thinks (not just how a methodologist, or process engineer thinks). Examples should demonstrate how what we are doing is new, compelling, and exciting. These examples should be like small case studies that show the before Semat and after Semat situations.
- 8) We need to be able to show through examples how you can add a checkpoint, add a state, and add a sub-alpha. A sub-alpha is treated as part of another alpha.
- 9) We need to be able to show through an example how to compare two alternative practices (such as Use Case 2.0 versus User Stories), and make a decision. How do we determine alternatives? If not alternatives, how similar are they? How do we evaluate and decide?
- 10) We need to continue discussion on terms. For example, "execute" and "enact" are not the best terms from a practitioner perspective. Maybe "use" is better. Method is not best term from a

practitioner view. A practitioner prepares her way of working, then uses and improves her way of working.

- 11) It was agreed that there will be a single glossary that crosses the kernel and the language.

5 Action Items

Each of the actions below have a primary assigned person who will take responsibility to deliver results in good time for the submission.

- 1) Mira Kajko-Mattsson to address public coordination. Shihong Huang, Ivar and Bruce Macissac will work with Mira on the public coordination.
- 2) Ian Spence to complete the Activity Spaces. Bruce Macissac will help Ian find Activity Spaces.
- 3) Brian Elvesaeter will help with the OMG submission to ensure we meet the requirements that the OMG expects including any boilerplate, or templates we should follow for our submission.
- 4) Ivar to take responsibility on developing scenarios/small case studies. Ian and Bruce will work together with Ivar on developing the scenarios/small case studies that show the value to the practitioner.
- 5) Bob2 will continue to oversee the glossary as we drive toward a single vocabulary between the kernel and language.
- 6) Brian Elvesaeter to provide recommendations related to RFP. Bruce, and Stefan to work with Brian continuing the RFP review and provide their recommendations.
- 7) Michael Striwe to work through language track including the two meanings of “practice”. In the language “practice” is the description of the elements of any practice. Inside a given project “practice” is much more including hints, and tips. Further discussion is needed on language track on the two ideas of practice. Ivar will provide inputs.

6 The Future Venue

Detailed information about the 4th Semat workshop will be posted on the Semat website (www.semat.org). It has not yet been determined if it will be necessary to meet again prior to the OMG submission in February 2012.