

Is Requirements Engineering Really Necessary?

Moderator: Brian Berenbach, Siemens Corporate Research, USA
Panelists: Karen Smiley, ABB Corporate Research, USA
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Paul Solomon, Performance-Base Earned Value, USA
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Abstract

This panel discussion will explore aspects of systems engineering where some engineers fear to tread. Some of the topics explored will include:

- Should there be requirements engineers at all on systems development projects?
- Can any systems engineer do requirements engineering (RE) well? If not, what additional training would be most useful?
- Is RE really necessary (after all, big systems were built for hundreds of years without it)?
- If RE is really necessary, should it be done by junior or senior staff?
- Do we really need heavyweight RE processes and tools (ever, always, or never)?

The panelists are all senior engineers or project management professionals who have “seen it all” and do not necessarily share the same views. Perhaps through dialogue, some of the above questions can be answered; whether or not they are, everyone attending the panel will hopefully gain some new insights on the applicability of the field of requirements engineering to systems work.

Biographies

Moderator

Brian Berenbach is a senior consultant with the Siemens Requirements Engineering Global Technology Center, headquartered at Siemens Corporate Research in Princeton. Mr. Berenbach is an ACM distinguished engineer and has published widely on requirements engineering. His book, “Software and Systems Requirements Engineering: In Practice” recently won a Prose finalist award for best Computing & Information Sciences text. Mr. Berenbach has over 30 years experience as a systems and requirements engineer, having worked on a variety of projects, including nuclear and fossil power plants, rail systems, mail sorting systems, hospital IT systems and medical devices and logistics. During the Vietnam war, Mr. Berenbach served as an engineer with the USAF. He has also taught at several universities as an adjunct professor..

Panelists

Karen Smiley is a principal consultant in the Industrial Software Systems program of ABB Corporate Research. She has over 25 years of experience in the full software-hardware system engineering life cycle, and has developed and managed real-time, analytical, and database systems for small dotcoms, aerospace, and commercial enterprises of various sizes. Most recently, she led ABB’s global research in requirements engineering and in blending disciplined development methods (such as the SEI’s PSP/TSP and architectural techniques) with agile approaches. Ms. Smiley is a Senior Member of IEEE, SEI Member, and member of the ACM, Scrum Alliance, Agile Alliance, PMI, and INCOSE.

Joy Beatty is the Vice President of Blue Ocean Services at Seilevel, a professional services company based in Austin, Texas focused exclusively on software requirements. Ms. Beatty has worked with numerous Fortune 500 companies spanning the semi-conductor, computer manufacturing, defense, and retail industries. She is responsible for developing new service offerings that change the way their customers create requirements. She has also adapted ideas from using games in training to create courses on topics including requirements best practices, elicitation and visual models and delivered training to over 700 individuals in industry.

Paul J. Solomon, PMP, is President of Performance-Based Earned Value® and co-author of the book with that title. He retired from Northrop Grumman Corp. where he was responsible for earned value management on the B-2, Global Hawk, and F-35 programs. He is co-author of the ANSI/EIA-748,

Earned Value Management System (EVMS) standard and received the DoD David Packard Excellence in Acquisition Award. Mr. Solomon was a Visiting Scientist at the Software Engineering Institute and published "Using CMMI to Improve EVM." He has trained thousands of engineers and project management personnel in the U.S., India, and S. Korea. His web site contains guidance and best practices, www.pb-ev.com .

He holds a BA and an MBA from Dartmouth College and is a certified Project Management Professional.

Mark Sampson is the product manager/evangelist in charge of integrating systems engineering and requirements within the product-lifecycle management (PLM) business at Siemens—enabling systems engineering and requirements to participate/influence all aspects of product development. Over twenty five years of work experience at GE, TI, and other organizations around complex electro-mechanical systems exposed him to CAD system development and support where he quickly realized the need for a system-level CAD/CAE environment to cover the critical early development phases of the product lifecycle. Mark began working with engineers at Texas Instruments the early 90's developing a number of patented, systems-oriented CAE features in what they called the SLATE (System Level Automation Tool for Engineers) environment, which went public in 1994. Since that time, Mark has been involved with implementing systems engineering/requirements engineering concepts and tools in a variety of organizations in many different domains including: aerospace, high tech, consumer products, automotive, ship building, retail, construction management, and others; giving Mark wide experience and unique perspective in implementing systems/requirements engineering in a variety of industries/domains/situations.

He co-chairs the Model Based Systems Engineering initiative (SysML) currently underway and is an adjunct professor at SMU.