Project Performance International

Systems Engineering

Newsletter (SyEN)

SyEN #026 - November 19, 2010

Brought to you by Project Performance International

http://www.ppi-int.com/newsletter/SyEN-026.php

Dear Colleague,

SyEN is an independent free newsletter containing informative reading for the technical project professional, with scores of news and other items summarizing developments in the field, including related industry, month by month. This newsletter and a newsletter archive are also available at www.ppi-int.com.

Systems engineering can be thought of as the problem-independent, and solution/technology-independent, principles and methods related to the successful engineering of systems, to meet stakeholder requirements and maximize value delivered to stakeholders in accordance with their values.

If you are presently receiving this newsletter from an associate, you may receive the newsletter directly in future by signing up for this free service of PPI, using the form at www.ppi-int.com. If you do not wish to receive future SE eNewsletters, please reply to the notifying e-mail with "Remove" in the subject line, from the same email address. Your removal will be confirmed, by email.

We hope that you find this newsletter to be informative and useful. Please tell us what you think. Email to: contact@ppi-int.com.

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A Quotation to Open On

"If you don't know where you're going, you're unlikely to end up there." - Forrest Gump

Featured Article

How to Wrestle a Crocodile

By Alwyn Smit
asmit@ppi-int.com

A recent Requirements Engineering conference left me pondering the niggling question: Why are so many projects still struggling or failing when so much research has been done on the causes of project failure, and whole conferences are devoted to what has been identified as one of the prime causes of project failure? Like all other engineering problems, this one does not exist in isolation either, and looking at the larger context quickly confirms that the typical project environment is quite complex with many variables and lots of human involvement. Fixing requirements engineering problems will help, but only if it is done in balance with the rest of the Systems Engineering and Project Management activities forming part of this complex interaction

called a project. That prompted me to reach for a book on my top shelf, one that I bought a while back at an INCOSE conference: Visualizing Project Management by Forsberg, Mooz and Cotterman. Paging through the Introduction, my eye caught these quotes that I diligently underlined the first time I read it and it reminded me of the lesson I learnt reading it the first time:

- "Widely varying project results would lead one to conclude – quite correctly – that project success is too often dependant on the specific team." I have seen this happening in my own environment where some teams are apparently more successful at project execution than others – perhaps they are the ones that learned from their mistakes.
- "Project reality is such a complex organism that personal experience alone can result in biased and flawed views" This supported my own perception that projects have become increasing complex to the point that no one person can control them, bringing with it the communication challenges within large project teams.
- "A major factor critical to project success is the availability of an effective and intuitive management process – one the group will quickly buy into and build their team upon". One thing I am convinced of despite the tongue-in-cheek tearoom discussions on which is more important: Systems Engineering or Project Management, the answer to this "effective and intuitive management process" the authors refer to lies in the symbiotic relationship between SE and PM where the result is much bigger than the sum of the parts.

The authors then go on to provide a visual depiction of a process model that is an intimate integration of Project Management and Systems Engineering based on these five essentials:

1. Organizational Commitment
2. Communication
3. Teamwork
4. Project Cycle
5. Management Elements.

Chapter three introduces these five essentials in a "Wheel and Axle" model that left me with a healthy respect for the complexity of the typical project environment, yet the apparent simplicity of dealing with this complexity.

Organisational Commitment

Organisational commitment is the foundation for project success. Without a culture supporting the team sport of SE and PM, authority and accompanying accountability of team members, and infrastructure like tools and training, the isolated cases of project excellence will only occur based on individual excellence despite the lack or organisational support. Regular project reviews to monitor progress and identify shortcomings and, more importantly, acting on these findings to correct deviations from the project plan and improving the processes are essential. If the project goals are clear and the team understands that they will be held accountable, they will very quickly begin to manage themselves to ensure that the project goals are met.

Communication

Communication amongst team members is not only based on the written or spoken word, but also includes graphical languages like the Unified Modelling Language, charts and diagrams using tools like Microsoft Visio and PowerPoint. It is however natural language that is most often misunderstood, due to different meanings in the context of domain specific business or technical fields. The importance of having a common vocabulary is considered so high by the authors, that they produced another book, Communicating Project Management, containing project management and system engineering terms.

Besides the dangers of miscommunication due to misunderstanding of the intended meaning of a term, it is critically important that team members regularly communicate about the status of the work in comparison to the plan as well as the technical detail of interfaces between work packages executed by different team members.

Teamwork

Teamwork is often defined as working together to achieve a common goal. The authors however define the scope of teamwork in the project environment to include the following five fundamentals:

- Common goals
- Acknowledged interdependency, trust and mutual respect
- A common code of conduct
- Shared rewards
- Team spirit and energy.

The image that most vividly illustrates this teamwork for me is the one of a symphony orchestra making good music from a common score under the leadership of the conductor. One false instrument or a few misplayed notes can ruin the experience for everybody, orchestra (team) and audience (stakeholders) alike.

Project Cycle

The project cycle is defined as a sequence of phases through which the project passes in pursuit of the project's opportunity. It is also often referred to as the life cycle of the project and represents the system solution maturation. There are typically three aspects to this cycle, namely Business, Budget and Technical.

The business aspect contains the tactics to accomplish the business goal or mission of the project. The initial project feasibility analysis, project planning and control, stakeholder and subcontractor management and the evaluation of project success are all part of the business aspect.

The budget aspect contains the tactics for securing and managing the funding for the project. Cost estimation, the financial management approach and cash flow management are all part of the budget aspect.

The technical aspect is all about systems engineering. It creates the concepts, requirements and architecture of the system solution and is documented in baseline specifications and other artefacts. It also includes the verification and validation of the design solution. The technical aspect is often represented by a variety of development models, including the waterfall, spiral and V-models.

Management Elements

The management elements include ten categories of situational techniques and tools that can be applied throughout the project cycle to manage the business, budget and technical aspects that are not naturally compatible and synergistic. These elements include:

- Requirements
- Organising
- Project Team
- Planning
- Opportunity and Risk Management
- Project Control
- Visibility
- Status
- Corrective Action
- Leadership.

How to Wrestle a Crocodile

Coming back to the apparent unrelated topic of this article, the practice of crocodile wrestling is something that is not unlike the execution of a complex project. If you follow the guidelines of "best practise" given by the experts, you can minimise the risk involved in this crazy activity. Get it wrong and you will suffer the consequences! Interesting to note that these so-called experts are often also missing body parts – a sombre reminder that they have walked the walk and they have the scars to prove it. Even the experts, when they get complacent, pay dearly for underestimating this prehistoric beast.

At the end of the day, project management and systems engineering are about managing your risk of not delivering maximum value to your stakeholders. Every project is unique in its specific context and challenges, but if you follow the guidelines your chances of coming through it all with all your limbs is not that bad at all. Perhaps we still see so many failed projects because we keep forgetting this and we fail to learn from our mistakes?

References:

1. Kevin Forsberg, Hal Mooz, Howard Cotterman, *Visualizing Project Management – 3rd edition*, John Wiley & Sons, Inc., 2005
2. Andrew Burk, How to Wrestle a Crocodile, http://www.ehow.com/how_5065084_wrestle-crocodile.html

About Alwyn Smit

Alwyn is a systems engineer with the Council for Scientific and Industrial Research in South Africa. His career of 27 years includes more than 20 years in project management and systems engineering on defence related projects. He is a long standing member of INCOSE and a Certified Systems Engineering Professional. He is also a past president of the INCOSE SA Chapter and the editor of SyEN.

Systems Engineering News

Upcoming Submission Deadlines and Themes for INSIGHT

INSIGHT is the newsletter of International Council on Systems Engineering. It is published four times per year (January, April, July, October). INSIGHT features status and information about INCOSE's technical work, local chapters, and committees and boards. Additionally, related events, editorials, book reviews, trends, and how-to-do articles that are pertinent to the many aspects of a systems engineer's job are also included, as space permits.

Upcoming submission deadlines and themes for INSIGHT

INCOSE Event Calendar

International Workshop 2011 (IW 2011)	Jan 29 - Feb 01, 2011
Sixth International Conference on Systems Engineering sponsored by INCOSE-IL/ILTAM	Mar 08 - 09, 2011
CSER2011 - Ninth Annual Conference on Systems Engineering Research	Apr 14 - 16, 2011
21st Annual International Symposium	Jun 20 - 23, 2011

More information

Systems Engineering Centre Aims to Create Future Leaders

A multi-disciplinary centre intended to advance systems engineering in the UK, is being created at Imperial College, London. Although the Centre for Systems Engineering will focus mainly on the construction sector, it will encompass the full spectrum of systems approaches from data networks in mechanical and electrical engineering, through to low-carbon energy technologies.

More information

Chesapeake Chapter of INCOSE Proudly Presents: Finding Amelia - A Challenge in Systems Engineering

Date: Saturday November 20th 2010
Speaker: Ric Gillespie
Time: 8 AM to 3 PM
Cost: $43 (includes breakfast and lunch)
Location: The Engineers Club at the Garrett-Jacobs Mansion
11 West Mount Vernon Place • Baltimore, MD 21201

The hard-cover first edition of Gillespie's book is now out of print and a limited number of copies remain. Signed copies normally sell for $100. By special arrangement with the Engineer's Club for this event only, signed hard-cover copies of "Finding Amelia - the true story of the Earhart disappearance" are available for pre-order at $35.

More information

Model Based Systems Engineering for Experienced Systems Engineers

The Huntsville Regional Chapter of INCOSE, in cooperation with Teledyne Brown Engineering and Integrated Thought Corporation presents a full day workshop on Introduction to Model Based Systems Engineering for Experienced Systems Engineers

Saturday Nov. 20, 2010, Teledyne Brown Cafeteria, 300 Sparkman Drive, Huntsville, Al

More information

Systems Engineering Latest Issue

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Volume 13, Issue 4 Page 311 - 412

The latest issue of Systems Engineering is available on Wiley Online Library

Academic, Industry and Government Leaders Explore Systems Thinking

More than 300 guests attended the two-day Massachusetts Institute of Technology (MIT) SDM Conference on Systems Thinking for Contemporary Challenges to hear experts from MIT, industry and government discuss how they use systems thinking to solve some of the world's most pressing and complex problems.

Sponsored by Global Project Design, Werfen Group/Instrumentation Laboratory, John Deere, Merck, MITRE and United Technologies Research Center (UTRC), the conference addressed Large Complex Systems; Sustainable Systems; Service Systems, and Health Care Systems.

More information

Lockheed Martin Receives DoD Award for Systems Engineering Excellence

The United States Department of Defense and the National Defense Industrial Association (NDIA) have selected Lockheed Martin (NYSE: LMT) to receive one of the Top 5 DoD Program Awards given annually for excellence in systems engineering.

Lockheed Martin's Defense Readiness Reporting System-Army (DRRS-A) program was honored for its illustrated engineering excellence, rapid development approaches, risk management and comprehensive reviews. The Lockheed Martin team successfully transitioned the stand-alone solution to a robust web-enabled software suite through user-developer collaboration.

More information

U.S. Army Honored for Exceptional Systems Engineering Practices with 2009 Top 5 DOD Systems Engineering Award

At the recent 13th Annual National Defense Industrial Association (NDIA) Systems Engineering Conference Award Luncheon in San Diego, the Project Manager, Night Vision/Reconnaissance, Surveillance, and Target Acquisition (PM NV/RSTA) was awarded the 2009 Top 5 DoD Systems Engineering Award for the U.S. Army's Base Expeditionary Targeting and Surveillance System-Combined (BETSS-C) Program.

More information

International Conference on Industrial Engineering, Systems Engineering and Engineering Management for Sustainable Global Development - 1st Call for Papers and Participation

September 21-23, 2011, Spier Hotel and Conference Centre, Western Cape, South Africa

More information

International Conference on Business Process Modeling, Development, and Support (BPMDS'2011) - Call for Papers

The 12th edition of the BPMDS series, held in Conjunction with CAiSE'11 - 20-21 June 2011, London, UK

Papers submission deadline: February 25th, 2011

The Call for Papers can be downloaded from the BPMDS Web site: http://bpmds.org/

Featured Societies

International Society of Logistics (SOLE)

SOLE - The International Society of Logistics is a non-profit international professional society composed of individuals organized to enhance the art and science of logistics technology, education and management. Corporate membership is also available.

Areas of interest to SOLE include:

- Logistics, Logistics Engineering, and Integrated Logistic Support (ILS)
- Systems, Systems Engineering, and Systems Analysis
- Concurrent Engineering
- Software and Computer-Aided Systems
- Reliability Engineering

- Maintainability Engineering and Maintenance
- Human Factors and Safety Engineering
- Engineering Economy, Life-Cycle Cost Analysis, and Cost Estimation.

SOLE was founded in 1966 as the Society of Logistics Engineers "to engage in educational, scientific, and literary endeavors to advance the art of logistics technology and management." There are over 90 SOLE chapters in more than 50 countries throughout the world. Chapters conduct technical meetings, symposia and workshops, all designed to provide the SOLE member with opportunities for professional advancement. Chapters and districts also sponsor regional technical meetings.

The Society sponsors an Annual Logistics Conference and Exposition which brings together several hundred members and non-members from all over the world, in a three-day technical meeting in which technical papers are presented by the leaders in the field of logistics. These papers are available to conference attendees and to others in a bound volume of Proceedings.

The Society believes that the maximum interchange of knowledge between all elements of the logistics community is vital to the continued development of the logistics profession. For this reason, SOLE works very closely with other professional societies and is co-sponsor of important technical symposia. One of these is the Annual Reliability and Maintainability Symposium (RAMS).

SOLE also works very closely with educational institutions throughout the world. The Society, through its individual members, local chapters and its Education Committee has fostered the development and implementation of logistics oriented courses and graduate and undergraduate curricula.

In recognition of the need for support to the education and training of logisticians, SOLE founded the Logistics Education Foundation (LEF) in 1974. This non-profit foundation, which derives its authority from SOLE, has as its purpose the collection of funds for, and the providing of financial support to the educational activities and programs of the Society. This includes, but is not limited to: providing the funding for SOLE's annual scholarship and doctoral dissertation awards programs; grants; publication of technical/educational material (e.g., monographs); and other financial assistance to individuals and organizations furthering logistics education, as determined by the LEF's Board of Trustees.

SOLE operates a Certified Professional Logistician (CPL) program through its local chapters.

SOLE has nine application divisions.

- Commercial -- business processes, systems, human resources, finance and trade

- Configuration and Data Management -- controls, communications, processes, systems and risk management

- Defense -- acquisition, procurement, contracting, life-cycle management

- Education -- training and education programs, educational development, career foundations, initiatives and research

- Electronic Data -- electronic data interchange, electronic commerce, internet, systems, security, processes and policies

- Environmental -- logistics applications in environmental planning, analysis and sustainment, alternative energy and environmental management

- Space -- space systems logistics, transportation, logistics support analysis, spares and technical data

- Supportability Engineering -- system and product reliability, maintainability and supportability

- Transportation and Distribution -- logistics analysis and support, technology, research and development for transport systems, processes, policies and infrastructure.

There is significant overlap of the fields of interest of SOLE with systems engineering. Two of the most significant publications on logistics support analysis (LSA): MIL-STD-1388-1A and MIL-HDBK-502, are primarily systems engineering references for the engineering of support systems.

More information: www.sole.org

INCOSE Technical Operations

Systems Engineering Standards Resource Center

http://www.incose.org/practice/standards/

The International Council on Systems Engineering Standards Technical Committee (STC) is one of the most active communities

within INCOSE. Its members are working to advance and harmonize systems engineering standards used worldwide.

Systems Engineering Software Tools News

Siemens PLM Delivers on Its Vision of the End-to-End Design/Build Lifecycle

By Dick Slansky

At the recent Siemens Analyst Event in Boston (September 21st), Siemens PLM provided the analyst community with a look at how far it has come in the past few years, where it is now, and what is in store for the future. This included new markets for PLM, future directions for the company in R&D, innovation, and new technologies, and realization of the company's end-to-end virtual lifecycle, from concept and design to factory floor operations. Siemens Industrial Automation (IA), Siemens PLM's parent business unit, along with Industrial Automation Systems (AS), are integrating product and production engineering by integrating PLM and Siemens industrial software across the entire product lifecycle, from design to automation. Siemens IA now offers a complete solution set from product design through manufacturing and operations on both the plant and factory floor.

More information

SODIUS Adds Debug to its DXL Editor Providing a World-Class IDE to DOORS/DXL Developers

SODIUS announced the availability of a new version of its DXL Editor, offering debugging features to help Rational® DOORS® developers optimize their code and save time on their projects.

More information

Atego's Artisan Studio Achieves 'Ready for IBM Rational Software' Validation

Atego, claiming to be the leading independent supplier of industrial-grade, collaborative development tools for engineering complex, mission- and safety-critical architectures, systems, software and hardware, has announced that Artisan Studio has achieved formal validation for its DOORS Synchronizer as Ready for IBM Rational software. The Ready for IBM Rational software validation program provides a method for IBM Business Partners to assure customers of the safety and interoperability of their application development and lifecycle integrations to the Rational Software Delivery Platform, based on compliance to specific integration criteria. Artisan Studio DOORS Synchronizer provides full, bi-directional integration between Artisan Studio's award-winning UML/SysML model-driven embedded development environment and the IBM Rational DOORS family of requirements definition and management solutions.

More information

Cognition Corporation Announces Cockpit Version 6.0

Cognition Corporation is taking product development one step further by adding systems engineering functions to support real time Web 2.0 / Enterprise 2.0 collaboration by product teams. The release of Cognition Cockpit 6.0 includes significant enhancements to bring PDM/PLM functions directly into Cockpit for real time, remote, simultaneous users to see instant traces and instant updates on all project information.

More information

Systems Engineering Books, Reports, Articles and Papers

Configuration Management Best Practices: Practical Methods that Work in the Real World

Robert Aiello (Author), Leslie Sachs (Author)
Publisher: Addison-Wesley Professional; 1 edition (August 20, 2010)
ISBN-10: 0321685865, ISBN-13: 978-0321685865

Product Description

Successfully Implement High-Value Configuration Management Processes in Any Development Environment.

As IT systems have grown increasingly complex and mission-critical, effective configuration management (CM) has become critical to an organization's success. Using CM best practices, IT professionals can systematically manage change, avoiding unexpected problems introduced by changes to hardware, software, or networks. Now, today's best CM practices have been gathered in one indispensable resource showing you how to implement them throughout any agile or traditional development organization.

Configuration Management Best Practices is practical, easy to understand and apply, and fully reflects the day-to-day realities faced by practitioners. Bob Aiello and Leslie Sachs thoroughly address all six "pillars" of CM: source code management, build engineering, environment configuration, change control, release engineering, and deployment. They demonstrate how to implement CM in ways that support software and systems development, meet compliance rules such as SOX and SAS-70, anticipate emerging standards such as IEEE/ISO 12207, and integrate with modern frameworks such as ITIL, COBIT, and CMMI. Coverage includes:

- Using CM to meet business objectives, contractual requirements, and compliance rules Enhancing quality and productivity through lean processes and "just-in-time" process improvement.
- Getting off to a good start in organizations without effective CM.
- Implementing a Core CM Best Practices Framework that supports the entire development lifecycle.
- Mastering the "people" side of CM: rightsizing processes, overcoming resistance, and understanding workplace psychology
- Architecting applications to take full advantage of CM best practices.
- Establishing effective IT controls and compliance.
- Managing tradeoffs and costs and avoiding expensive pitfalls.

Configuration Management Best Practices is the essential resource for everyone concerned with CM: from CTOs and CIOs to development, QA, and project managers and software engineers to analysts, testers, and compliance professionals.

More information

Memories

by Russell L. Ackoff
Publisher: Triarchy Press
Publication Date: 21 October 2010
Print ISBN: 978-0-9565379-7-3

"Russ was an incisive, lifelong critic of the modern organizational form. He saw its limitations and argued for radical redesign. He was an advocate for major re-visioning and processes of change that started with helping people see what they truly valued and where they truly wanted to get – and then working backwards to see what it would take to get there."

Peter Senge, from his Foreword to Memories

More information

A Few More Words on Aging Baby Boomers and the Coming Mobility Gap

By Joseph F. Coughlin

My commentary on the transportation needs of an aging America (How to Avoid a Surge of Shut-Ins) appeared October 20, 2010 in the New York Times Opinion section Room for Debate. I argue that the convergence of a more active, more numerous, and more demanding older population with a national transportation system that suffers from both structural and operational limits is leading the country to a coming mobility gap. By 2021, the baby boomers will begin turning 75. While 75 in 2021 is likely to be far younger than 75 a decade ago or today, physical changes associated with natural aging and a transportation system unchanged will present significant barriers to a population who wishes to remain connected, productive and engaged. See previous post Older Driver Debate: Safety, Personal Mobility & the Policy Road Ahead. In this post I add a few additional points and links to resources that do not appear in the New York Times commentary.

More information

Is It Time To Revamp Systems Engineering?

By Graham Warwick, Guy Norris
Washington, Fort Worth

Former NASA Administrator Michael Griffin believes high-profile program failures in aerospace and defense could be avoided by engineering elegant system designs. But he cannot quite define "elegance in design."

Paul Eremenko, a program manager with the U.S. Defense Advanced Research Projects Agency (Darpa), believes problems could be avoided by measuring and minimizing the complexity of system designs. But he cannot yet measure "complexity."

They both believe the systems engineering processes that have served the aerospace and defense community since pre-Apollo days are no longer adequate for the large and complex systems industry is now developing. But they have different ideas on how to solve the problem.

More information

Conferences and Meetings

CMMI 10th Annual Technology Conference and User Group

November 15-18, 2010
Hyatt Regency Tech Center – Denver, Colorado, USA
More information

Third IEEE International workshop UML and Formal Methods

Held in conjunction with the 12th International Conference on Formal Engineering Methods, ICFEM 2010
November 16th, 2010, Shanghai, China
More information

INCOSE Sweden - Fall Seminar 2010: Lean & Agile Systems Engineering Seminar NEW

November 23, 2010, KTH Campus, KTHB (library), Osquars backe 31, Stockholm, Sweden
More information

5th International Forum on Engineering Education (IFEE2010) & European SDPROMO II Conference

November 23 - 25, 2010, Sharjah-Dubai, UAE, United Arab Emirates
More information

1st International Chemical and Environmental Engineering Conference 2010

November 26 - 28, 2010, Kuala Lumpur, Malaysia
More information

2010 International Conference on Computer and Software Modeling - (ICCSM 2010)

December 4-5, 2010, Manila, Philippines
More information

22nd International Conference Software & Systems Engineering and their Applications (ICSSEA 2010)

December 7-9, 2010, Paris, France
More information

National Institute of Technology – National Systems Conference 2010

December 10-12, 2010, National Institute Technology Karnataka, Surathkal, India
More information

ICISE 2010: International Conference on Intelligent Systems Engineering

December 18, 2010, Bangkok, Thailand
More information

ICECSE 2011 "International Conference on Electrical, Computer and Systems Engineering"

January 25-27, 2011, Dubai, United Arab Emirates
More information

INCOSE International Workshop 2011 (IW 2011) NEW

January 29 - February 01, 2011, Hyatt Regency Phoenix, Phoenix, AZ, USA
More information

Second International Conference on Exploring Services Sciences (IESS 1.1)

February 16-17-18, 2011, Geneva, Switzerland
More information

The Sixth International Conference on Systems Engineering in Israel NEW

March 8-9 2011, Herzlia, Israel
More information

2011 International Conference on Systems Engineering and Modeling (ICSEM 2011) NEW

11 to 13 March 2011, Shanghai, Shanghai, China
More information

Second ACM/SPEC International Conference on Performance Engineering (ICPE 2011)

March 14-16, 2011 Karlsruhe, Germany
More information

Design, Automation & Test in Europe

March 14-18, 2011, Grenoble, France
More information

26th Symposium On Applied Computing

March 21 - 25, 2011, Tunghai University, TaiChung, Taiwan
More information

Requirements Engineering Track – 4th Edition

part of the 26th ACM Symposium on Applied Computing
March 21 - 25, 2011, Tunghai University, TaiChung, Taiwan
More information

ISST Workshop on Requirements and Validation, Verification & Testing (ReVVerT 2011) NEW

Co-located with the 4th International Conference on Software Testing, Verification and Validation (ICST 2011)
March 21-25, 2011 (one day), Berlin, Germany
More information

7th Workshop on Advances in Model Based Testing (A-MOST 2011) NEW

Co-located with the 4th International Conference on Software Testing, Verification and Validation (ICST 2011)
March 21, 2011 – Berlin, Germany
More information

IWEI 2011 - The International Working Conference on Enterprise Interoperability

March 22-24, 2011, Stockholm, Sweden
More information

MoBE-RTES 2011 - 2nd IEEE Workshop on Model-based Engineering for Real-Time Embedded Systems

Mar 28, 2011
More information

REFSQ 2011 - 17th International Working Conference on Requirements Engineering: Foundation for Software Quality

March 28-30, 2011, Essen, Germany
More information

MBT 2011 - Seventh Workshop on Model-Based Testing

April 2-3, 2011, Saarbrüken, Germany
Satellite workshop of ETAPS 2011
More information

IEEE International Systems Conference

April 4-7, 2011, Montreal, Quebec, Canada
More information

Symposium on Theory of Modeling and Simulation (DEVS/TMS'11) NEW

April 4-9 2011, Boston, MA, USA
More information

1st International Workshop on Model-driven Approaches for Simulation Engineering NEW

Held under the aegis of the Symposium on Theory of Modeling and Simulation, part of the SCS SpringSim 2011 conference.
April 4-9, 2011, Boston, MA (USA)

More information

International Symposium on Ambient Intelligence ᴧᴧᴧ NEW

6-8th April, 2011, University of Salamanca, Salamanca, Spain
More information

Workshop on the Reliability of Intelligent Environments (WORIE '11) ᴧᴧᴧ NEW

within the International Symposium on Ambient Intelligence
6th-10th April, 2011, University of Salamanca, Salamanca, Spain
More information

CSER 2011 - Conference on Systems Engineering Research

April 14-16 2011, Redondo Beach Crown Plaza, Redondo Beach, CA, USA
More information

Risk-Based Approaches to Major Decisions (Risk '11)

May 13 - 14, 2011, Falmouth, Cornwall, United Kingdom
More information

SPICE 2011 - The 11th International SPICE Conference Process Improvement and Capability dEtermination

30 May - 1 June 2011, Dublin, Ireland
More information

Seventh European Conference on Modelling Foundations and Applications

6-9th of June, 2011, University of Birmingham, Birmingham, UK
More information

10th TTCN-3 User Conference

June 7-9, 2011, Bled, Slovenia
More information

4th Symposium on Resilience Engineering

June 8-10, 2011, Sophia Antipolis, France
More information

FM 2011: 17th International Symposium on Formal Methods

June 20 - 24, 2011, Lero, Limerick, Ireland
More information

The 32nd International Conference on Application and Theory of Petri Nets and Concurrency (PETRI NETS 2011)

11th International Conference on Application of Concurrency to System Design (ACSD 2011)
June 20-24, 2011 Kanazawa Cultural Hall, Kanazawa, Japan
More information

INES 2011 - 15th IEEE International Conference on Intelligent Engineering Systems 2011

June 23-25, 2011, Poprad, High Tatras, Slovakia
More information

SoSE 2011 - 2011 6th International Conference on System of Systems Engineering (SoSE)

Jun 27 - 30, 2011, Albuquerque, New Mexico, U.S.A
More information

ICMT2011 - International Conference on Model Transformation ⋀⋀ NEW
Theory and Practice of Model Transformations

Co-located with TOOLS Europe 2011
27 June - 01 July 2011 - Zurich, Switzerland
More information

19th IEEE International Requirements Engineering Conference

August 29 – September 2, 2011, Trento, Italy
More information

International Conference on Industrial Engineering, Systems Engineering and Engineering Management for Sustainable Global Development ⋀⋀ NEW

September 21-23, 2011, Spier Hotel and Conference Centre, Western Cape, South Africa
More information

Second Annual IIBA Conference ⋀⋀ NEW

October 2011, More details TBA
More information

Education & Academia

One Postdoc at Singapore University of Technology and Design

Highly motivated applicants are being sought to work on developing model checking techniques or applying model checking techniques to real-world problems. The postdoc will work with department of Information System Technology and Design, Singapore University of Technology and Design and collaborate with the software engineering team at National University of Singapore.

More information

National Centers for Systems of Systems Engineering (NCSOSE)

The National Centers for Systems of Systems Engineering (NCSOSE) is a university research center for Old Dominion University established to draw together academia, government, and industrial organizations to resolve problems, develop technologies, and direct research concerning major issues in the design, analysis, and integration of complex systems of systems. NCSOSE was born out of a recognized need to effectively develop, coordinate, and integrate research and applications to engineer increasingly complex systems that must function as integrated systems of systems.

NCSOSE's primary objective is to advance the body of knowledge and state-of-the art relating to engineering complex system of systems. NCSOSE supports the development of practical solutions and directs applied research that addresses contemporary system of systems engineering problems; provides high-quality information resources for those who make decisions, influence policy, and are charged with integration of complex systems of systems; and provides training and education in systems of systems engineering. NCSOSE frequently works in partnership with other research organizations and higher education institutions to enhance the quality of research in systems of systems engineering by promoting the interchange of academic research and knowledge.

More information

Position in Software Engineering & IT Security, Fraunhofer ISST, Dortmund (Germany)

Researcher position to be filled as soon as possible. The positions is part of a Fraunhofer Attract research group on the topic: "Architectures for Auditable Business Process Execution (APEX): Monitoring, Control, and Compliance in the Insurance Domain" which is directed by Prof. Dr. Jan Jürjens. Goal of the project is the development of concepts and solutions for business processes and their execution in the context of service-oriented IT architectures. The project goal in particular includes the compliance with relevant regulatory documents regarding Coporate Governance and IT security (such as Solvency II).

More information

Some Systems Engineering-Relevant Websites

http://www.incose.org/educationcareers/pdf/INCOSE_LISTofUS_Based_SE_Programs.pdf

INCOSE List of US Based SE-Centric and Domain Centric Programs

http://ackoffcenter.blogs.com/ackoff_center_weblog

The Ackoff Center Weblog is our entrée into the world of blogs! We seek to provide a forum where systems thinkers can interact and occasionally comment on/discuss issues affecting them and their organizations. The Ackoff Center Weblog will also provide an opportunity for you to keep up with the latest research in the field and to share your own experiences.

http://acasa.upenn.edu/

In July 2000, the School of Engineering and Applied Science of the University of Pennsylvania announced the creation of the Ackoff Collaboratory for Advancement of the Systems Approach (ACASA). Named for Dr. Russell Ackoff, Emeritus Anheuser-Busch Professor of the Wharton School, the center operates as a think tank in the vanguard of systems approaches.

Standards and Guides

Some Significant Systems-Engineering Related Standards of the Electronics Industries Alliance (EIA) (USA)

EIA SYSB 1: Systems Engineering (December 1989)

EIA/IS-632: Systems

EIA-632: Processes for Engineering a System

EIA CMB 3: Recommendations Concerning Configuration Management Audits

EIA CMB 7-4 Draft: Glossary of Terms Acronyms and Definitions (to be published as EIA CMB 7-4A)

EIA/IS-649: National Consensus Standard for Configuration Management (August 1995)

EIA-649 Edition A: National Consensus Standard for Configuration Management (October 2004)

EIA-649 Edition B Draft: National Consensus Standard for Configuration Management (16 September 2010)

EIA DMG 1: Data Management Implementation Guide (January 1986)

EIA HEB 1 Edition 2: Human Engineering – Principles and Practices (June 2002)

EIA-681: Assessment Guide for Process Certification (11 May 2001)

EIA/IS-731.1: Systems Engineering Capability Model

EIA-731.1 Edition 2: Systems Engineering Capability Model (August 2002)

EIA/IS-731.2: Systems Engineering Capability Model Appraisal Method

EIA-731.2 Edition 2: Systems Engineering Capability Model Appraisal Method (August 2002)

EIA-748 Edition B: Earned Value Management Systems (June 2007)

EIA 830: Model for Integrating Metrics into the Procurement Process (February 2000)

Some Significant Systems-Engineering Related Standards of the Government Electronics and Information Technology Association (GEIA) (USA)

GEIA EIA-836: Configuration Management Data Exchange and Interoperability

GEIA HB-748-1 Edition 4: Handbook: The Program Managers' Guide to the Integrated Baseline Review Process (May 2004)

GEIA HEB1 Edition A: Human Engineering – Principles and Practices (December 2005)

GEIA PN-4888: Implementation Guide for Data Management

GEIA-HB-649 Edition 05: Implementation Guide for Configuration Management (October, 2005)

GEIA-HB-649 Draft Edition 09: Implementation Guide for Configuration Management (7 July, 2009)

GEIA-HB-927 Edition 07: Implementation Guide for Common Data Schema for Complex Systems (July 2007)

GEIA-STD-927 Edition A: Common Data Schema for Complex Systems (April 2010)

GEIA-STD-0007 Edition A: Logistics Product Data (April 2010)

GEIA-HB-0007 Edition A: Logistics Product Data Handbook (March 2010)

GEIA-859 Issue 4: Data Management (August 2004)

GEIA-SE-0001: Edition 03: The Next Generation of Systems Engineering: A Report by the GEIA G-47 Systems Engineering Panel

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Some Definitions to Close On

Simulation

Simulation: an imitation of some real device or state of affairs. Simulation attempts to represent certain features of the behavior of a physical or abstract system by the behavior of another system. Simulation is used in many contexts, including the modeling of natural systems, and human systems to gain insight into the operation of those systems; and simulation in technology and safety engineering where the goal is to test some real-world practical scenario.
Source: http://www.wordiq.com/definition/Simulation

Simulation: the duplicating or reproducing of certain characteristics or conditions, as of a system or physical process, by the use of a model or representation, for study, training, etc.
Source: http://www.yourdictionary.com/simulation

Simulation: the imitative representation of the functioning of one system or process by means of the functioning of another < a computer simulation of an industrial process.
Source: http://www.merriam-webster.com/dictionary/simulation

Simulation: the representation of the behavior or characteristics of one system through the use of another system, esp. a computer program designed for the purpose.
Source: http://dictionary.reference.com/browse/simulation

Simulation: Imitation or representation, as of a potential situation or in experimental testing.
Source: http://www.thefreedictionary.com/simulation

Simulation: Representation of the operation or features of one process or system through the use of another.
Source: http://www.thefreedictionary.com/simulation

Simulation: a representation of a problem, situation, etc., in mathematical terms, especially using a computer.
Source: http://www.thefreedictionary.com/simulation

Simulation: the construction of a mathematical model for some process, situation, etc., in order to estimate its characteristics or solve problems about it probabilistically in terms of the model.
Source: http://www.thefreedictionary.com/simulation

Simulation: the act of imitating the behavior of some situation or some process by means of something suitably analogous (especially for the purpose of study or personnel training).
Source: http//www.wordnetweb.princeton.edu/perl/webwn

Simulation: A model of a product or its component(s) in operation. Simulations may be computer-based analogies to a product such as video games, or a practice role-play of an operation with or without tools (a simulation of a method or technique as in training classes).
Source: EIA/IS-731.1 <http://segoldmine.ppi-int.com/documents/eiais-7311-document2-systems-engineering-capability-model>

Simulation: A model that behaves or operates like a given system when provided a set of controlled inputs.
Source: ISO/IEC 24765:2008 Systems and software engineering vocabulary

Simulation: The use of a data processing system to represent selected behavioral characteristics of a physical or abstract system.
Source: ISO/IEC 2382-1:1993 Information technology--Vocabulary--Part 1: Fundamental terms

Simulation: A method for implementing a model. It is the process of conducting experiments with a model for the purpose of understanding the behavior of the system modeled under selected conditions or of evaluating various strategies for the operation of the system within the limits imposed by developmental or operational criteria. Simulation may include the use of analog or digital devices, laboratory models, or "testbed" sites. Simulations are usually programmed for solution on a computer; however, in the broadest sense, military exercises and wargames are also simulations.
Source: DAU Glossary: Defense Acquisition Acronyms and Terms

Interpretation by Robert: Simulation is not the real thing, it is a model or approximation or experiment of the behavior of the real thing for the purpose of drawing inferences about the real thing.
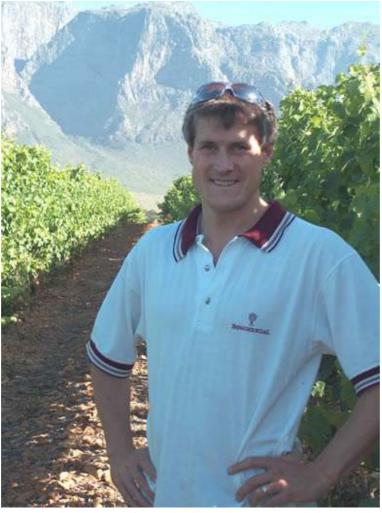

Project Performance International News

London Systems Engineering Course – a Multicultural Event

PPI conducted its most multicultural course ever, in London over 8-12 November. Delegates from Denmark, Scotland, Germany (William, a Canadian!), Sweden and England created a great group dynamic.

Wine from Where?

PPI Managing Director Robert Halligan likes to collect wine from countries he visits in his business travels. His last trip delivering systems engineering training in Southern Africa resulted in wine from the Kingdom of Lesotho and Kenya! Lesotho is a landlocked country and enclave - entirely surrounded by the Republic of South Africa. It is just over 30,000 km2 in size, with a population of about 2M people. Lesotho has produced wine in tiny quantities for some decades, mainly from small plantings at Catholic churches for the purpose of producing wine for communion. However, Robert managed to track down Peter Marfleet, whose small winery at the village of Metsoarong Ha Matela represents the first attempt at commercial wine production in Lesotho. Robert was treated to a personal bottling of a 2001 Ruby Cabernet/Pinotage/Merlot.

In Kenya, Robert tracked down a Leleshwa Sauvignon Blank produced by winemaker James Farquharson at his substantial Rift Valley Winery at Naivasha, Kenya, at an altitude of about 1900 metres.

Rift Valley Winery, Kenya

Project Performance International Events

Systems Engineering 5-Day Course

Upcoming locations include:

- Amsterdam, The Netherlands
- Las Vegas, USA
- São José dos Campos, Brazil
- Singapore
- Melbourne, Australia
- Stellenbosch, South Africa
- Sydney, Australia

View 2010/2011 Systems Engineering Course Schedule

Requirements Analysis and Specification Writing 5-Day Course

Upcoming locations include:

- Melbourne, Australia
- Amsterdam, The Netherlands
- Las Vegas, USA
- Adelaide, Australia

View 2010/2011 RA&SW Course Schedule

OCD & CONOPS in Capability Development 5-Day Course

Upcoming locations include:

- Adelaide, Australia
- Las Vegas, USA
- Pretoria, South Africa
- Canberra, Australia
- Brasilia, Brazil

View 2010/2011 OCD/CONOPS Course Schedule

Software Development Principles & Processes 5-Day Course

Upcoming locations include:

- Pretoria, South Africa
- Sydney, Australia

View 2011 Software Development Principles & Processes Course Schedule

Cognitive Systems Engineering 5-Day Course

Upcoming locations include:

- Adelaide, Australia
- Melbourne, Australia
- Las Vegas, USA
- London, UK

View 2010/2011 Cognitive Systems Engineering Course Schedule

Requirements Engineering 4-Day Course

Upcoming locations include:

- São José dos Campos, Brazil

View 2011 Requirements Engineering Course Schedule

Introduction to Software Development Principles & Processes 2-Day Seminar

Upcoming locations include:

- Melbourne, Australia
- Sydney, Australia

View 2011 Introduction to Software Development Principles & Processes Seminar Schedule

Introduction to Requirements Analysis 1-Day Seminar

Upcoming locations include:

- Wellington, New Zealand

View 2011 Introduction to Requirements Analysis Seminar Schedule

Preparing Great Requirements Specifications 1-Day Seminar

Upcoming locations include:

- Wellington, New Zealand

View 2011 Preparing Great Requirements Specifications Seminar Schedule

PPI Upcoming Participation in Professional Conferences

- November 15 - 19, 2010 - **Land Warfare Conference** - Brisbane, Australia (Exhibiting)
- November 29 - December 1, 2010 - **I/ITSEC 2010** - Orlando, FL, USA (Exhibiting)

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