STEP2002:
Advances and Opportunities in Software Engineering Practice

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Introduction

The objective of the Software Technology and Engineering Practice (STEP) 2002 International Workshop was to focus on current and forthcoming Advances and Opportunities in Software Engineering Practice.

The following questions were initially tabled in the call for participation:

- Will Software Engineering achieve the maturity of other engineering disciplines, or is this but a mirage given the continuous increases in system and application complexity and the shrinkage of cycle time?
- Is the first publication of the Guide to the Software Engineering Body of Knowledge (SWEBOK) and the CMMI, among others, a sign of this coming maturity or merely initial stepping stones?
- What are the key practices and technology that will make a difference?
- How do Agile Methodologies fit into the recognized software engineering body of knowledge?
- What research is most needed?
- Are CASE tools gaining back credibility?
- Is re-use coming of age with internet applications?

About STEP

The distinctive feature of STEP is its highly interactive workshop style which combines informed opinion with development of the understanding of best software practice. Seven one-day workshops on selected topics have been conducted during STEP 2002. Each workshop reviewed and extended a roadmap for software technologies with contributions on new development, practical experience, technology evaluation and gap analyses.

Contributions were synthesized during debate and discussion and consolidated in a workshop report which updates the evolving roadmap.

Workshop Focus

The focus of each workshop was to develop a technical roadmap for an area with an emphasis on practical applications. The workshop organizers began with a draft outline of the roadmap, and this coalesced through the discussions. Presenters identified promising trends including their own work and experience reports. Action items were then explicitly recorded for each workshop.

Since the objective of these workshop was to develop new knowledge through the interaction of its participant, it was decided to publish the proceeding afterward. These proceedings are
thus a combination of updated workshop contributions and brand new papers written after STEP 2002 was held by workshop participants.

**STEP 2002 Workshops**

The following workshops were part of STEP2002:

- **Improvements to the Guide to The Software Engineering Body of Knowledge (SWEBOK) and to The Software Engineering Education Body of Knowledge (SEEK)**, chaired by Pierre Bourque and Timothy Lethbridge
- **Interdisciplinary Software Engineering**, chaired by Nikolay Mehandjiev and Pearl Brereton
- **Adoption-Centric Software Engineering - From Prototype to Product in Reverse Engineering Tools to Support Software Evolution**, chaired by Hausi Müller, Scott Tilley, Ken Wong and Liam O'Brien
- **Enterprise Integration**, chaired by Dennis Smith
- **Improving verification and validation in hardware/software development environments**, chaired by Jos Trienekens and Jef Jacobs
- **COTS Integration and Evaluation**, chaired by Robert C. Seacord, Grace Lewis, Russ Bunting
- **A Roadmap for Empirical Software Engineering**, chaired by David Budgen and Scott Tilley

The SWEBOK and many issues related to the software engineering body of knowledge in general were a common thread for at least two of the STEP2002 workshops (SWEBOK/SEEK and Interdisciplinary Software Engineering).

Three other workshops focused principally on methods and processes (Adoption-Centric Software Engineering, Improving V&V and COTS Integration and Evaluation).

The workshop on Roadmap for Empirical Software Engineering focused on how we can ascertain that a given method or practice does bring benefit, and to what extent.

Finally one workshop, Enterprise Integration, focused on enterprise architecture issues.

**Future workshops**

The STEP 2002 workshops covered a significant part of the potential topics identified in the call for participation.

While Software Engineering is maturing in some aspect, many areas of the discipline are still undergoing evolution. This will insure a good potential for professional events like STEP.