

article summaries

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PROJECT MANAGEMENT

How Standards Enable Adoption of Project Management Practice

by Suzanne Garcia, pp. 22–29. Appropriate standards are a powerful transition mechanism to support implementation of new technologies, including practice-based technologies such as project management practices. Standards affect the adoption of project management practices in three areas: deployment of practices in an organization, customer-supplier relationships, and the community of project management practitioners.

Management Challenges to Implementing Agile Processes in Traditional Development Organizations

by Barry Boehm and Richard Turner, pp. 30–39. Agile software development processes have shown positive impacts on cost, schedule, and customer satisfaction. However, most implementations of agile processes have been in smaller-scale, software-only environments. In March 2004, a group of researchers and practitioners addressed the implementation of agile processes in large systems-engineering projects that rely on traditional development processes and artifacts. They identified three management challenge areas. Here, the authors discuss numerous ways in which to address them.

Successful Software Management Style: Steering and Balance

by Walker Royce, pp. 40–47. Comparing the challenge of software management to that of producing a major motion picture exposes that both are concerned with developing a complex piece of integrated intellectual property with predominantly economic constraints. From this perspective, four software management practices emerge from successful projects, revealing that it's better to use a *steering* leadership style rather than the *detailed plan-and-track* leadership style encouraged by conventional wisdom.

Single Goal Set: A New Paradigm for IT Megaproject Success

by C. Venugopal, pp. 48–53. IT megaprojects often fail to meet user expectations. One reason might be that they chase too many goals. This leads to cascading problems that put undue pressure on the implementation teams and lead to eventual failures. Using a single goal or a *single goal set* for project implementation could lead to substantially higher success rates by focusing resources on meeting a project's overarching goal. SGS combines the flexibility and iteration of agile methods with the discipline of traditional planned methodologies.

Project Management in a Software Product Line Organization

by Paul C. Clements, Lawrence G. Jones, John D. McGregor, and Linda M. Northrop, pp. 54–62. The unique features of a software product line organization challenge the conventional definition of project management. Among those features are different types of projects, each of which adds value in a different way. Based on the authors' experiences with several product line organizations, this article examines product line practices, how they relate to project management, and how to adjust project management for a software product line.

Evolving Distributed Project Management

by Kenneth E. Nidiffer and Dana Dolan, pp. 63–72. By coupling existing research with the lessons from complex programs in the defense industry, the Systems and Software Consortium intends to place its member companies ahead of the curve in distributed project management. The Consortium recognizes that real-time project management information systems must evolve to support increased decision velocity and cohesiveness in today's increasingly distributed world.

Professional Certification of Software Engineers: The CSDP Program

by J. Fernando Naveda and Stephen B. Seidman, pp. 73–77. Today's qualified software professionals have a variety of ways to establish their credentials—one of which is through certification. This article gives an overview of approaches to the certification of software professionals, paying special attention to the IEEE Computer Society's Certified Software Development Professional certification program. The CSDP program is rooted in a widely accepted body of knowledge and in the IEEE Software Engineering Standards.

FEATURES

Rich-Media Scenarios for Discovering Requirements

by Konstantinos Zachos, Neil Maiden, and Amit Tosar, pp. 89–97. Walk-through scenarios are an effective requirements-discovery technique, but scenarios can differ widely in their abstraction levels and representation forms. The ART-SCENE scenarios environment is helping analysts investigate how to determine the right form of scenarios for different requirements tasks. ART-SCENE supports using rich-media scenarios in requirements discovery, which can improve discovery by cueing stakeholders to recognize more events that a system will have to handle.

Lazy Types: Automating Dynamic Strategy Selection

by Fernando Berzal, Juan-Carlos Cubero, Nicolás Marín, and María-Amparo Vila, pp. 98–106. Programmers increasingly must deal with data that's not easy to represent, complex by nature, and affected by structural irregularities. This article describes how the reflective technique of *lazy typing*—deferring the exact definition of object methods until the latest possible moment—can help programmers more easily and consistently deal with partial or incomplete data.