

Modeling Knowledge Intensive Processes : Concepts, Methods, and Applications

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This is the third year of the minitrack focusing on models and tools to represent and manage *process knowledge*, i.e., the processes involved in developing models, artifacts and decisions in complex organizational problem solving. Our objective in organizing the minitrack is to provide a continuing forum for emerging research on process knowledge, with particular emphasis on integrating diverse aspects of the problem.

Emerging research in the area of process knowledge is increasingly converging on multiple facets of the problem, e.g., models for capturing implicit knowledge or tools to support the management of process knowledge. Papers in this years minitrack reflect this trend. Of the six papers accepted, three focus on methodologies. Three papers describe applications.

In the first paper, Boer et al. discuss the dynamics of knowledge sharing as a situated process. Knowledge is viewed not as an object, but as something placed in a context and social in nature. The authors propose practical guidelines for application of activity theory in empirically investigating the dynamics of knowledge sharing in a variety of organizational settings and present a discussion on an activity system.

Wong and Bhattacharyya present the application of the Task Structure (TS) approach to identify the generic problem-solving components in a knowledge intensive process. They focus on the risk assessment audit task in the auditing problem domain. The paper provides information on the TS modeling approach and present an illustration of the approach as applied to the risk assessment task. This paper deals with an important issue in

the domain of system development: eliciting knowledge and reuse of design artifacts.

Landauer and Bellman address the problem of navigating through large volumes of information. They describe a Multi-User Virtual Environment that allows subject- or area- experts to explore, discover and analyze relevant information. The system employs Computational Reflection, the ability of systems to analyze and adjust their own behavior.

Lévine and Pomerol present lessons from case studies that extend their methodology for modeling the semantics of contracts and managing the knowledge assets of firms. The case studies are conducted in public-service organizations in France, one dealing with social security matters, and the other managing social subsidies.

Focusing on the development of systems to manage process knowledge, Xu and Ramesh present an approach to managing process knowledge within workflow management systems. A traceability framework presented here can be used to follow the life of any artifact or decision in a workflow management system. A variety of mechanisms to manage traceability knowledge are discussed.

Gnatz et al. propose a process framework that can integrate elements from a variety of existing process models. It addresses the issue that is important both in academic field and industry. In the context of software development, it shows the importance of the framework and presents tools to manage process models using two views – the project view and method view.