Introduction to Technical Aspects of KM Minitrack

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The objective of this minitrack is to develop the architecture of knowledge management systems to support organizations facing changing environments. Individuals learn and share what they have learned with those “nearby” them, who in turn share knowledge with others. This enables organizations to react quickly to changing environments, a necessity for survival. Researchers and practitioners interested in submitting papers to this track are encouraged to explore knowledge management architecture—particularly as related to organizational learning from a design science perspective. We welcome a wide range of approaches that focus on architectural design for learning organizations.

Two papers have been selected to represent ideas and issues related to this minitrack. In the first paper, Weber and Gunawardena combine two different designs of knowledge management architectures into one viewpoint. In their paper, they suggest that expert locators and repository-based knowledge management systems (KMS) are different architectures proposed to perform different kinds of knowledge management (KM) functions. While expert locators can recommend an expert to perform a task, repository-based KMS can share a learned strategy to solve a given problem. In this paper, they describe a framework to develop KMS that can perform multifunctional tasks in a single architecture. The proposed framework follows principles from knowledge engineering and from the general KM literature on how to prevent failure in KMS. They illustrate the proposed framework with the usage of the first four months of its implementation.

In the second paper, Hadzic and Dillon take a tree-structured view of knowledge management systems design. Tree-structured knowledge representations are increasingly being used since the relationships between data objects can be represented in a more meaningful way. A number of tree mining algorithms were developed for mining different sub-tree types using different parameters. They feel that, at this point in research, it would be useful to discuss what kind of sub-problems can be solved within the current tree mining framework. In this paper, they provide a general overview of the development in the area of tree mining and discuss motivations and useful application areas for each development. They also discuss implications of using different tree mining parameters and constraints. Such an overview will be particularly useful for those not so familiar with the area of tree mining as it can reveal useful applications within their domain of interest. It gives guidance as to which type of tree mining will be most useful for design of their particular knowledge management systems application.

We wish to thank all of the authors who submitted work for consideration in this minitrack. We would also like to thank the dedicated reviewers who provided time and effort in reviewing the submitted papers. We believe the papers in this session contribute very much to furthering our understanding of knowledge systems and we look forward to discussing them in our sessions.