

Abstract

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Dynamic Knowledge Management Toolkit

An important aspect of knowledge management is the implementation of methods to share the unstructured knowledge of expert practitioners within an organization. The existence of unstructured and dynamic knowledge represents a challenge to experts due to the dynamic and non-sequential nature of such knowledge. In order to make such knowledge sharable, it is necessary to have both an effective elicitation method and a useful representation toolkit. In this paper we describe a Dynamic Knowledge Toolkit (DKT) that is used in knowledge elicitation and representation based upon Knowledge maps. Knowledge Maps contain content that is different from the more general information in typical reference material and that is organized quite differently than standard textbook knowledge mainstream hypermedia learning systems. These knowledge models tend to be large and complex with interwoven themes and rich interconnections of the concepts based on the expert's highly articulated mental model of the domain. Knowledge Maps have been used in all facets of education, training and business. With the fundamental goal of fostering learning and knowledge sharing they have been shown to be an effective tool for displaying prior knowledge, summarizing, planning, projects management, scaffolding for understanding, consolidating experiences, improving affective conditions for critical thinking, decision making, supporting cooperation and collaboration, and organizing unstructured knowledge content, We describe the use of the toolkit in a case study on the capture and representation of local weather forecasting knowledge. We also show how Knowledge maps can be used to support activities such as the preservation of institutional memory, the "recovery" of expertise that might reside in less accessible forms such as archived documents, for performance support, and for other knowledge-intensive pursuits such as weather forecasting crisis management. The content in traditional training, education, field projects can be augmented possibly even replaced with well-organized expert practitioner knowledge.