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Recommended Citation

Sarnikar, Surendra, "An Organizational Concept Space Approach to Knowledge Distribution" (2005). *AMCIS 2005 Proceedings*. 102.
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An Organizational Concept Space Approach to Knowledge Distribution

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ABSTRACT

Matching information requirements with available information is an important problem for large organizations. The most commonly used mechanisms to match users and information are information retrieval techniques and information filtering techniques. Information retrieval techniques proposed in literature focus primarily on modeling the content and do not personalize the results to the user. Information filtering techniques, on the other hand, focus primarily on modeling users and ignore modeling the content to be filtered. In this dissertation, we propose a new paradigm for matching users with information by integrating content modeling techniques from information retrieval literature and user modeling techniques from information filtering literature, into a combined mechanism to proactively deliver relevant information to users within an organizational context. Our research contributions in this dissertation are three-fold. First, we develop techniques that automatically model content or domain information in the form of a hierarchical network of concepts called a similarity network, and develop feedback mechanisms that automatically update user profiles for changing interests. Second, we conduct a user study for comparative evaluation of different information distribution mechanisms in distributing relevant knowledge to interested users in an organization. Third, we study the merits of information distribution as a paradigm for informing knowledge workers and study its effects on the productivity of organizational members. The results of this study will open new avenues for knowledge dissemination by helping explore alternative and hybrid models for matching users with knowledge objects.