

Exploiting Task-Document Relations in Support of Information Retrieval in the Workplace

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Increasingly, workplace information seeking takes place in digital information environments and is reliant upon search systems. Existing systems are designed to retrieve information that is relevant to the query, but are not capable of identifying information that is well-suited to the context and situation of a search. This is a problem for professionals who often are searching for a small amount of useful information that can be applied to a problem or task, and have limited time to browse through large sets of results. This inability of search systems to discriminate between topically relevant and useful documents is one of the core problems in information retrieval.

In this dissertation, I address this problem by studying the role that contextual factors play in determining how a group of professionals searches for and selects information. The central question concerns the nature of the relationships between these contextual factors, specifically between the genres in the document collection and the tasks of the searcher, with an aim to exploit such relationships to improve workplace information retrieval. Research was conducted through multiple studies in three phases, moving from an exploratory study of workplace information behaviour to a controlled experimental user study.

Findings confirm that workplace context shapes search behaviour. This relationship is modeled as a set of key contextual factors and sets of context-dependent access constraints, preferred document characteristics, and search strategies. Among the contextual factors identified, work tasks and information tasks were found to be significantly associated with document genres. This task-genre relationship was modeled as a matrix of associations between domain-specific task and genre taxonomies and successfully implemented as a filtering component in a workplace search system. This is the first major study of the relationship between task and genre in information seeking and of its application to information retrieval systems.