Supporting the localisation of task-relevant information

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Abstract

There is ample evidence that humans find it difficult to locate information in a variety of information sources. Therefore, providing support for humans to locate task-objective relevant information could be beneficial. Providing generic search support implies that task and context assumptions need to be considerably relaxed as they may vary a great deal between and within humans. Relinquishing identification of task and task context, the question concerns which elements of an information set (called 'relevancy markers') are used in human search to locate task-relevant information in a variety of presentation formats. Results from a series of experiments that examined these markers as they are used in dialogues are reported. Participants read, or listened to, 3 dialogues and indicated where goal-relevant information was exchanged. The results show that across domains, languages and media formats people appear to orient on the same markers to locate task-relevant information. Due to the communicative nature of information supply, these results can be used to inform the design of search support interfaces.

Introduction

When carrying out tasks, people often need to consult external information sources in order to gather missing or additional task-relevant information. It is well documented, however, that humans have difficulty locating relevant information in a variety of information sources in different media, such as the Internet (Jenkins et al., 2003; Schacter et al., 1998; Shneiderman, 1997; Smith et al., 1997); academic libraries (Haynes & Wilczynski, 2004; Waldman, 2003); and workflow systems (Dustdar & Gall, 2003). In addition, it is not just the characteristics of the information source that makes the search task difficult, but also the characteristics of the search task itself appear to be problematic (Brand-Gruwel et al., 2005; Lazonder, 2000). Therefore, providing computational support for humans to locate task-objective relevant information could be beneficial, leading to shorter search time and a swifter task accomplishment. To design computational search support, a low-level bottom-up approach could be adopted in order to identify task-relevant features of an utilised information source and then to highlight them in some way in order to alert the information searcher to their usefulness. This approach is adopted in this study.

There are some issues with providing search support. One difficult aspect is the determination of the task objectives of the user. This relates to the notorious *frame*