Telling Stories to Computers for Document Retrieval

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ABSTRACT
The documents users must handle are growing both in number and diversity. However, the ways of organizing and retrieving them remain largely unchanged. Given the innate human ability to tell stories, the use of narratives can be a natural and effective way to retrieve documents. To better understand how narratives can be used in this context, a thorough characterization of their contents and structure was obtained from several interviews. Then, the results were validated by the evaluation of low fidelity prototypes for story-capture interfaces, allowing us to verify that stories are valid as document-retrieval tools, and the shape those interfaces should take (structured text entry).

Author Keywords
Narratives,Document Retrieval,Personal Document Spaces.

ACM Classification Keywords
H.5.2 **[Information Interfaces and Presentation]**: User Interfaces – *evaluation/methodology, interaction styles, user-centered design*. H.3.3 **[Information Storage and Retrieval]**: Information Search and Retrieval – *query formulation*.

General Terms: Design, Human Factors.

INTRODUCTION
It is now common for users to deal with large document numbers, in several computers, rendering ineffective traditional retrieval approaches that rely on hierarchical document classification. Since that classification is the main hint as to a document's location, retrieval becomes difficult. New approaches rely on additional information, such as arbitrary properties [1]. We propose that using stories about documents is an effective way to help users retrieve them. Telling a story can help relate information and allow us to remember something otherwise forgotten. From a set of interviews, we verified the adequacy of stories for document retrieval, the relative importance of different story elements, and the stories' overall structure [2]. To check if those results are maintained when stories are told to computers, in a structured way, we conducted a study where two low-fidelity prototypes of story-capturing interfaces were evaluated by 20 users. We collected the stories told using the prototypes, and analyzed the users' reactions both by observing them and asking them to fill in a questionnaire. The data was then compared to the one obtained from the previous set of interviews.

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RESULTS
We verified that users can tell stories to computers in a way similar to how they tell them to other persons. The story structure is similar and the relative importance of different story elements remains largely unchanged. Stories might actually be longer when told in structured environments, conveying more useful information. One prototype allows the direct manipulation of graphically represented story elements. The other shows the story as a sequence of natural-language sentences to be completed by the user with relevant information. The latter was undoubtedly better, eliciting longer stories from the users and giving them a true feeling of 'telling a story'. Stories told using it are closer to those told to humans. Further results can be found in the technical report [3].

CONCLUSION
A complete characterization of document-describing stories was obtained and validated as a promising tool for document retrieval. A suitable interface design for the capture of those stories was also found. The stories' accuracy and discriminating power should be studied next.

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