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Speech-Based Information Retrieval for Digital Libraries

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Abstract:

Libraries and archives collect recorded speech and multimedia objects that contain recorded speech, and such material may comprise a substantial portion of the collection in future digital libraries. Presently, access to most of this material is provided using a combination of manually annotated metadata and linear search. Recent advances in speech processing technology have produced a number of techniques for extracting features from recorded speech that could provide a useful basis for the retrieval of speech or multimedia objects in large digital library collections. Among these features are the semantic content of the speech, the identity of the speaker, and the language in which the speech was spoken. We propose to develop a graphical and auditory user interface for speech-based information retrieval that exploits these features to facilitate selection of recorded speech and multimedia information objects that include recorded speech. We plan to use that interface to evaluate the effectiveness and usability of alternative ways of exploiting those features and as a testbed for the evaluation of advanced retrieval techniques such as cross-language speech retrieval.

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