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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