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Abstract

Search & Select is a retrieval system for large-scale collections that allows users to search for music using **natural language queries** and **relevance feedback**. In contrast to existing music search engines that are either restricted to manually annotated meta-data or based on a query-by-example variant, the presented approach describes audio pieces via a traditional term vector model and allows therefore to retrieve relevant music pieces by issuing simple free-form text queries. Term vector descriptors for music pieces are derived by applying Web-based and audio-based similarity measures. As the user selects music pieces that he/she likes, the subsequent results are adapted to accommodate to the user's preferences.

Technical Realisation

We derive track specific information from the Web by combining the results of three queries issued to Google:

- “*artist*” music
- “*artist*” “*album*” music review
- “*artist*” “*title*” music review -lyrics

From each track's page set, modified *tfidf* vectors are calculated. These vectors are smoothed over the 10 most similar sounding pieces (timbre similarity).

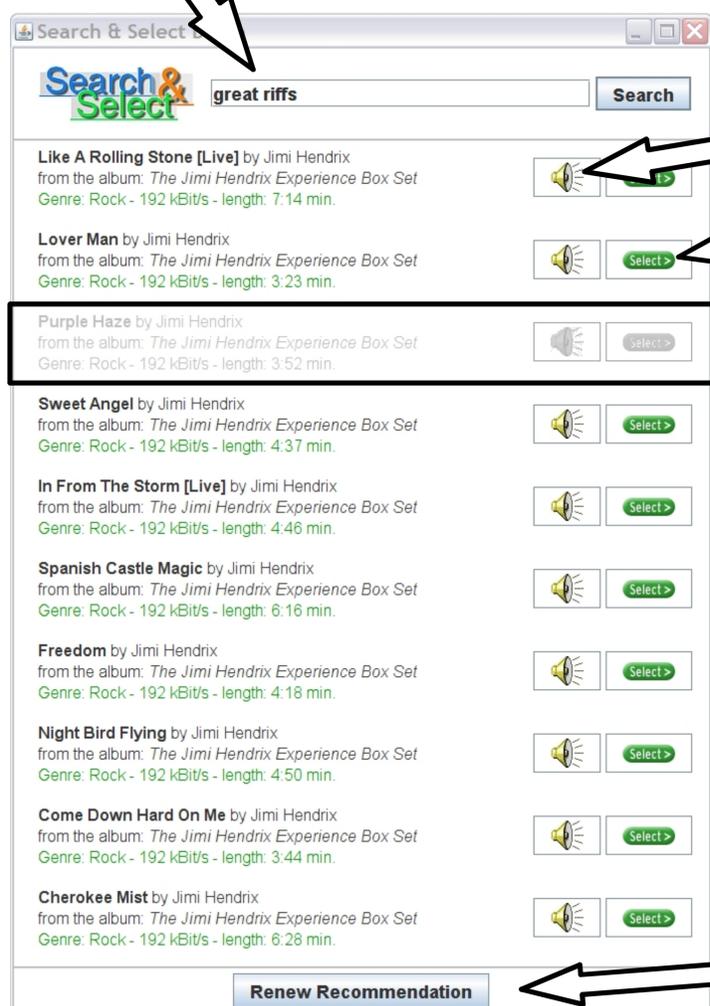
For retrieval, the query is sent to Google and a *tfidf* query vector is constructed from the 10 top results. The cosine distances of the query vector from the piece vectors determine the ranking. User selections are incorporated using Rocchio's relevance feedback method.

Further Reading

P. Knees, T. Pohle, M. Schedl, and G. Widmer (2007). *A Music Search Engine Built upon Audio-based and Web-based Similarity Measures*. In Proc. 30th ACM SIGIR.

P. Knees and G. Widmer (2007). *Searching for Music Using Natural Language Queries and Relevance Feedback*. In Proc. 5th Int'l Workshop on Adaptive Multimedia Retrieval.

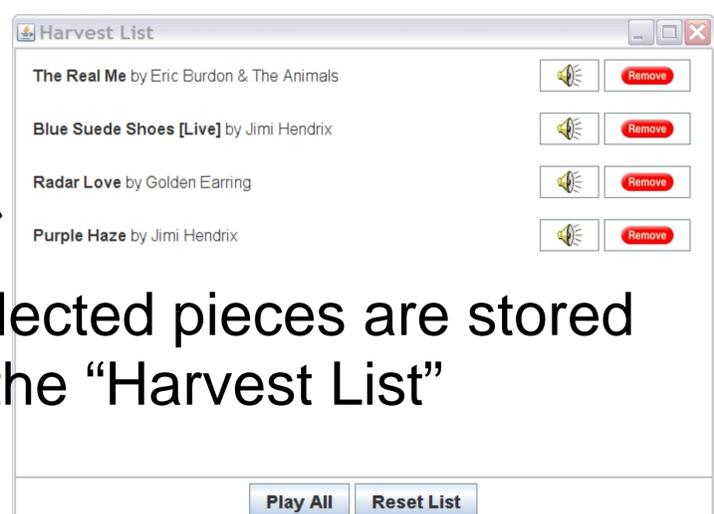
Find music pieces by typing a query



Listen to the music

Select the pieces you like

Selected pieces are stored in the “Harvest List”



Update the results based on the pieces you have selected