Search in audiovisual broadcast archives
Huurnink, B.

Citation for published version (APA):
Huurnink, B. (2010). Search in audiovisual broadcast archives

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
Conclusion to Part II

In Part II of this thesis we have explored the use of automatic methods to improve search in audiovisual broadcast archives. To this end, we defined two evaluation collections as a basis for our experiments. The collections were obtained from existing benchmarks, and were therefore already associated with queries, judgments, videos, and automatically derived metadata. We additionally enriched one collection with a large-scale unified multimedia thesaurus of 450 visual concepts, which we created by linking existing concept lexicons to a single large-scale ontology. We enriched the second collection by adding query sets derived from the information needs recorded in the transaction logs of a real-world audiovisual archive.

Detector-based search relies on the automatic labelling of video fragments with respect to a lexicon of semantic concepts. However, these lexicons of concepts remain restricted to a few hundreds or thousands of entries, providing us with a limited vocabulary of labels with which to search. Thus, selecting those visual concept detectors that can best help us to answer a given information need is a challenging problem. We proposed two methods for creating concept selection benchmarks that map individual queries to appropriate entries in a concept lexicon. One benchmark creation method is based on human agreement achieved through focus group experiments, and the other is based on back-generation of concepts relevant to a query from a labelled training collection. We found that while the two benchmarks do not always agree, both methods can be used to successfully identify the best performing concept selection methods for retrieval.

With transcript-based search, we use the transcriptions of the spoken dialog of a video for retrieval. We investigated the temporal mismatch between the mention of an item in transcripts, and its appearance in video, and found that items are more likely to appear after they are mentioned in transcripts than they are to appear be-
fore they are mentioned. By modeling the characteristics of temporal redundancy and incorporating them in a retrieval framework, retrieval performance can be significantly improved.

What is the potential of content-based video retrieval to answer the information needs of professional users of an audiovisual archive? When the information needs recorded in the logs are formulated in terms of a content-based video retrieval system, such a system can outperform the catalog-based search on manual annotations traditionally used by audiovisual archives. Even larger performance gains can be obtained by combining the two sorts of systems. Based on our results, we believe that content-based video retrieval will be essential to the audiovisual archive of tomorrow.