SEARCHING FOR VIDEOS ON APPLE IPAD AND IPHONE

Colum Foley, Jinlin Guo, David Scott, Paul Ferguson, Cathal Gurrin

School of Computing, Dublin City University, Glasnevin, Dublin 9, Ireland.
cfoley@computing.dcu.ie

ABSTRACT

In this demonstration we introduce our content-based video search system which runs as an *app* on the Apple iPad or iPhone. Our work on video search is motivated by the need to introduce content-based video search techniques, which are currently the preserve of the research community, to the larger YouTube generation. It was with this in mind, that we have developed a simple but engaging content based video search engine which uses an iPad or iPhone app as the front-end user interface. Our app supports the three common modes for content-based video search: text search, concept search and image-similarity search. Our iPad system was evaluated as part of the TRECVid 2010 evaluation campaign where we compared the performance of novice versus expert users.

Index Terms— Video search, iPad, iPhone

1. INTRODUCTION

Content-based video search is a maturing technology that has been researched and developed for several years, most notably through the TRECVid annual benchmarking workshops [1]. Advances in the field have moved video search beyond simple text search to sophisticated content-based access to video such as through query-by-example search or semantic concept search. At the same time the explosion of video sharing sites such as YouTube have brought video search to the masses, however, access to these videos is still very much at a text search level, while the more advanced content-based techniques remain the preserve of research labs. In our work we are interested in developing content-based video search engines that will appeal to the wider audience of video searchers, such as those people who search on YouTube. In this demonstration we introduce our video search system that supports access through a simple *app* that runs on the Apple iPad or iPhone. The iPad is a tablet PC and the iPhone a smart phone, they represent an engaging, relaxed mobile web browsing platform. With this in mind we have developed a content-based video search app which we feel is engaging and fun to use.
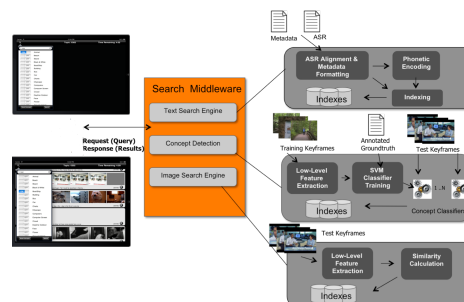
Fig. 1. System Overview

2. SYSTEM OVERVIEW

Figure 1 presents an overview of our search system with the iPad app. On the iPad, using simple touch commands users can enter search queries and receive responses in the form of a ranked list of videos.Videos are represented by frames selected at intervals from the video. Users can drag across each row to see more frames from the video and can scroll down to see more search results The back-end search engine runs as a web service on an separate laptop. It supports text search, concept search and query by example search. Text search represents a typical YouTube style search over the metadata, the system also supports search over the spoken words of the video. Concept search allows users to search for videos containing instances of certain concepts, examples of concepts include outdoor, people, animal. Concepts can be used in conjunction with a text search and in this case the concept results are used to boost the initial text search results to favour those videos containing the pertinent concepts. Users can initiate a query-by example search by selecting a frame from the UI with which to search the collection. Finally users can tap on any keyframe to begin playback of the video from that point.

3. REFERENCES

[1] Alan F. Smeaton, Paul Over, and Wessel Kraaij, "Evaluation campaigns and trecvid," in *MIR '06: Proceedings of the 8th ACM International Workshop on Multimedia Information Retrieval*, Santa Barbara, California, USA, 2006, pp. 321–330, ACM Press.