MBase: Indexing, Browsing, and Playback of Media at FXPAL

Lynn Wilcox, Shingo Uchihashi, Andreas Girgensohn, Jonathan Foote, John Boreczky

FX Palo Alto Laboratory
3400 Hillview Avenue, Palo Alto, CA 94304, USA
+1 650 813 6907
{wilcox, shingo, andreasg, foote, johnb}@pal.xerox.com

As video is used more and more as the official record of meetings and teleconferences, the ability to locate relevant passages or even entire meetings becomes important. To this end, we want to give users visual summaries and help them locate specific video passages quickly. Such a system is useful in any application that requires a quick overview of many videos, such as a video library or the results of a search engine.

We present techniques that use automatic feature analysis, such as slide detection and applause detection, to help locate a specific video and to navigate to regions of interest within it. As part of the FXPAL MBase system, we have implemented a web-based interface (Figure 1) that graphically presents information about the contents of each video in a collection such as its keyframes and the distribution of a particular feature over time. Comic book style summaries (Figure 2), called manga, provide single-page overviews of videos suitable for printing or web access. A media player is tightly integrated with the web interface. It supports navigation within a selected file by visualizing confidence scores for the presence of features and by using them as index points.

Further descriptions of some of the aspects of this system are available in [1, 2] and on our external web site:
http://www.fxpal.xerox.com/Smartspaces/mbase_home.htm

REFERENCES

[1] J. Foote, J. Boreczky, A. Girgensohn, and L. Wilcox, "An Intelligent Media Browser using Automatic Multimodal Analysis," in *Proc. ACM Multimedia*, pp. 375-380, Bristol, UK Sept. 1998.

[2] S. Uchihashi and J. Foote, "Summarizing Video Using a Shot Importance Measure and a Frame-Packing Algorithm," in *Proc. ICASSP '99*, Vol. 6, pp. 3041-3044, 1999.
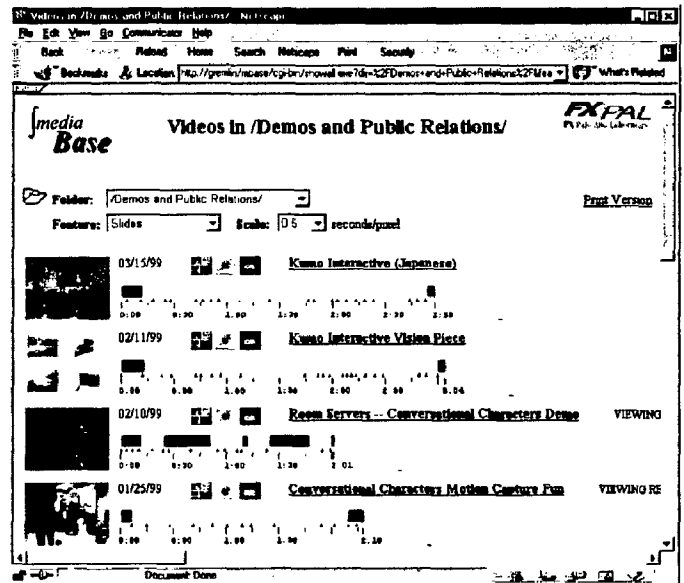
Figure 1. Web-based Interface for Browsing Video

Figure 2. An Example of the Comic Book Style Summary