The production of multimedia content has grown overwhelmingly in recent years due to decreasing hardware costs, inexpensive storage and ubiquitous high-bandwidth networks. In addition, the introduction of digital video is completely changing the landscape of the entire video value chain. The easy access and increased availability of multimedia is posing new challenges to manage the data. Image and video archives in broadcast studios, corporate archives of multimedia collaborative sessions, video conferencing sessions and educational videos all require tools for quickly locating video segments of desired content with transparent access. The market for such tools, known as media asset-management tools, has been growing rapidly. In this chapter we will discuss the general architecture and the tools for media content management. We will survey some of the techniques that employ methods of data management beyond traditional databases. We will discuss existing research prototypes and some commercially available systems. These systems enable applications that facilitate effective access, interaction, browsing and display of complex and inhomogeneous information consisting of images, video and audio.
INTRODUCTION

Over the last decade the prophecies of ubiquity of digital content have come true. As consumers we have become accustomed to ordering a CD along with our photos; we watch streamed video, although still jerky and not free of artifacts; we download MP3 files and get used to the benefits of a personal video receiver (recorder) or a DVD player. In the corporate world we have video training material, multimedia presentations and the ever-expanding documents and Web pages to organize information from online retailers. Content owners have already started serious initiatives to organize their content. For example, BBC’s digital archive initiative is planning to collect 600,000 hours in digital format. Content owners are looking into defining the right infrastructure and content archive architecture for new content creation, content re-purposing for online and on-demand applications, as well as for more traditional broadcast applications.

For this purpose there are three aspects:

• Media warehousing: Preservation of old content where assets are in danger of deteriorating and existing hierarchical storage options are changing. In the archive process re-engineering efforts are needed to derive the benefits of new technology. Format conversion is necessary into formats, which are electronically deliverable.

• Information access: Content archiving and authoring tools that take advantage of automatic and manual content abstraction and provide easy access to professional as well as naïve users are necessary. In addition, linking information on content rights management to the items in the archive is essential for wide adoption of the digital archives. Applications that access content archives can have different requirements with respect to the level of content representation, frequency of content updates, tolerance to latency and level of sophistication of search tools.

• Content delivery: Creating proprietary and public delivery systems for audio, video and stills is a big challenge especially with the unresolved bandwidth problem in the context of the existing variety of networks. The multimedia content could be stored in a distributed archive and require different access mechanisms and provision for interoperable tools and applications.

In some sense the history is repeating itself. During the emergence of data management systems, many of the storage and access issues were left to application developers. Having all the database management tools available for content management it still seems that the additional tools for indexing and
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