Chapter 1.23
Multimedia Digital Library as Intellectual Property

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ABSTRACT

The principal concern of this chapter is to provide those in the digital library community with the fundamental knowledge on the intellectual property rights and copyrights regarding multimedia digital libraries. The main objects of our discussion are the multimedia digital libraries with content-based retrieval mechanisms. Intellectual property rights are the only means for database designers to acquire their incentive of content collection and system implementation in database assembling. We outline the legal issues on multimedia digital libraries and retrieval mechanisms. As the protection of intellectual property rights is a critical issue in the digital library community, the authors present legal schemes for protecting multimedia digital libraries and retrieval mechanisms in a systematic, engineering manner.

INTRODUCTION

Digital library is the global information infrastructure in the networked society (Borgman, 2000). The rights protection of multimedia digital libraries and retrieval mechanisms is a critical issue in the digital library community that demands intellectual property schemes for recouping their investment in database design and system implementation. In this chapter, we describe the technical and legal issues on multimedia digital libraries and retrieval mechanisms as intellectual properties.

The purpose of this chapter is to discuss copyright and intellectual property rights on digital libraries from the designer/architecture perspective, which has not been discussed with sufficient attention at the present. The end-user perspective has been discussed as an important

element for users of information services, including librarians, in the context of copyright law on multimedia digital libraries. Its typical case is the public use of copyright for educational or academic service. Content creators of digital libraries have definitely enjoyed copyright enforcement over their works under that current legal scheme. However, the designers or architectures of multimedia digital libraries do not have proper foundations for their rights protection that is to be equivalent to the copyright protection. Under this designer/architecture perspective, we especially focus on content-based retrieval and its application to multimedia digital libraries. Content-based retrieval is a promising technique for networked multimedia digital libraries whose tremendous volume demands automatic indexing rather than manual indexing for retrieval operations.

The scope of this chapter is also restricted within the current standard of laws and cases for transnational transaction and licensing of digital copyright and intellectual property rights regarding multimedia digital libraries. Cultural diversity in the Asia-Pacific region allows a number of legislative differences in copyright and intellectual property laws. Meanwhile, digital content is the object of its worldwide transaction. The harmonization of its related rights is inevitable because a number of countries have joined international trade agreements on intellectual property rights. We need a clear and uniform standard with which the Asian-Pacific countries are able to keep up with the foregoing countries.

In this chapter, we discuss three current issues on multimedia digital libraries and intellectual property laws, and then present three types of intellectual property schemes, respectively. The first issue is copyright protection of indexed digital contents that are stored in digital libraries. Its corresponding scheme is for copyrighting multimedia digital libraries that are associated with keyword-based retrieval operations. The second issue is patentability of retrieval mechanisms. Its corresponding scheme is for patenting content-based retrieval processes in multimedia digital libraries. Finally, the last issue is the limitations of copyright in the advent of content-based retrieval. Its corresponding scheme is a promising direction, which leverages the *de facto* protection of multimedia digital libraries that are associated with content-based retrieval operations.

BACKGROUND

Intellectual property law gives incentive to advance appropriate investment in database design and implementation (Jakes & Yoches, 1989). However, present legal studies are not satisfactory as the source of technical interpretation of the intellectual properties regarding multimedia digital libraries and retrieval mechanisms. With the advent of content-based image retrieval (CBIR), we face novel issues on the right protection of multimedia digital libraries and retrieval mechanisms.

Multimedia digital libraries consist of digital contents and retrieval systems. The digital contents are copyrightable materials whose stakeholders are content creators. The retrieval systems are patentable processes of database designers.

The principal problem discussed in this chapter is restricted into the conflicting interests between content creators and database designers. Intellectual property lawyers in the area of digital libraries have somehow neglected this designer/architecture perspective. The issues related to the problem are found in three stages. First, copyright does not always solve conflicting interests between content creators and database designers. Content creators create copyrightable individual contents, for example, pictures and images. Database designers integrate the entire content of each multimedia digital library with indexes or metadata. The problem is deciding which component differentiates the entire content of each digital library as an independent object of right protection from its copyrightable individual

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