

Multimedia Encryption, Transmission and Authentication

Edited by

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Chapter 17

Wavelet Transform for Digital Images Watermarking

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17.1. INTRODUCTION

Internet evolution, along with the advancement of digital multimedia tools have create a major impact in making the storage and distribution of multimedia content a straightforward task. Issues on security have emerged and there is a vital need in protecting the digital content against counterfeiting, piracy and malicious manipulations. This paper describes the overview of digital watermarking technology, a relatively young research field considering that substantial interest began only in 1990's. Although history of watermarking applications backdated from the use of paper watermarks in the 13th century, this technology has emerged as a promising field in digital context, motivated by security concerns that became acute with advances in computer technology and the development of the Web [1].

17.2 HISTORY OF WATERMARKING

Although paper was invented in China over a thousand years ago, the Europeans only began to manufacture it in the 11th and 12th centuries, after Muslims had established the first paper mills in Spain. Soon after its invention, Chinese merchants and missionaries transmitted paper, and knowledge of papermaking, to neighboring lands such as Japan, Korea, and Central Asia. It was there that Muslims first encountered it in the 8th century. Islamic civilization spread knowledge of paper and papermaking to Iraq, Syria, Egypt, North Africa and finally, Spain [2].

Most accounts of the history of paper focus either on its origins in China or its development in Europe, and simply disregard the centuries when knowledge of paper and papermaking spread throughout the Islamic lands. Some of this neglect is due to the difficulty of studying Islamic paper, since Islamic papers, unlike later European papers, do not have watermarks and are consequently very difficult to localize and date [2]. This explains why the oldest watermarked paper found in archives dates back to 1292, in Fabriano, Italy. The marks were