



# **MULTIMEDIA AND ITS APPLICATIONS**

*Edited by*  
**Akram M. Zeki**



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## Application of Multimedia in Digital Watermarking

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### Introduction

The digital revolution has brought profound changes in information communication and data processing. Digital images are gradually replacing their classical analog counterparts. The Internet has become the most important source of information and it offers ubiquitous channels to deliver and exchange information. Digital images can easily be shared via the Internet and conveniently processed for queries in databases. Nowadays, we live in a digital and Internet world. For this reason, the security of multimedia data on the Internet has been a challenging topic (Yang, 2003).

Digital representation of signals has brought many advantages as compared to the analog representations; these include lossless recording and copying, convenient distribution over networks, easy editing and modification and durable, as well as easily reachable archival. Unfortunately, these advantages also present serious problems including a wide spread copyright violation, illegal copying and distribution, problematic authentication and easy forging. Piracy of digital photographs is already a common phenomenon on the Internet. Today, digital photographs or videos cannot be used in the chain of custody as evidence in the court because of the non-existence of a reliable mechanism for authenticating digital images or tamper detection. Nevertheless, information hidden in digital documents provides a means for overcoming those problems (Gulati, 2003).