

Journal of Computers

Special Issue on Digital Rights Management

FOREWORD

With the advance in information technologies, huge amount of digital multimedia, such as text, audio, image, video, etc. are being created and distributed via the Internet any time and anywhere. However, the risk of digital intellectual properties being large-scale unauthorized copied and distributed is also much increasing. Digital Rights Management (DRM) refers to technologies that support legal distribution of digital media while protecting appropriate property rights. It has become a crucial issue due to the increasing need for copyright protection in digital environment. Several technologies have been explored in the research field of DRM, such as encryption, digital watermarking, authentication, access control, etc. The objective of this special issue is therefore to propose some novel researches and applications of DRM. We have seven high quality papers included in this special issue. These papers are selected from many outstanding submissions after careful reviewing processes by the editorial committee of this special issue. The scope of these papers covers several DRM applications including copyright protection, tamper proofing, content authentication, and transaction management. In the first paper, Prof. Shinfeng D. Lin proposed a novel image tamper detection scheme by adding parity bits in the LSBs. The non-tampered regions can be restored loselessly by the reversible watermarking technique. In the second paper, Prof. Xin-Min Zhou introduced a zero-watermarking authentication scheme for Chinese text documents. The security of the scheme was further enhanced by using the chaotic encrypting algorithm. In the third paper, Prof. Chung-Ming Wang demonstrated a 3D data hiding algorithm for point-sampled geometry. Good experiment results showed in both high capacity and robustness. In the fourth paper, Prof. Da-Chun Wu proposed a perceptual fragile watermarking scheme for image verification and tamper proofing. A human visual model was employed in both embedding and verification processes. In the fifth paper, Prof. Jia-Hong Lee proposed a reversible data hiding scheme by transferring the color image palette information into corresponding grayscale image. In the sixth paper, Prof. Ching-Nung Yang designed an image library systems called Online Installment Payment Scheme (OIPS) based on the image secret sharing approach. The proposed OIPS makes it easier for customers to purchase and instantly download high-resolution digital images from Web site. In the last paper, Prof. Shih-Jeng Wang present a robust authentication method applied both cyclic redundancy check and hash function to detect stego-images while retaining high capacity of embedding information. We wish this special issue serve as good reference for beginner in this active research field. On behalf of the editorial committee, I would like to appreciate all the authors and reviewers for their great efforts and contributions to this special issue. I am also grateful to the editorial committee members for their excellent contributions.

Thank you very much for your interest on this special issue.

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