

Journal of Computers

Special Issue on Visual Cryptography and its Applications

FOREWORD

Visual Cryptography is a special encryption method to hide information in images in such a way that it can be decrypted by the human visual system if the correct key image is applied. It needs neither cryptography knowledge nor complex computation. For security concerns, it also ensures that hackers cannot perceive any clues about a secret image from individual cover image. Since Naor and Shamir proposed the basic model of visual cryptography, researchers have published many related studies. Most of earlier studies concentrate on binary images. In the past ten years, many scholars have tried to propose various schemes for processing gray-level and color images. Moreover, some of them focus on creating meaningful shares for the secret image and the others try to solve the pixel expansion and complex computation problems. Therefore, we need a forum for researchers to share their experiences in visual cryptography and to further foster research in these areas.

The objective of this special issue is to present research and developments in various aspects of visual cryptography and its applications by bring together their research results concerning the relevant topics. We hope that this special issue would encourage the interested computer scientists in Taiwan to enter into this promising and active research area. After a very careful reviewing process, the editorial committee accepts six outstanding papers, among many highly qualified submissions, to be included in this special issue. The first paper, by Prof. Li Li and his research team from Hangzhou Dianzi University, presents a watermark copy attack based on the principle analysis. The second paper, by Prof. Li Li and his research team from Hangzhou Dianzi University, proposes a redundancy removal method for bill images.

The third paper, a work by Prof. Hui-Wen Liao, and her student, from Ling Tung University, proposes a multiple watermarking scheme for gray-level images by using visual cryptography and integer wavelet transform. The fourth paper, a joint work by Prof. Shyong Jian Shyu and his student, from Ming Chung University, explores the tradeoff between share size and security in visual cryptography for mobile devices environment. The fifth paper, a work by Prof. Shang-Kuan Chen, from Yuanpei University, proposes a 2 out of 3 visual multiple secret sharing method using generalized random grids. The final paper, a joint work by Prof. Gwoboa Horng and his research team, from National Chung Hsing University, and Hsiuping Institute of Technology, proposes a share authentication mechanism based on cheating prevention in Naor-Shamir's visual cryptography.

On behalf of the editorial committee, I would like to express my sincere thanks to all authors and reviewers for their great contribution to this special issue. I would also like to thank the editorial committee members for their excellent helps. Finally, I am grateful to Professor Chin-Chen Chang, the Editor-in-Chief, and the editorial staffs, for their kind helps. Without all of their great contribution and help, it is impossible to have this special issue.

Chia-Chen Lin Guest Editor

Department of Computer Science and Information Management
Providence University
No. 200, Chung-chi Road, Taichung City 43301, Taiwan
E-mail: mhlin3@pu.edu.tw