Image Library Systems: A Novel Installment Payment for Buying Images on the Web

Ching-Nung Yang*, Yao-Yu Yang, and Chih-Yang Chiu

Department of Computer Science and Information Engineering
National Dong Hwa University
Hualien 974, Taiwan, ROC
cnyangu@mail.ndhu.edu.tw

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Abstract. Most image library systems develop Web sites to speed up searching, downloading and buying processes for customers. Except the e-commerce capabilities (such as the instant access, the e-payment, the online download, the convenience, the content variety, etc), a web-based image library should offer more attractive services to gain popularity. In this paper, we propose an online installment payment scheme (OIPS) based on the image secret sharing approach. The proposed OIPS gives customers a novel and useful payment plan that if one cannot pay in full to purchase the high-resolution images one may pony up a buck for each low-resolution image from the Web site to preview. After making a full payment, a customer can reconstruct all high-resolution images accompanied with a certificate for protecting the copyright of owner's rights.

Keywords: digital image library, installment payment, image secret sharing, copyright protection

References

- [1] U.S. Fish and Wildlife Service's Online Digital Media Library, URL: http://images.fws.gov.
- [2] New York Public Library Digital Gallery, URL: http://digitalgallery.nypl.org.
- [3] National Gallery Picture Library, URL: http://www.nationalgalleryimages.co.uk.
- [4] A. Shamir, "How to Share a Secret," Communications of the Association for Computing Machinery, pp.612-613, 1979.
- [5] C.C. Thien and J.C. Lin, "Secret Image Sharing," Computers & Graphics, pp. 765-770, 2002.
- [6] C.C. Lin and W.H. Tsai, "Secret Image Sharing with Steganography and Authentication," *Journal of Systems & Software*, pp. 405-414, 2004.
- [7] C.N. Yang, T.S. Chen, K.H. Yu, C.C. Wang, "Improvements of Image Sharing with Steganography and Authentication," *Journal of Systems & Software*, pp. 1070-1076, 2007.
- [8] C.C. Chang, Y.P. Hsieh, C.H. Lin, "Sharing Secrets in Stego Images with Authentication," *Pattern Recognition*, pp. 3130-3137, 2008.
- [9] P.Y. Lin, J.S. Lee, C.C. Chang, "Distortion-free Secret Image Sharing Mechanism Using Modulus Operator," *Pattern Recognition*, pp. 886-895, 2009.

^{*} Correspondence Author