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Survey on relational database watermarking techniques (Article)

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Abstract

Digital watermarking has been in multimedia data use over the past years. Recently it has become applicable in relational database system not only to secure copyright ownership but also to ensure data contents integrity. Further, it is used in locating tampered and modified places. However, the watermarking relational database has its own requirements, challenges, attacks and limitations. This paper, surveys recent database watermarking techniques focusing on the importance of watermarking relational database, the difference between watermarking relational database and multimedia objects, the issues in watermarking relational database, type of attacks on watermarked database, classifications, distortion introduced and the embedded information. The comparative study shows that watermarking relational database can be an effective tool for copyright protection, tampered detection, and hacker tracing while maintaining the integrity of data contents. In addition, this study explores the current issues in watermarking relational database as well as the significant differences between watermarking multimedia data and relational database contents. Finally, it provides a classification of database watermarking techniques according to the way of selecting the candidate key attributes and tuples, distortion introduced and decoding methods used. © 2006-2016 Asian Research Publishing Network (ARPN).

Author keywords

Attacks; Database watermarking; Digital watermarking; Relational databases; Watermarking techniques

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