RRW: A Novel Watermarking Technique for Relational Data

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Abstract

In real world, a huge amount of data of various forms such as audio, video, text, etc. is transmitted over internet. In relational database, it is easy to recover structured data but difficult to recover unstructured data. These databases are used in collaboration for extracting information. However they are vulnerable to security threats and malicious attacks. Watermark Technique is used to recognize pattern and identify authenticity of data[1]. Watermarking techniques provides ownership protection over relational database and prevents the data from getting corrupted, but such methods are not resilient and hence the system uses a robust and reversible watermarking technique which provides watermark encoding and decoding. Robust means resilient to any attacks. Reversible watermarking technique ensures data quality with data recovery and also prevents the data from being tampered. Though any changes are made to the data by the attacker (like insertion, deletion, alteration), data is fully recovered with the use of robust and reversible watermarking techniques. Robust and reversible Watermarking Techniques has provided security to the digital data by marking the data which is unique and
can be used for claiming ownership of data. Using Genetic algorithm feature analysis and selection is done and then a watermark is created. After that the data is passed to the attacker channel where attacks take place, but due to Robust and Reversible Watermarking technique, data is recovered completely without any loss.

References


Index Terms

Computer Science  Security

Keywords

RRW, Watermark, Robust, Reversible, Relational Database, Recovery.