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SECURING RELATIONAL DATABASES USING HIGH-LEVEL WATERMARKING TECHNIQUES

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Abstract

Securing ownership rights is based on the strict embedding of a robust legal watermark in relational database. Watermark data encoding is based on an algorithm called Single-bit encoding. But this technique is easily accessible for known hackers. We are implementing the Duplicate Scheduling Heuristic Algorithm (DSH) in addition to single bit encoding in watermark embedding process of the data to provide more secure transformation of the data. We implemented a proof of concept implementation of our watermarking technique and showed by experimental results that our technique is resilient to tuple deletion, alteration, and insertion attacks. A watermark describes information that can be used to prove the ownership of data such as the owner, origin, or recipient of the content.

Key Words: Watermarking, Duplicate Scheduling Heuristic (DSH) technique, Digital rights, Optimization.