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RRW- Robust and Reversible Watermarking Technique for Relational Database

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Abstract – *In advanced computer technology is playing an increasing role in information systems comprising relational databases[1]. These databases are used in collaborative environments for information extraction consequently. Reversible watermarking is ensure data quality along-with data recovery. It is vulnerable to security threats concerning ownership rights However, some techniques are usually not robust against malicious attacks then they do not provide any mechanism to selectively watermark a particular attribute. Therefore, the reversible watermarking is required as watermark encoding and decoding and original data recovery in the presence of active malicious attacks in digital world . In this paper, robust and semi-blind reversible watermarking (RRW) technique is only use numerical relational data for encryption.*

Key Words: **Robust and Reversible Watermarking, GA algorithm, data recovery, numeric data.**

1. INTRODUCTION

In digital world, data is increasing use of the Internet and cloud computing [1]. Data is stored in different digital formats such as video, audio ,images and relational data . The purpose is collaborative environment and make data openly available for knowledge extraction and decision making. Example like as walmart is the large multinational retail corporation that has made its sales database available openly over the Internet so that it may be used for the purposes of identifying market trends through data mining. The Watermarking techniques have historically been used to ensure security of ownership protection for security in digital world.

Reversible watermarking techniques can ensure thar data recovery along with protection. Fingerprinting, data hashing, serial codes. Fingerprints also called transactional watermarks, are used to monitor and identify ownership using watermarking.
Digital watermarking is multimedia content is more commonly used in digital word.

In Data recovery option in which original data can be recovered by removing the watermark information from watermarked data. In reversible watermarked data suffers from distinct data tampering attack.

I] Data insertion attack, ii) Data deletion attack, iii) Data modification attack.

Reversible watermarking objectives are given as

i] Relational Data ownership Preservation
ii) Relational Data quality degradation due to watermark embedding.
We use non-numeric or string data.

II. Drawbacks of the current system

The previous and current irreversible watermarking having some drawbacks which are as follows:

- Data containing personal information related to customers using certain Walmartvideo services was stole.
- The 46 % of organizations do not consider security and privacy issues while sharing their confidential data.
- Organizations have to face data loss repeated.

III. PROJECT OBJECTIVES

- Watermark encoding and decoding is the role of all the features in knowledge discovery in digital world
- In previous irreversible watermarking does not recover fully data or correct data.
- In reversible watermarking, we can recover the original data in the presence of active malicious attack.
- Data quality and data recovery are more accurate in reversible watermarking.

IV. Proposed Methodology & Implementation

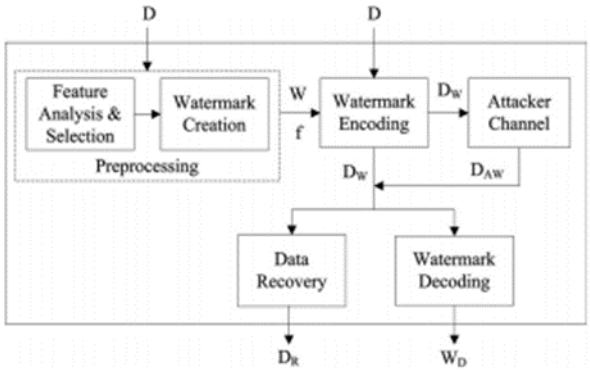

Fig-1 previous System

Advantages of Proposed System

- Recovers all data.
- Fingerprinting, data hashing, serial codes are use for prevention of ownership.
- Fingerprints also called transactional watermarks, It is use to monitor and identify digital ownership by watermarking .

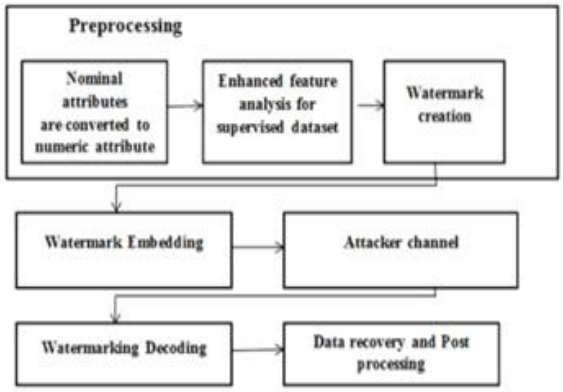

Fig -2.Proposed System

PROPOSED SYSTEM ALGORITHMS:

In reversible watermarking, we can use genetic algorithm for create a watermark.

Genetic algorithm an optimization algorithm is the robust and reversible watermarking technique (RRW) is to achieve an optimal solution that is feasible for the problem or not. The Genetic Algorithm is Difference Expansion watermarking (GADEW) technique is used in a proposed robust and reversible solution for relational databases.

In watermark encoding algorithm are starts the embedding process with the most significant bit MSB of the watermark and for this purpose the algorithm works with one tulle at a time. The watermark decoding algorithm as watermark decoder Z. the data is recover using data recovery algorithm.

Constrained optimized Fitness function

- In the proposed system, the GA is populated with a constrained fitness function to acquire an optimal change in data.
- They will ensure the data quality and resources while embedding the watermark. The values of chromosomes are used to decide which action will be performed on selected feature.
- The optimized value is computed through the GA is used for regeneration of original data.

V. ADDITIONAL FEATURE

- In irreversible watermarking, most of the data encryption is working manually.
- Number of data in database is high, and then the problem of availability of database is low.
- Then, proposed system, we can graphical view of encryption and decryption data.
- Customer can encrypt data working automatically.
- In reverible watermarking , we can use real time database

VI. CONCLUSION

The reversible watermarking techniques are used they are recover original data from watermarked data and ensure data quality to some extent. After evaluation of RRW is done where watermark is detected with maximum decoding accuracy in different attacks. The main work is that it allows recovery of a large portion of the data even after being subjected to malicious attacks.

VII. REFERENCES

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