Abstract

Cryptography and Steganography are two techniques commonly used to secure and safely transmit digital data. Nevertheless, they do differ in important ways. In fact, cryptography scrambles data so that they become unreadable by eavesdroppers; while, steganography hides the very existence of data so that they can be transferred unnoticed. Basically, steganography is a technique for hiding data such as messages into another form of data such as images. Currently, many types of steganography are in use; however, there is yet no known steganography application for query languages such as SQL. This paper proposes a new steganography method for textual data. It encodes input text messages into SQL carriers made up of SELECT queries. In effect, the output SQL carrier is dynamically generated out of the input message using a dictionary of words implemented as a hash table and organized into 65 categories, each of which represents a particular character in the language. Generally speaking, every character in the message to hide is mapped to a random word from a corresponding category in the dictionary. Eventually, all input characters are transformed into output words which are then put together to form an SQL query. Experiments conducted, showed how the proposed method can operate on real examples proving the theory behind it. As future work, other types of SQL queries are to be researched including INSERT, DELETE, and UPDATE queries, making the SQL carrier quite puzzling for malicious third parties to recuperate the secret message that it encodes.
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A Generation-based Text Steganography Method using SQL Queries

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Index Terms

Computer Science  Security

Keywords

Steganography  Text Steganography  SQL Queries