Text Steganography through Quantum Approach with SSCE Code

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Steganography maintain the security of the secret data through a communication channel, which causing attempts to break and reveal the original messages. In this paper, a text steganography technique has been proposed with the help of Bengali language. Text steganography including quantum approach based on the use of two specific characters and two special characters like invited comas (opening and closing) in Bengali language and mapping technique of quantum gate truth table have been used. The authors introduced a new code representation technique (SSCE - Secret Steganography Code for Embedding) at both ends in order to achieve high level of security. Before the embedding operation each character of the secret message has been converted to SSCE Value and then embeds to cover text. Finally stego text is formed and transmits to the receiver side. At the receiver side different reverse operation has been carried out to get back the original information.

Keywords: Cover Text, Quantum Steganography, SSCE (Secret Steganography Code for Embedding), Security, Stego Text, Text Steganography.

1. INTRODUCTION

Information hiding is the ability to prevent or hidden certain aspects from being accessible to others excluding authentic user. It has many sub disciplines. One of the most important sub disciplines is steganography [1], [2]. Steganography diverges from cryptography in the sense that where cryptography focuses on keeping the contents of a message secret by encryption technique, steganography focuses on keeping the presence of a message secret.

A hidden channel could be defined as a communications channel that transfers some kind of information using a method originally not intended to transfer this kind of information. Observers are unaware that a coverted message is being communicated. Only the sender and recipient of the message notice it. Steganography works have been carried out on different media like images, video clips, text, music and sound [3],[4].
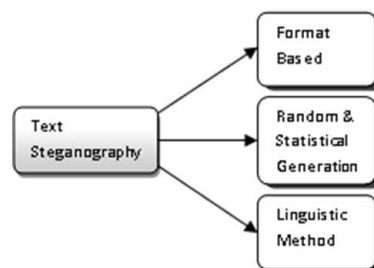

Figure 1. Type of Text Steganography

The most difficult kind of steganography is text steganography or linguistic steganography because due to the lack of redundant information in a text compared to an image or audio. The

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