

A SURVEY : INFORMATION SECURITY USING STEGANOGRAPHY & CRYPTOGRAPHY

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ABSTRACT

Today, the people have so much frequently utilization on Internet for their day to day life so that now it's required to so much security for that. So security is important for information transaction. Here the two topic has been disused in that one is information and another is the security. In order, provide the security for information. This paper proposes Information security with using of stegnography and cryptography. By this two method, I am creating a double (two) time security one before encryption and another after the decryption that is hide to more the information. I use my own DTA (Double Time Algorithm) for security in Steagnography and cryptography to hide the information (text, Image etc.). This purposed system provides high-level security for information transaction.

Keyword : Steganography, Cryptography, Security, DTA, Encryption, decryption etc.

1. INTRODUCTION

As we know that the Internet is one of the most important factors of information technology, so security has been the major aspect for communication and for that we need a secured system which gives the assured security of data to us. Cryptography was created as a technique for securing the secrecy of communication and many different methods have been developed to encrypt and decrypt data in order to keep the message secret. Unfortunately it is sometimes not enough to keep the contents of a message secret, it may also be necessary to keep the existence of the message secret. The technique used to implement this, is called steganography. It is the art and science of invisible communication. This is accomplished through hiding information in other information, thus hiding the existence of the communicated information. Today steganography is mostly used on computers with digital data being the carriers and networks being the high speed delivery channels. Steganography differs from cryptography in the sense that where cryptography focuses on keeps in the contents of a message secret, steganography focuses on keeping the existence of a message secret. The LSB algorithms used for image

steganography to illustrate the security potential of steganography for business and personal use.

2. LITERATURE SURVEY:-

2.1 In the Year 2016, Vasanth.S, Dhikhi.T have been performed a worked “**Secure Data Transmission Using Steganography And Encryption.**” In this paper they has been proposed the necessities of an awesome statistics hiding set of rules and the technique has its vicinity in at ease information communiqué. Steganography is the information hiding method which comes underneath the belief that if the function is visible, the factor of attack is obvious, as a result the aim right here is continually to difficult to understand the very life of the embedded information.

2.2 In the Year 2016, Mr. A. Balasubramani etc. have been performed a work “**Sliced Images and Encryption Techniques in Steganography Using Multi Threading For Fast Retrieval**” Has been presented at two level image security scheme consists of steganography and encryption technique is proposed and implemented. It is enhanced by deploying thread based concept using effective mining techniques and more suited for multicore processors with improved speed. The steganography is implemented using Open CV parallel threads, which are more effective and offer improved performance using multithreading scheduler

2.3 In the Year 2016, Mr. Shruhad Kumar J. Patell, Nikunj V. Tahilraman etc have been performed a work. “**Information Hiding Techniques: Watermarking, Steganography.**” They have been summarized the speech watermarking and steganography techniques. Classification of different techniques for both watermarking and steganography is done in this paper. We believe that this paper might be useful for researchers who are interested in information hiding techniques like watermarking and steganography.

2.4 In the Year 2016, G.Sateesh, E.Sai Lakshmi, M.Ramanamma, K.Jairam, A.Yeswanth etc. have been performed a work “**Assured Data Communication Using Cryptography and Steganography**” has been proposed the concept of combination of cryptography and steganography. The proposed method provided a higher similarity between the cover and stego pictures is achieved that also yields a better imperceptibility. As per the results obtained, steganography when combined with encryption provides a secured means of secret communication between two parties. The future work could be to extend the work further by considering videos, advanced, cryptography and steganography algorithms in this concept.

2.5 In the year 2016, Sandip Bhasme, Arvind Abu, Kaustubh Gandhi etc. have performed a work “**Visual Cryptography and Steganography Techniques for Secure E-Payment System**” They have been presented A secure E-payment system for online shopping is proposed by combining steganography and visual cryptography that provides customer data minimizing and prevents misuse or fraud of data at merchant’s side.customer data security or avoiding the identify theft this method is concerned. In comparison to other banking application which uses steganos and visual cryptography are basically applied for physical

banking, the proposed method can be applied for E-Commerce with focus area on payment during online shopping as well as physical banking.

2.6 In the Year 2016, Mrs. Aparna G. Korde etc. have been presented “**Crypto-Steganography: An Information Security Tool for a Cloud Environment**” a very comprehensive review of the conventional approaches and techniques used in the security of transmitted data over the cloud has been given. The survey has been carried out related to both steganography and cryptography that ensures security but lacks in some way or the other as far as their individual capabilities related to coverage of all the security principles are concerned. So, in order to overcome the lack of coverage of all the principles of security in those algorithms, a new algorithm has been proposed that would satisfy all the basic principles of security. This study will be helpful for the security challenges that the people face in the usage and implementation of cloud computing.

2.7 In the Year 2016, Palwinder Singh etc. have been proposed “**A Comparative Study of Audio Steganography Techniques**” to provide better protection to data over network many steganography techniques have been developed by researchers. The availability and popularity of digital audio signals have made them a preferred choice of researchers to convey secret data. So in this paper comparative study of different audio steganography techniques and their approaches is presented. The different techniques on the basis of some parameters like strengths, weaknesses, Embedding technique, hiding rate have been discussed in the Table 2 given above. Audio steganography techniques can also be combined with existing cryptography methods so along with encryption information can also be made hidden. The advantage of one technique over other depends upon the type of application and its requirements.

2.8 In the year 2015 As per Abhilasha Ramdas Bhagat, A. Prof. Ashish B Dhembhare etc. have been performed a work “**An Efficient and Secure Data Hiding Technique – Steganography**”. Has been proposed the property of the human visual system with existing LSB steganography technique. BPCS-steganography increases the level of security and hiding capacity. Gray coding provides a better way of identifying which regions of the higher bit planes can be embedded. Thus it guarantees secret and secure internet communication. We observed that this steganography is a very strong information security technique, especially when in combination with encryption embedded data. Future research will include the application to vessels other than colored images, identifying and formalizing the customization parameters, and developing new applications for increasing hiding capacity of carrier.

2.9 In the Year 2016, Prof. Mrs. S. Y. Kanawade Vikas Nagare etc. have been performed a work “**Secured Wireless Communication through Zigbee using Cryptography and Steganography.**” Steganography is powerful and effective for communication of secret data. For the image steganography various methods have been proposed. A method that hides the secret messages in the image using Matlab. Matlab is not only a programming language, but a

programming environment as well. It is provide more security for secret communications. Thus the capacity of the hiding process to hide secret messages is also high in the proposed.

2.10 In the Year 2016, 1Xinyi Zhou, 2Wei Gong, 3WenLong Fu, 4LianJing Jin have been performed wok “**An Improved Method for LSB Based Color Image steganography Combined with Cryptography.**” the image hiding method in this paper combine the cryptography and information hiding. On the one hand, by using information hiding does not change the visual characteristic of cover image; we can embed secret information in another public image and transfer. On the other hand, by using digital signature and encryption technology of cryptography, we can make the unauthorized users can not know the location of the embedded secret information, so that the secret information cannot be extracted. The effective combination of the above two means further improves the security of information hiding.

3. PROBLEM

As I am studying the so money journal papers but that paper can fully solve the problem of security and it has so many merits and demerits

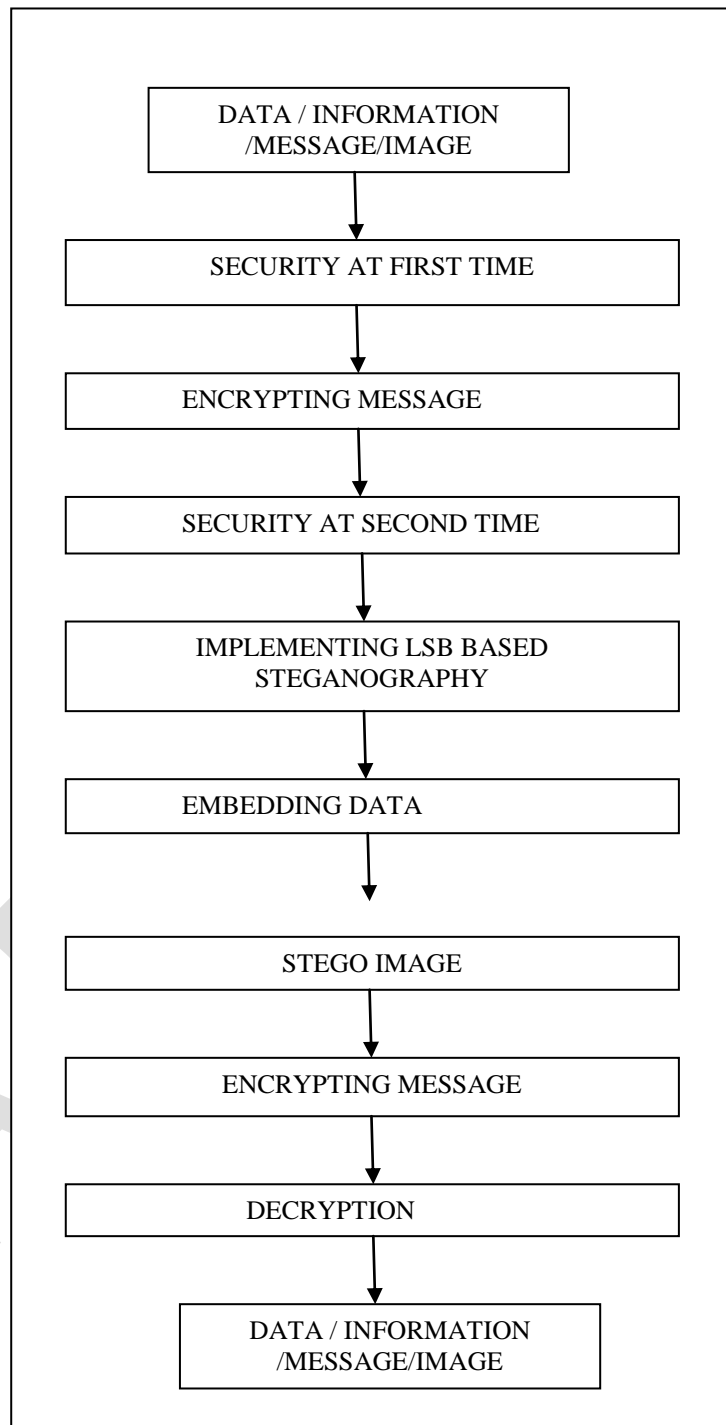
- 1) It's not provide the fully control on various type Network
- 2) It's not provide the control of Wi-Fi ,wi-max open network.
- 3) If the signal is Encrypted then it's can be hacked.

4. OBJECTIVE

Our objective those by the technique of steganography and cryptography to more emphasizes on security of data and provide two level of security one is before the encryption and other before decryption. The communication media through which we send data does not provide data security, so other methods of securing data are required. Therefore, security and privacy has become an important thing. Over the last few years, several security algorithms have been proposed, applied and tested in the literature with their strengths and weaknesses. This paper states the technique that exists for information hiding and how these can be combined to provide another level of security.

5. METHODOLOGY

In this paper I am propose the method for data hiding using steganogarchy technique. according my proposed work algorithm is given bellow.



Input: Embed the message.

Output: Message is embedded safely in an image and reconstructed properly

.Begin

- 1) Message.
- 2) Security at First time
- 3) Encrypting message.
- 4) Security at Second time
- 5) Implementing LSB based steganography
- 6) Embedding data.
- 7) Stego Image
- 8) Extraction of embedded message.
- 10) Encrypted message generation.
- 11) Decryption.
- 12) Original Message.

End

7. CONCLUSION

The survey has been carried out related to both steganography and cryptography that ensures security but lacks in some way or the other as far as their individual capabilities related to coverage of all the security principles are concerned. So, in order to overcome the lack of coverage of all the principles of security in those algorithms, a new algorithm has been proposed that would satisfy all the basic principles of security.

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