Patent Search

Invention Title	DESIGN AND DEVELOPMENT OF MULTI-LAYERED SECURITY SYSTEM USING CRYPTOGRAPHY AND STEGANOGRAPHY
Publication Number	11/2023
Publication Date	17/03/2023
Publication Type	INA
Application Number	202341016440
Application Filing Date	12/03/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	CHEMICAL
Classification (IPC)	C11B 090000, G06F 211000, G06Q 202400, G06T 010000, G09C 050000

Inventor

Name	Address	Country
Mr. A. Raghuvira Pratap	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Engineering College Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Ms. Macharapu Madhavi	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Engineering College Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Ms. Velavolu Sravanthi	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Siddhartha Engineering College, Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Mr. Chitri Rami Naidu	Assistant Professor, Department of Computer Science and Engineering, Sagi Ramakrishnam Raju Engineering College, Sagi Ramakrishnam Raju Marg, Amiram, Bhimvaram - 534204, Andhra Pradesh, India	India
Mrs. Y. Meghamala	Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500043, Telangana, India	India
Mr. Mandala Rajkumar	Assistant Professor, Department of Computer Science and Engineering, Sri Indu College of Engineering and Technology, Sheriguda Ibrahimpatnam, Hyderabad - 501510, Telangana, India	India
Dr. I. V. Prakash	Associate Professor, Department of Electronics and Communication Engineering, Pallavi Engineering College, Kuntloor, Hyderabad – 501505, Telangana, India	India
Mr. Syed Muqthadar Ali	Senior Assistant Professor, Department of Computer Science and Engineering CVR College of Engineering, Vastunagar, Mangalpalli (V), Ibrahimpatnam (M), Rangareddy (D), Telangana - 501510, India	India
Mr. V. Rakesh	Assistant Professor, Department of Information Technology, B. V. Raju Institute of Technology, Narsapur, Medak – 502313, Hyderabad, Telangana, India	India
Dr. A. Ugendhar	Associate Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad - 501506, Telangana, India	India

Applicant

Name	Address	Country
Mr. A. Raghuvira Pratap	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Engineering College Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Ms. Macharapu Madhavi	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Engineering College Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Ms. Velavolu Sravanthi	Assistant Professor, Department of Computer Science and Engineering, Velagapudi Ramakrishna Siddhartha Engineering College, Chalasani Nagar, Kanuru, Vijayawada - 520007, Andhra Pradesh, India	India
Mr. Chitri Rami Naidu	Assistant Professor, Department of Computer Science and Engineering, Sagi Ramakrishnam Raju Engineering College, Sagi Ramakrishnam Raju Marg, Amiram, Bhimvaram - 534204, Andhra Pradesh, India	India
Mrs. Y. Meghamala	Assistant Professor, Department of Electronics and Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500043, Telangana, India	India
Mr. Mandala Rajkumar	Assistant Professor, Department of Computer Science and Engineering, Sri Indu College of Engineering and Technology, Sheriguda Ibrahimpatnam, Hyderabad - 501510, Telangana, India	India
Dr. I. V. Prakash	Associate Professor, Department of Electronics and Communication Engineering, Pallavi Engineering College, Kuntloor, Hyderabad – 501505, Telangana, India	India
Mr. Syed Muqthadar Ali	Senior Assistant Professor, Department of Computer Science and Engineering CVR College of Engineering, Vastunagar, Mangalpalli (V), Ibrahimpatnam (M), Rangareddy (D), Telangana - 501510, India	India
Mr. V. Rakesh	Assistant Professor, Department of Information Technology, B. V. Raju Institute of Technology, Narsapur, Medak – 502313, Hyderabad, Telangana, India	India
Dr. A. Ugendhar	Associate Professor, Department of Computer Science and Engineering, Guru Nanak Institutions Technical Campus, Ibrahimpatnam, Hyderabad - 501506, Telangana, India	India

Abstract:

The Internet as a whole does not use secure links, thus information being transmitted may be vulnerable to interception as well. The importance of reducing the char information being detected during transmission is a major issue. A solution to be discussed is how passing of information can be done in a manner that the very exis message is unknown. Encryption avoids passive attacks (reading) and by steganography, the message becomes undetectable. We make use of AES algorithm and Lea Bit (LSB) technique for hiding messages in an image. We have enhanced the LSB technique by randomly dispersing the bits of the message in the image and thus mal for an unauthorized person to extract the original message. The AES provides a good security as it takes considerably much more time to break by the brute force me given key length. The proposed methodology is proved good and produced expected output.

Complete Specification

Description:FIELD OF INVENTION

This paper presents multiple-layered securities by combining steganography with cryptography under the scope of information hiding, and both image and audio steganography are used to obtain a more robust security system. Firstly, the different approaches of steganography and cryptography are discussed, and comparis drawn between them. Secondly, the design of the dual-layered security system is presented. The algorithms for this work are based on the Least Significant Bit steganography and AES cryptography. The code has been implemented in C# and visual studio 2010 due to its object encryption/decryption abilities. Under the pro of the system, if an attacker detects that steganography is being used, the embedded message cannot be read due to file encryption. Finally, Matlab analysis of the and stego media quality effects are presented, proving the robustness of this type of security implementation.

BACKGROUND OF INVENTION

Cryptography and Steganography are often interrelated and share the common goals and services of protecting the confidentiality, integrity and availability of infor which are some of the most important fields in computer security. Cryptography and steganography are methods of transferring private information and data thro open network communication, so only the receiver who has the secret key can read the secret messages which might be documents, images or other forms of data Cryptography and steganography also contribute to Computer Science, particularly, in the techniques used in computer and network security for access control anc information confidentiality. They are also used in many applications encountered in everyday life. Despite the differences between Cryptography and Steganograph systems the requests for them have increased recently for the fast development of the Internet publicly.

SUMMARY

View Application Status