**IT Inventory Management System**

IMAGE AND TEXT ENCRYPTION APP FOR SECURING INTERNAL TRANSFER

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#### Abstract:

In the form of text, audio, videos and photographs, the Internet is a commonly used tool to exchange details. The long-distance exchange of information on a wide network needs encryption to secure the information from unauthorized access. The reliability of the network plays an important role in protecting data on an insecure network. Many encryption solutions have been discovered to protect the data on the network, and recent creative encryption schemes have been in demand since e-commerce ,e-banking and multimedia technologies are viewed on a regular basis on the internet. Cryptographic coding methods have lately been used primarily to protect unauthorized access to knowledge on an insecure network. Image encryption techniques are commonly used by all cryptographic techniques to transmit photos on an insecure network.The purpose of this paper is to demonstrate the few encryption techniques that are used on an insecure network to encrypt the image. To encrypt the image, this paper proposes a new encryption technique. The suggested approach encrypts the image using AES algorithm which took text encrypt it in 128 bits to 256 bits, it makes a key of encryption using password and then convert in into binary and then made an AND function on it then perform some more operations to encrypt it using hashing.

#### Introduction:

In the present age of communication there is the need of high level data security for the prospective of data communication. In this regard there is the need of image and text data security also. The encryption of text and images has become the very important and necessary component in our daily life to accomplish our security tasks. To share the information resource among the people who look for solution must have to be connected to each other to facilitate the security process. . Encryption is a process of hiding the data, where it converts the original text and image into cipher text. Encryption uses different methods to encrypt the data into different form. But with the increase growth of multimedia application, security is an important aspect in communication and storage of image and text and encryption is the way to ensure security .Our app consists of encryption of image and text which can allows users to send data more securely and save it from hacker attacks.

***Objectives:***

Our aim is to provide the security of data. The main objective is to provide a text and image encryption mechanism which provides high security level. Less computational time and efficient way to deal with bulky, difficult and intractable data. The application must be simple, easy to use and powerful. Many factors have to be considered in order to develop the application such as processing speed of image, the strength of encryption result and ease of use to end users.

***Problem Description:***

The problem of hacking of data has become more and more common over the internet. Nowadays almost all data is transferred over the computer networks using internet and it has increased the attacks over the internet. Before transmitted data it has to be encrypted for security so that it cannot be attacked by various attackers. Cryptography is a science of protection of data by encoding it into unreadable form. It is useful way of protecting the important information by using both encryption and decryption process. The encryption and decryption process depend on the key value it is called hashing. Our app consists of encryption of image and text which can allows users to send data more securely and save it from hacker attacks.

***Scope of project:***

The scope of this project is focus on targeted user, transferred images and communication.

* The scope of the project is to limit unauthorized access and provide better security during text and image transmission.
* Ensuring that no one can access the data except the intended receiver.
* In which sender and receiver included. Sender will encrypt images that turn the images to cipher image and receiver will decrypt image to get the original images.

***Requirements:***

Module: Security Management

User can secure the images and text without any difficulty. User can send data in a secure way.

***Tools/Technology:***

* React Native
* Node JS
* SQLITE

**LITERATURE REVIEW**

A new medical imaging safety and security policy was introduced for Viswanathan P, Venkata Krishna.p [l]. The author used the traditional FED watermarking system for security purposes. The Fingerprint, Coding and Dual Watermarking System method is used for securing Teleradiology. The fingerprint algorithm you propose would be used to retrieve the fingerprint picture along with the watermarking of the image encryption. The fingerprinting algorithm offers a new technique for testing and verifying the identity of the patient.

(2) Cheng And Li proposed a novel solution called partial encryption, in which a secure encryption algorithm is used to encrypt only part of compressed data. It allows the encryption and decryption time to be significantly reduced without affecting the compression performance of the underlying compression algorithm.(3)Podesser, Schmidt and Uhl Selective bit plane encryption using AES is proposed. Several experiments were conducted on 8 bit grayscale images, and the main results retained are following: (i) encrypting only the MSB is not secure; a replacement attack is possible (ii) Encrypting three bit planes gives very hard visual degradation. This scheme is not tunable as fix number of bits are encrypted.(4) Engel and Uhl proposed JPEG2000 lightweight encryption scheme . Only lower resolutions are compressed with classical dyadic wavelet transform. For higher resolutions, the algorithm relies on a secret transform domain constructed with anisotropic wavelet packets (AWPs). The aim of this proposal is to allow transparent encryption for applications requiring low-resolution preview.(5) Nidhi S Kulkarni, Balasuramanian and Indra Gupta: Proposed encryption technique reduces intelligent information in an image by scrambling the image first and then changing the pixel values. The scrambling arrangement is done with the help of a random vector and the pixel values are changed by a simple substitution method which adds confusion and diffusion property to encryption technique.(6) Hammed A younis,Turki Y Abdalla and Abdulkareem Y Abdalla proposed only 6.25%-25% of the original data is encrypted for four different images, resulting in a significant reduction in encryption and decryption time. (7)Chuman and Kiya suggested encryption-then compression (EtC) systems for the privacy protection. Their main motivation is to evaluate the security of block scrambling based encryption schemes. Despite the fact that this plan has enough key spaces for ensuring savage power assaults, each square in encoded pictures has nearly indistinguishable connection from that of unique pictures. In this way, it is required to think about the security from various perspectives from number hypothesis based encryption techniques with provable security, for example, RSA and DES. (8) Awudong and Li suggested that the single chaotic encryption method is not sufficient for the current data security. Another picture encryption conspire is composed by consolidating calculated mapping, sine mapping and DNA encoding. Test results demonstrate that this technique has Fast encryption speed, expansive key space, solid against assault capacity, great strength, reversible encryption strategies and it additionally delicate to beginning worth. Aryal et al.

1. (9)proposed a block-permutation-based encryption (BPBE) method with reversible data hiding (RDH). Histogram shifting (HS) have been used for RDH. The BPBE method was used for the encryption. The BPBE strategy performs four procedures for encryption, to be specific, square scrambling, square rotation inversion, negative positive change, and the shading segment rearranging. The proposed calculation is executed on the connected picture from a substantial database. In this way, the quantity of the isolated squares can be expanded, and the shading scrambling of the encoded picture is expanded.(10)Thabit: Proposed methodology included various clouds that will be available for use by the user. But before using cloud computing service user to register, during user registration you will need to choose the encryption algorithm and then the user enters the security key to be used to encrypt the data for this user only. After the end user registration process will get to know different keys that can be used to encrypt/decrypt the data that the user will be stored via cloud.(11)Otaibi and Gutub: Proposed safe image data using a combination of several encryption techniques and permutations, they purposed of their work present security in the pictures, which is the main purposed of the system data increase. The images file encryption and decryption data encryption done in such a way that makes it convenient for users.(12) Barazanchi et al:looks at the fundamentals of cryptography and reflects on the evolution of RSA and increasing the sophistication of the secret system to create a more secure in programs. We will focus on the Hash function in this venture by introducing certain flexibility to the 3keys (3k) This implementation would improve the application’s safety and sophistication while keeping the encryption and authentication times the same. The study also outlines how cryptography can be used to improve cryptography. Furthermore, the RSA method generates dual protection.

**References**

[1] P. Viswanathan, Member, P. Venkata Krishna, "A Joint FED Watermarking System using Spatial Fusion for Verifying the Security issues of Teleradiology", IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS, pp. 1-12,2013.

**(1)**Cheng And Li:Cheng Li is a Chinese-American scholar specializing in Chinese elite politics and contemporary Chinese society; he has served as the director of the John L. Thornton China Center at the Brookings Institution since 2014, replacing Kenneth Lieberthal in the role.