IMAGE STEGANOGRAPHY

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Abstract: Steganography is an art of hiding information into digital objects such as images. To the viewer looking at such images, the information is invisible. For example, an image might contain a company's plan for a secret new product. Thus, the files might be exchange without knowing what really lies inside. The word Steganography comes from the Greek steganos (covered or secret) and graphy (writing or drawing) and thus means literally covered writing.

Our project first gets the data and that the data is attached to the image in such a way that it does not destroys the views of the image. The color, appearance and other attributes of the image is not damaged or damage may be very negligible in case of the secret message is large in volume. Then the image file can be transferred or mailed to others. The algorithm for detaching the message from the image is written to get back the secret information.

1.Introduction: The Art of Hiding the Message Behind the Image. It is like placing two locks to a Single Door. Steganography is of hiding information into digital objects such as images. To the viewer looking at such images, the information is invisible. For example, an image might contain a company's plan for a secret new product. Thus the files might be exchange without knowing what really lies inside. The word Steganography comes from the Greek steganos (covered or secret) and graphy (writing or drawing) and thus means literally covered writing.

2.Scope of the project: This is a web-based application developed using java. The technology used in this system is Javaand My-SQL as back-

end database. This system is developed for securely sending encrypted messages.

End users access web-based applications through a web browser on a light- weight desktop while this software and user data is stored on servers. In this system there are two type of module Registration & Authentication process.

3.System Proposal: On running the application, a login form turns up, allowing the user to enter the username and password. Theform provides three buttons-register, login, and close. If the user is already a registered one, then clicking on the "login" buttonwould advance him to the first phase of login as a textual password. If the user is not a registered member, then it will pop up amessage box conveying "username doesn't exist". Thus, in order to make use of the application, the person must register itself.The proposed scheme involves two sessions:

A. Admin session

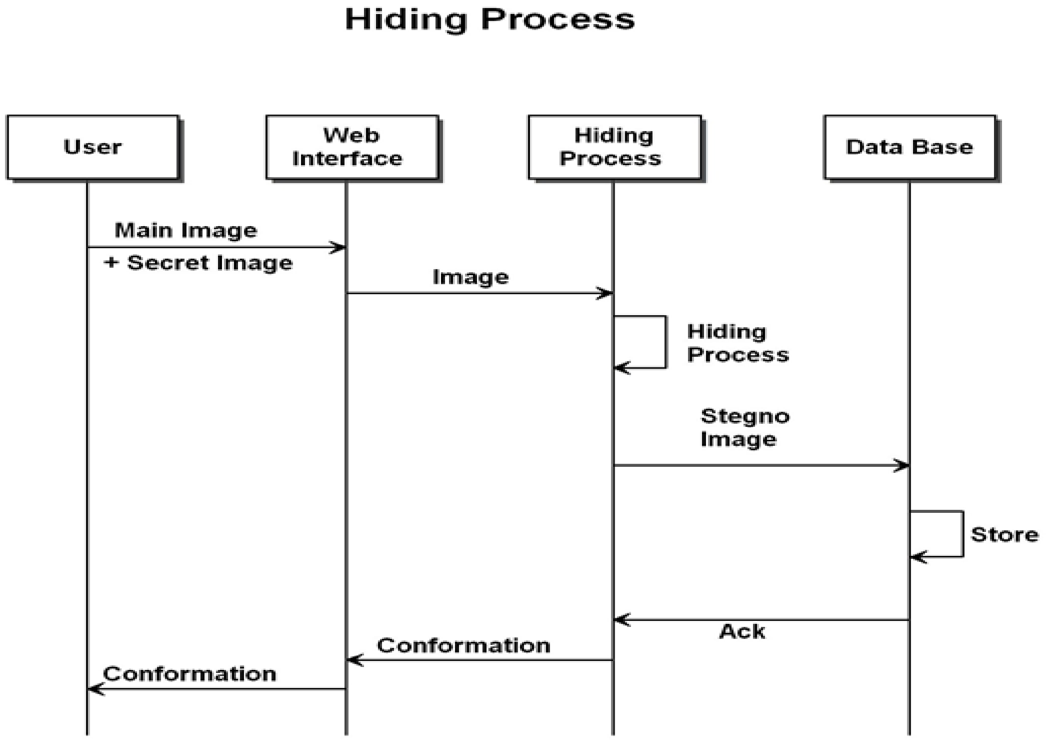
B. User session.

A.Admin session: Firstly, the admin needs to do login into the application successfully and choose an image which need to be assigned to the user. Further the admin chooses the imager and assigns it in unencrypted format.In admin account the admin is able to control the accounts of various users.

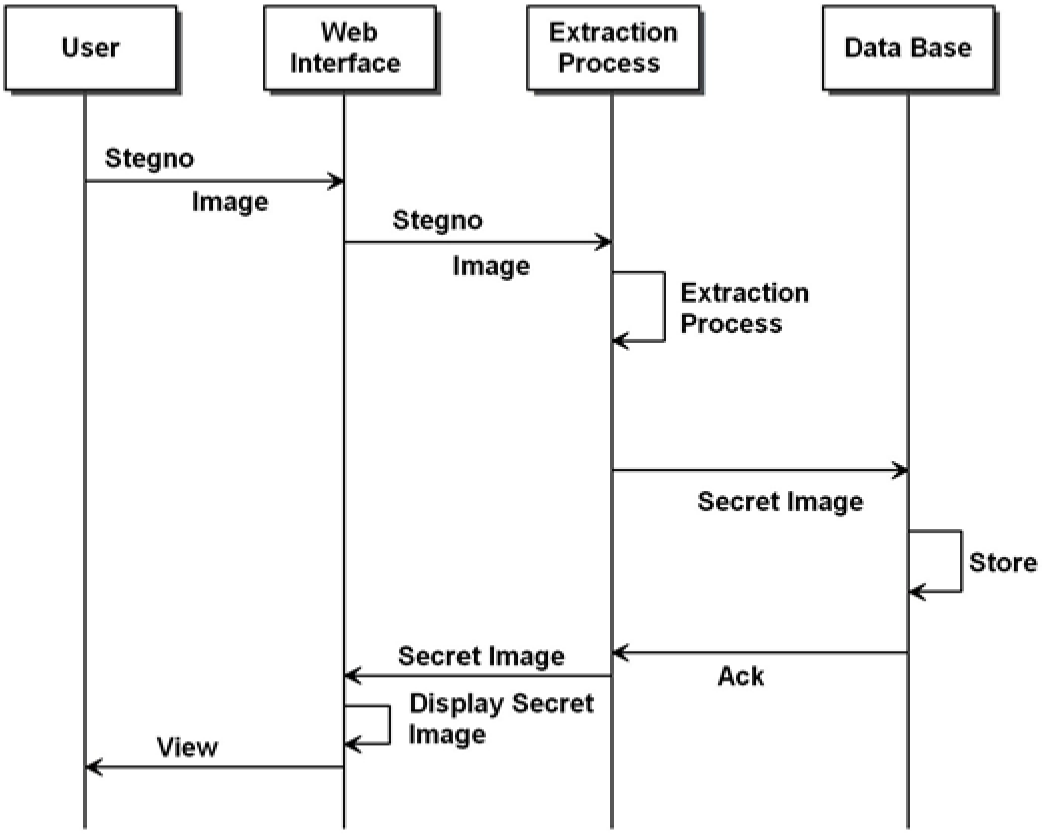
B. User session: If the user is new to the system, firstly he needs to register his credentials into the system, only after which he will be able to login into the mail delivery system and use it further. Once the user is successfully logged in to the system, he has a variety of options available such as inbox, sent mail, compose mail. Further he has a choice to choose various images provided by the admin in order to hide the secret message into the image.

On running the application, a login form pop ups allowing the user to enter the username and password. The form provides three buttons-register, login, and close. Ifthe user is already a registered one, then clicking on “login” button after filling username and password block.System will check the given data from database, if username exist then otherwise generate a message box conveying“username doesn’t exist”.

4.SYSTEM WORKFLOW OF THE PROPOSED SCHEME:



Extraction Process



5. Proposed System: While commonly thought of as messages hidden in pictures it is not limited to justpictures, although this is one the common uses, but messages can be embedded in any number of digital media types. It can even be embedded into sound files.

Usually a steganographic message will appear to be something else: a picture, an article, a shopping list, or some other message - this is referred to as the covertext or in the case of digital file- the carrier.

It is important to understand that steganography is very different than cryptography and the two are often confused. With cryptography, encryption is the process of obscuring information to make it unreadable without some type of special knowledge. In this case the message is not concealed just scrambled or obscured.

The obvious advantage of steganography over cryptography is that messages do not attract any attention. A coded message that is unhidden, no matter how strong the encryption, will arouse suspicion and may in itself be problematic. For example, in some country's encryption is illegal. Stego may even be mixed with encryption so the carrier file actually carries a message that is encrypted. So even if intercepted, another barrier is presented in trying to break the encryption.

A common form of steganography is the use of BMP files (a computer image) to hide the message. A BMP is a commonly used standard method of lossy compression for photographic images. The file format which employs this compression is commonly also called Bitmap or DIB file; the most common file extensions for this format are .bmp or.dib. Research is already underway to create systems that can detect secret files or messages hiding within digital images.

6.Disadvantages of the Existing System

The purpose of cryptography is to transmit info in such some way that access to that is restricted entirely to the meant recipient.

Originally the protection of a cryptotext trusted the secrecy of the whole encrypting and decrypting procedures; but these days we tend to use ciphers that the algorithmic program for encrypting anddecrypting might be unconcealed to anybody while not compromising the protection of a specific cryptograph.

In such ciphers a group of specific parameters, known as a key, is equipped along with the plaintext as associate degree input to the encrypting algorithmic program, and along with the cryptographas an input to the decrypting algorithm.

The encrypting and decrypting algorithms square measure in public announced; the protection of the cryptograph depends entirely on the secrecy of the key, and thiskey should accommodate any willy-nillychosen, sufficiently long string of bits.

Oncethe key's established, succeeding communication involves causation cryptograms over a public channel that is prone to total passive eavesdropping (e.g. Public announcement in mass-media).

However so as to determine the key, two users, United Nations agency share no secret info at the start, should at a definite stage of communication use a reliable and a awfully secure channel.

Since the interception could be a set of measurements performed by the auditor on this channel, but troublesome this may be from a technological purpose of read, in essence any classical key distribution will forever be passively monitored, while not the legitimate users being aware that any eavesdropping has taken place.

7.Conclusion:

In this paper I have introduced some techniques to encrypt text inside an image. The strengths and the weaknesses of either system was evaluated with special focus on the security and usability of each. One key factor that was noted in this paper is the critical needfor further examination and testing of steganographic systems. This is especially important as encryptedmail systems are used to securemore and more of our everyday computer systems. Security, especially cyber security is one of the major concerns of our timewith access to sensitive information like personal records and banking details being secured by passwords and encryption standards like SHA256.

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