Cryptography and Network Security (MC - 407)

Hiding Messages in Images using Combination of Cryptography and Steganography

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Overview

Cryptography has become fairly advanced these days and there are several different protocols/algorithms/ciphers etc. that we can use, and steganography is considered a fairly redundant science as hiding information or security by obscurity is not considered secure enough and doesn't offer the same resilience or strength as a normal cryptographic cipher.

In this project I want to combine Cryptography and Steganography and create an application that can hide messages in images.

Specifications

So, basically i want to create a web application where a user will be able to select an encryption/decryption Algorithm and enter the key for the encryption algorithm. The user will add an image and a message that the user wishes to encrypt and then use steganography to store the encrypted message from the key.

Similarly the user can also decrypt and find the message using an image, if he has the key and is aware of the encryption algorithm used. Using the application people can share encrypted images with each other and decrypt them.

There are already several ways of image steganography available in the market like LSB (Least Bit Steganography), but in my application I will not only showcase steganography but also various symmetric key algorithms and their functionality covering all Ciphers from the Behrouz A. Forouzan Book.

See example cipher implementations here.