Digital Image Cryptography

Project overview

The need to secure and reliable means of communication containing images and videos have become extremely necessary. Accordingly, network security and data encryption issues are considered as a significant subject. Currently, images are considered as the most important source of information. The applications of image and video encryption can be used in various fields like wireless communication, multimedia systems, medical imaging, telemedicine, and military communication. The secret image can be sent to the intended person, and at the other end the person can decrypt the secret image to get the original image.

Problem definition

The popularity of digital images has increased security problems in storing or transmitting vital images. Secret image sharing techniques preserve image securely by sharing secret image among shared images and then recovering the secret image from shared images. The project will be implemented using python language and standard dataset will be considered.

We will implement this project using sequential coding and we will try to implement the same using parallel programming for the better performance so that we reduce the processing time for encryption and decryption of the image.

Objectives

Cryptography aims to protect the content of digital image during transmission and to be able to recover its content in receiver's side with sufficient level of accuracy. The strength of encryption and decryption system increased with increasing the randomness and hiding the natural properties to encrypted image.

Scope

Visual cryptography is one of the techniques used to encrypt the images by dividing the original image into transparencies. The application provides an option to the end user of encryption. The end user can divide the original image into number of different images