CONFIMESSAGE

END TERM REPORT BY:

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Steganography :

Steganography is the process of hiding a secret message within a larger one in such a way that someone can not know the presence or contents of the hidden message.

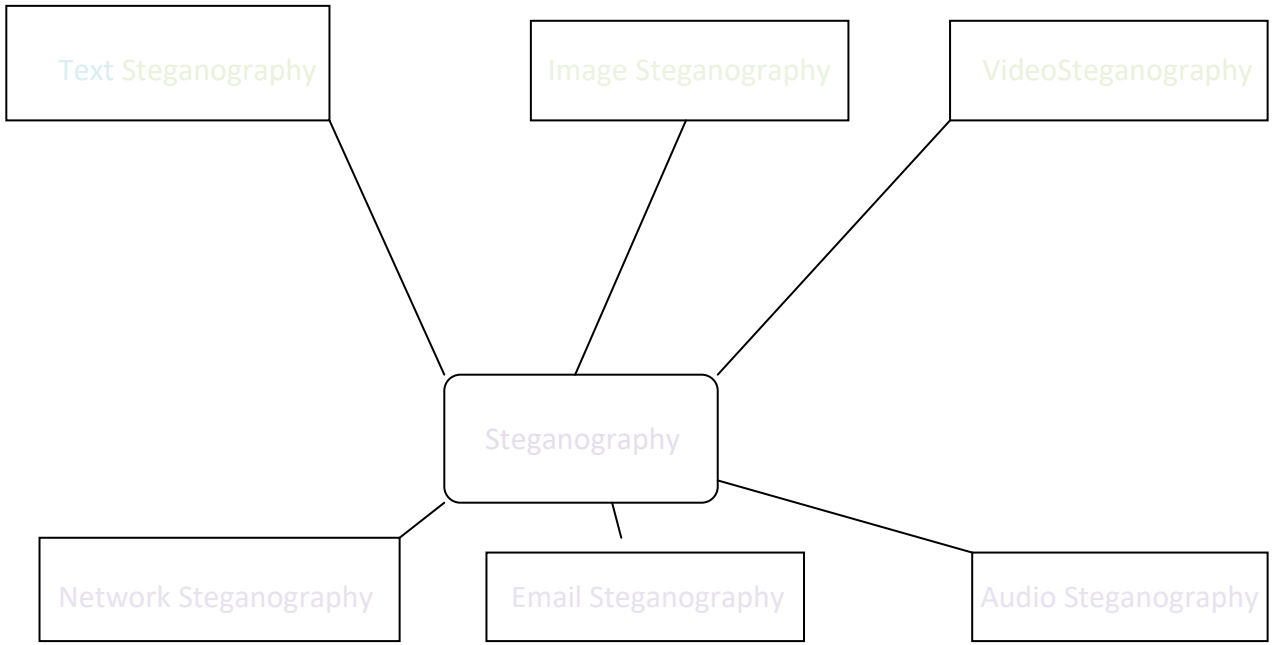
The purpose of steganography is to maintain secret communication between two parties.

Steganography conceals the very fact that a message is communicated

Types of Steganography

Steganography works have been carried out on different transmission media like images,video,

Text,or audio.



Least Signifiant Bit Steganography

We can describe a digital image as a finite set of digital values,called pixels. Pixels are the smallest individual element of an image,holding values that Represent the brightness of a given color at any specify point.So we can Think of an image as a matrix of pixels which contains a fixed number of rows And columns.

LSB is a technique in which the last bit of each pixel is modified and replaed With the secret messages data bit.

R : 1 0 1 1 0 1 1 1

G : 1 1 0 1 1 0 0 1

B : 1 0 1 0 0 1 0 0

How LSB technique works?

Each pixels contains three values which are red,green,blue,these values range from 0 to 255,in other words,they are 8 bit values .suppose we want to hide the message "hi" into 4*4 image.Using the ASCII table we an convert the secret message into Decimal values and then into binary : 0110100

Funtion to convert data into binary,we will use this to convert secret data

And pixel values to binary in the encoding and decoding phase

```
[ ]  def messageToBinary(message):
       if type(message) == str:
         return ''.join([ format(ord(i), "08b") for i in message ])
       elif type(message) == bytes or type(message) == np.ndarray:
         return [ format(i, "08b") for i in message ]
       elif type(message) == int or type(message) == np.uint8:
         return format(message, "08b")
       else:
         raise TypeError("Input type not supported")
```

Funtion that takes the input image name and seret message as input from user and

Calls hidedata to encode the message

```
# Decode the data in the image
def decode_text():
  # read the image that contains the hidden image
  image_name = input("Enter the name of the steganographed image that you want to decode (with extension) :"
  image = cv2.imread(image_name) #read the image using cv2.imread()

  print("The Steganographed image is as shown below: ")
  resized_image = cv2.resize(image, (500, 500))  #resize the original image as per your requirement
  cv2_imshow(resized_image) #display the Steganographed image

  text = showData(image)
  return text
```