JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA, SECTOR-62

Information Security Lab

REPORT

IMAGE BASED STEGANOGRAPHY

SUBMITTED TO:

Dr. AASTHA MAHESHWARI

BY:

TEAM MEMBERS (B6 BATCH):

- ***TANUSH (22103157)***
- ***SAUMIL GUPTA (22103179)***
- ***KARAN NAVEEN SOOD (22103180)***

(5th Semester)

TABLE OF CONTENT

INTRODUCTION

Steganography is the technique of hiding secret data within an ordinary, non-secret, file or message in order to avoid detection; the secret data is then extracted at its destination. The use of steganography can be combined with encryption as an extra step for hiding or protecting data.

It refers to the process of hiding data within an image file. The Image selected for this purpose is called the cover image and the image obtained after steganography is called the Stego Image.

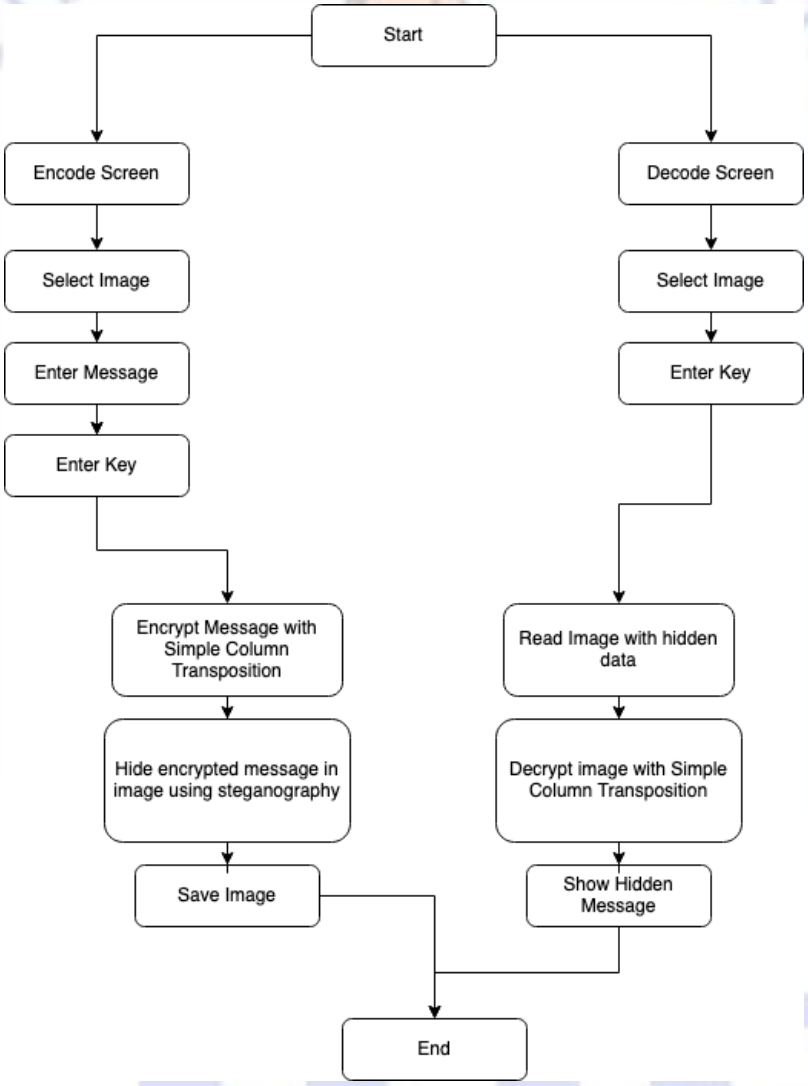
Cryptography is the study of secure communications techniques that allow only the sender and intended recipient of a message to view its contents. It is closely associated with encryption, which is the act of

scrambling ordinary text into what's known as ciphertext and then back again upon arrival.
As the privacy issues are rising day by day in modern days, it’s unsafe to simply leave our important messages and texts. With encryption our message is secured, for further encryptions we have added steganography on the encrypted text. We have used Columnar Transposition Cipher Technique to encrypt our message for which we require a key apart from the text.

ABSTRACT

Our Project aims to take text messages and a key as input to hide messages on an image specified which can only be decrypted by providing the key which the user has entered earlier while encrypting the message in order to provide full security and privacy to the message of the sender.

FLOWCHART



FUNCTIONALITIES

The purpose of this project is to provide the correct data with security to the users. The aim of the project is to hide the message in an image using Columnar cipher algorithm.

NON-FUNCTIONAL REQUIREMENTS

- Security
- Reliability
- Performance
- Maintainability
- Scalability
- Usability

TOOLS AND TECHNOLOGIES USED

1. Python
2. Vs code
3. Tkinter
4. Pillow
5. IO
6. OS

OUTPUTS

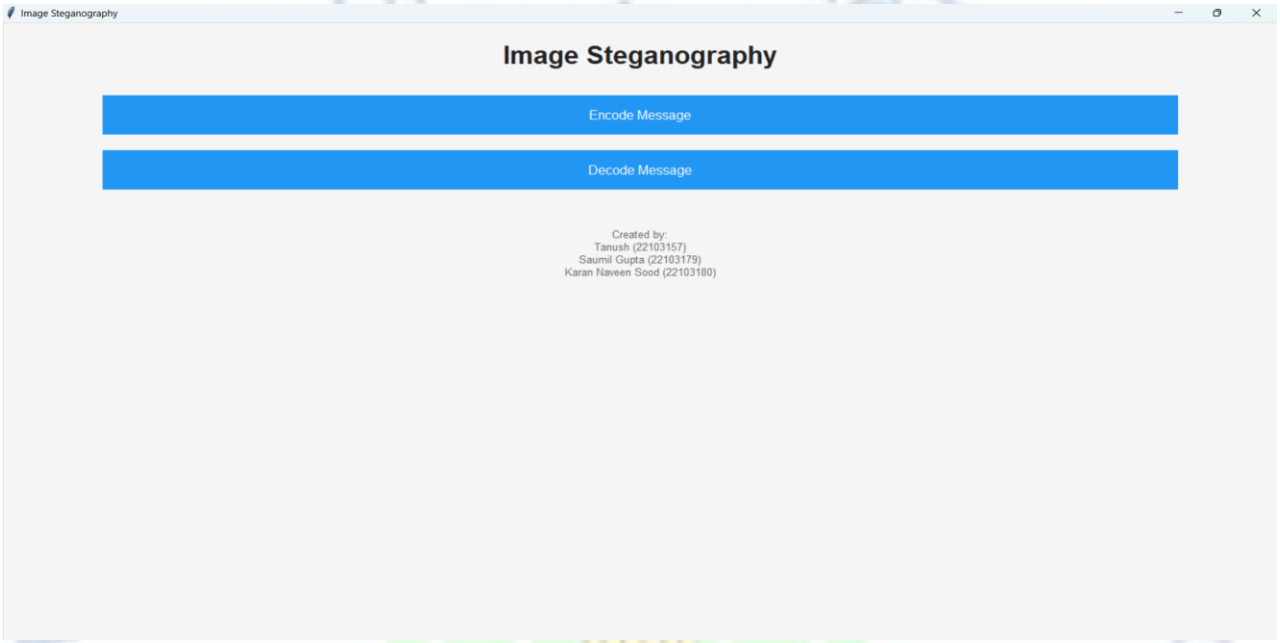


Image Steganography
Image Steganography
Encode Message
Decode Message
Created by:
Tanush (22103157)
Saumil Gupta (22103179)
Karan Naveen Sood (22103180)

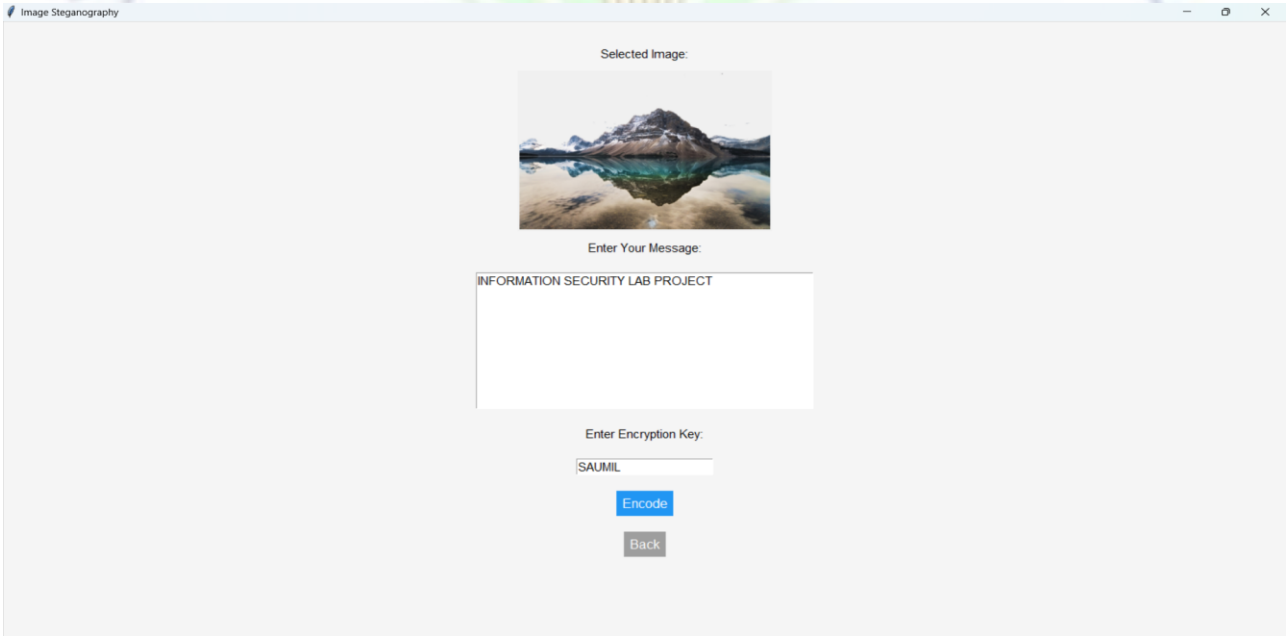
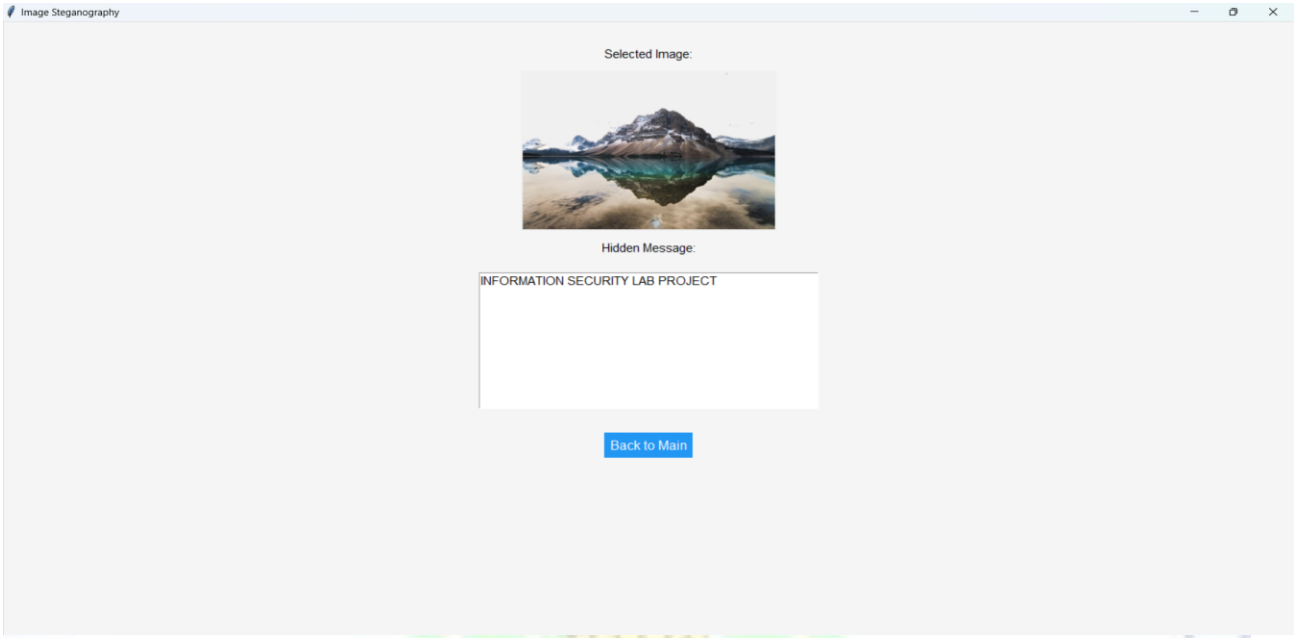


Image Steganography
Selected Image:
Enter Your Message:
INFORMATION SECURITY LAB PROJECT
Enter Encryption Key:
SAUMIL
Encode
Back



REFERENCES

https://www.geeksforgeeks.org/columnar-transposition-cipher/

https://www.techtarget.com/searchsecurity/definition/steganography/

https://www.geeksforgeeks.org/image-steganography-in-cryptography/

https://www.mygreatlearning.com/blog/image-steganography-explained/