

PRESENTATION - 5

What Is OpenStego and Steganography?

Steganography is the practice of concealing information within another file or medium to prevent detection. Unlike cryptography, which scrambles data, steganography hides its very existence.

OpenStego is a free, open-source tool designed for digital steganography. It allows users to:

Hide data within image files (e.g., embedding a secret message in a JPEG).

Watermark files with invisible signatures to detect unauthorized copying

Learning Outcomes

By using OpenStego, learners and practitioners can:

Understand the principles of steganography and how it differs from encryption.

Gain hands-on experience with hiding and extracting data from image files.

Explore digital watermarking as a method of copyright protection.

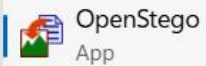
Evaluate the security and limitations of steganographic techniques.

Apply ethical hacking skills in cybersecurity labs or forensic investigations.

- | • Tool/Resource | Purpose |
|---|---|
| • OpenStego software | Main application for data hiding and watermarking (Download here) |
| • Cover file (e.g., image) | The file that will conceal the hidden data |
| • Message file (e.g., text) | The secret data to be embedded |
| • Java Runtime Environment (JRE) | Required to run OpenStego on most systems |
| • Computer with GUI | OpenStego has a graphical interface for ease of use |

- 1. Download and Install OpenStego Visit openstego.com and download the latest version. Install it on your system (requires Java Runtime Environment).*
- 2. Prepare Your Files Cover File: Choose an image (e.g., .png, .jpg) that will hide your message. Message File: Create a text file (.txt) with the secret message or data you want to embed.*






Best match



OpenStego

App




Search the web

-  openstego - See more search results >
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-  openstego **download for windows 10** >
-  openstego **github** >



OpenStego

App

-
-  Open
 -  Open file location
 -  Pin to Start

3. Launch OpenStego

Open the application. You'll see two main tabs: Data Hiding and Watermarking.

4. Select "Data Hiding" Tab

This mode allows you to embed secret data inside an image.

5. Choose Your Files

Input Cover File: Browse and select the image file.

Message File: Browse and select the text file containing your secret message.


Output Stego File: Choose a name and location for the new image that will contain the hidden data.

6. Set Password (Optional)

You can set a password to encrypt the hidden data for added security.

7. Click "Hide Data"


OpenStego will process the files and generate a new image with the embedded message.


 OpenStego

File


Help


Data hiding


 Hide data

 Extract data

Digital watermarking (Beta)

 Generate signature

 Embed watermark

 Verify watermark

Hide data in harmless looking files

Message file

C:\Users\amoli\OneDrive\Desktop\Extract file\Amyyy.txt

...

Cover file

(Select multiple files or provide wildcard (*, ?) to embed same message in multiple...

C:\Users\amoli\OneDrive\Desktop\Extract file\Lily.png

...

Output stego file

C:\Users\amoli\OneDrive\Desktop\Extract file\send.png

...

Options

Encryption algorithm

AES128

Password

●●●●●●●●●●

Confirm password

●●●●●●●●●●

Hide data



OpenStego



File Help

Data hiding



Hide data



Extract data

Digital watermarking (Beta)



Generate signature



Embed watermark



Verify watermark

Extract hidden data

Input stego file

C:\Users\amoli\OneDrive\Desktop\Extract file\send.png

...

Output folder for message file

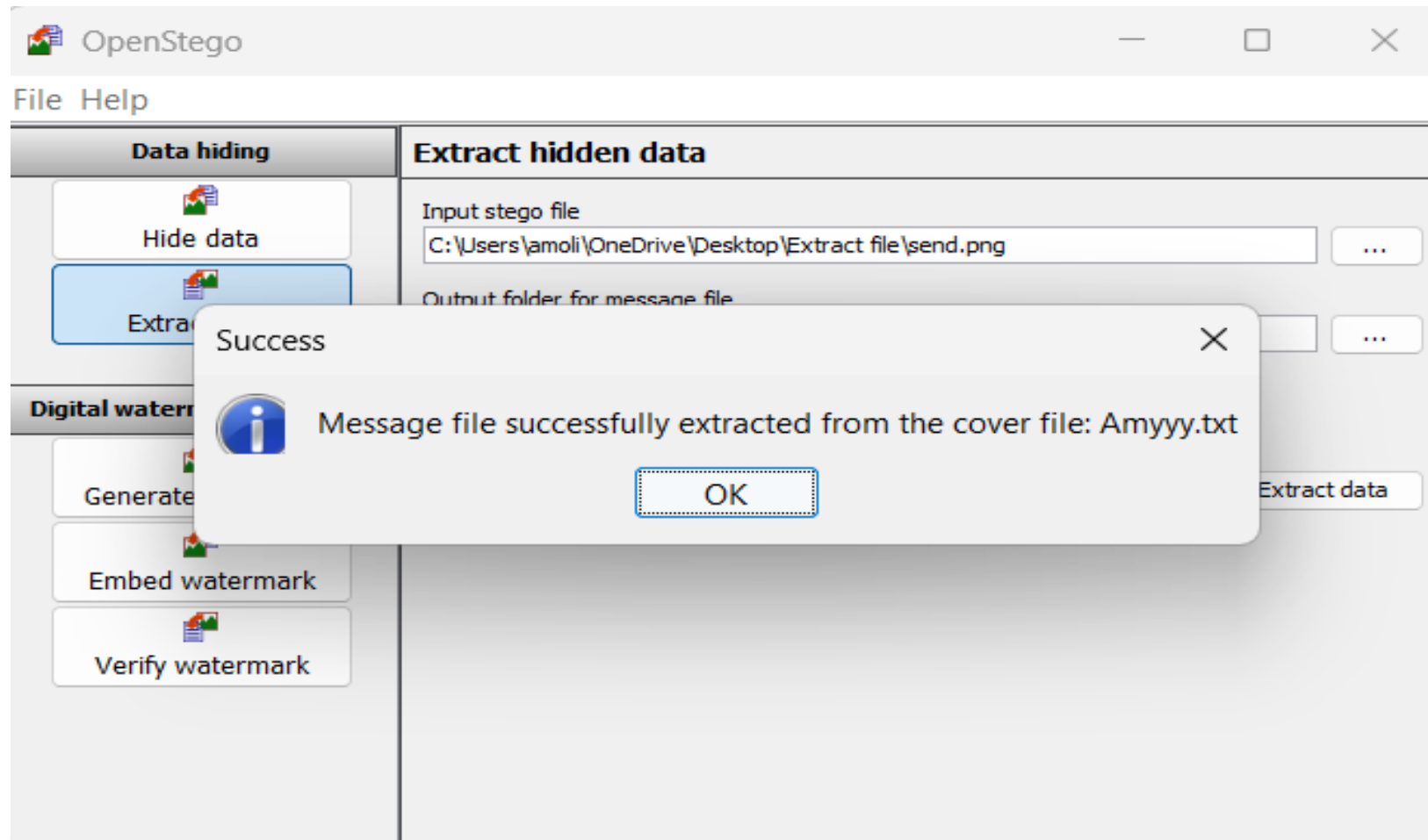
C:\Users\amoli\OneDrive\Desktop\Extract file

...

Password

●●●●●●●●●●

Extract data



8. Verify or Extract Data

To retrieve the hidden message, use the Extract Data option in the same tab. Provide the stego image and password (if used), and OpenStego will recover the original message file.