BABU BANARASI DAS UNIVERSITY

BBD
UNIVERSITY

SCHOOL OF COMPUTER APPLICATION

Department of Cyber Security & Forensics

CYBER SECURITY LAB EXPERIMENT

(BCACSN21101)

Session 2025-26

PRACTICAL LAB FILE

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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.*

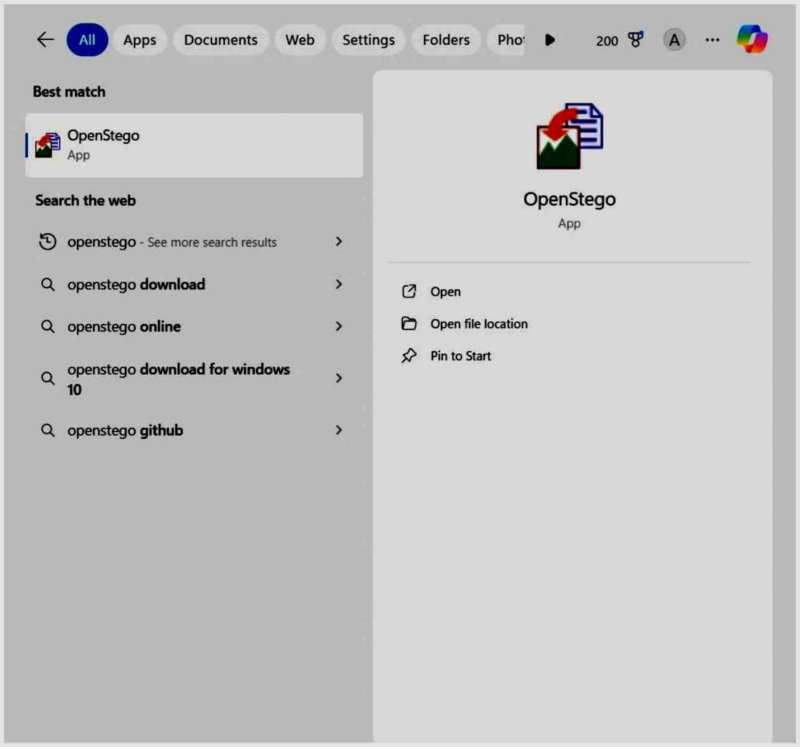
Evaluate the security and limitations *of steganographic techniques.*

Apply ethical hacking skills *in cybersecurity labs or forensic investigations.*

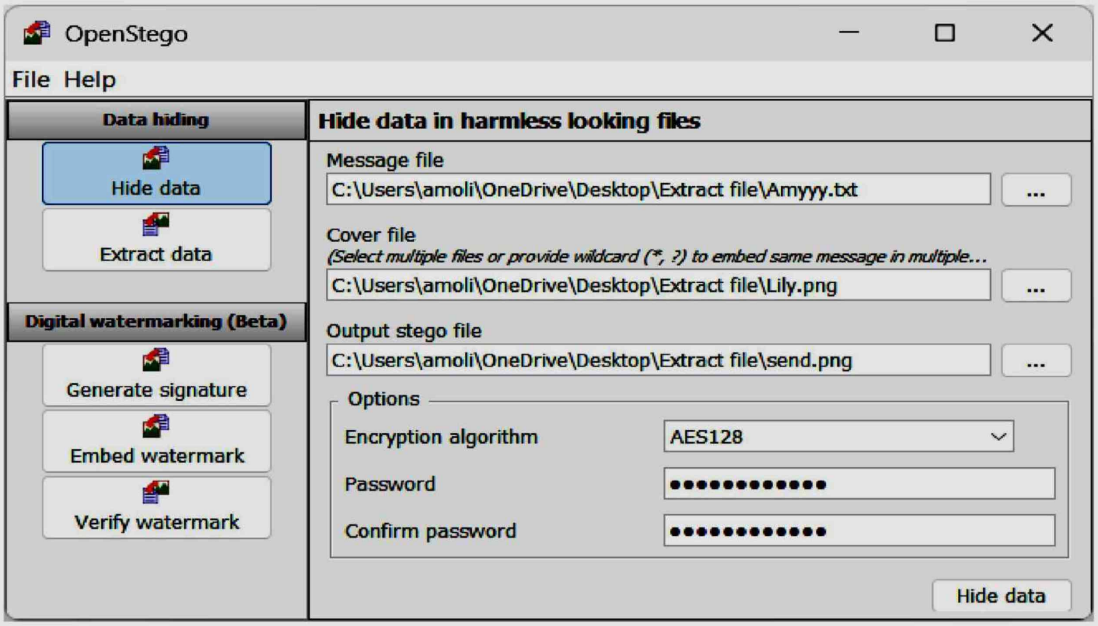
Tool/Resource	Purpose
OpenStego software	Main application for data hiding and watermarking (Download here)
Cover file (e.g., image)	The file that will conceal the hidden data
Message file (e.g., text)	The secret data to be embedded
Java Runtime Environment (JRE)	Required to run OpenStego on most systems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

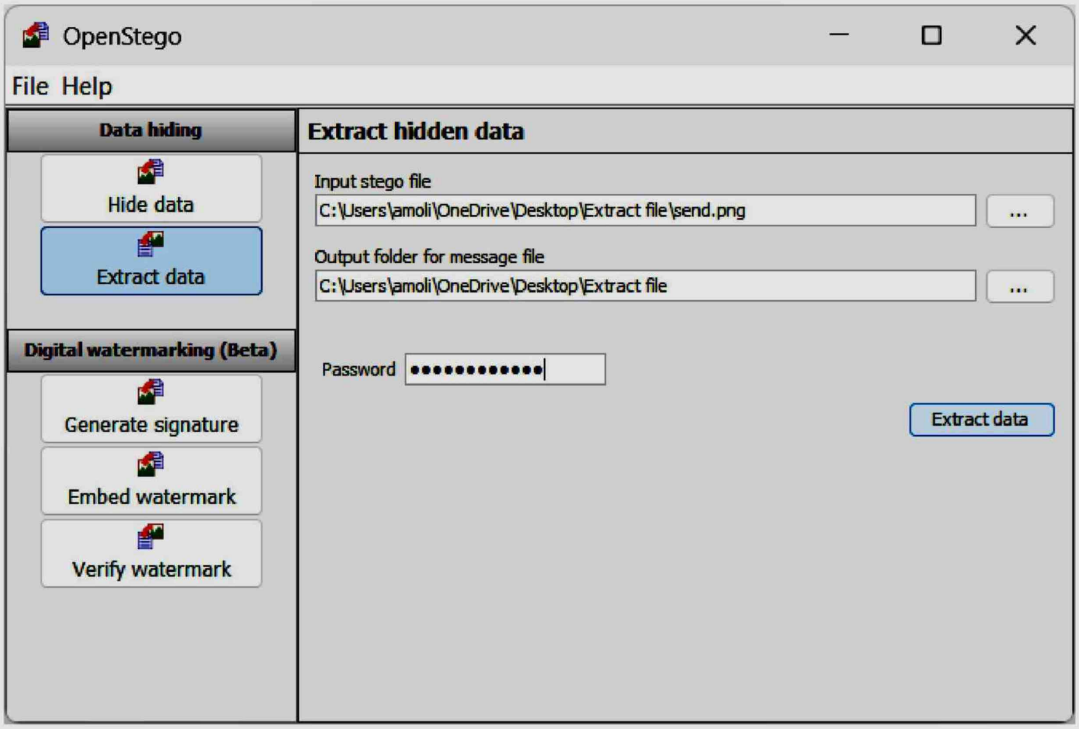
1. Download and Install OpenStegoVisit openstego.com and download the latest version.Install it on your system (requires Java Runtime Environment).

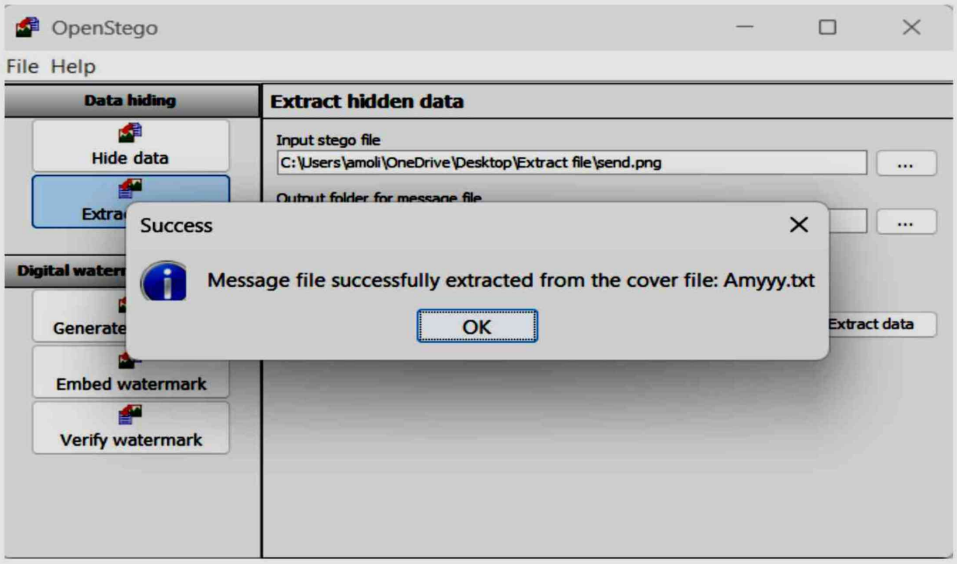
2. Prepare Your FilesCover File: Choose an image (e.g., .png, .jpg) that will hide your message.Message File: Create a text file (.txt) with the secret message or data you want to embed.


All
Apps
Documents
Web
Settings
Folders
200
A
Best match
OpenStego
App
Search the web
openstego - See more search results
openstego download
openstego online
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.