

ENSE 496AE

Steganography Tools

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Our topic of research

We will be looking at text hidden within images and the tools surrounding this concept

Some of the tools we will be discussing will be:

- QuickStego
- Steghide

QuickStego

What Quickstego does

- This tool allows text to be hidden within images
- Only users with quickstego can retrieve the secret hidden text within the image
- Once the text is hidden within the image, the saved image is still an image and appears the same as before
- The image can be emailed, saved or uploaded with the hidden text contained within

QuickStego

What QuickStego does not do

- Does not encrypt the secret message but it is well hidden within the image
- If you want to encrypt the message then QuickCrypto is required
- QuickCrypto includes the features of QuickStego but it can encrypt text and files
- QuickStego does not allow files to be hidden within images

Steghide

- Resistant to first-order statistical analysis due to color sample frequencies not being changed
- Compression of embedded data
- Encryption of embedded data
- Embedding of a checksum to verify the integrity of the extracted data
- Support for JPEG, BMP, WAV and AU files
- Steghide uses a graph-theoretic approach to steganography

Demo!



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Edit Text

Copy

Clear

Paste



Picture, Image, Photo File

Open Image

Save Image

Steganography

Hide Text

Get Text

Text File

Open Text

Save Text

Upgrade

Exit

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Resistant to first-order statistical analysis due to color sample frequencies not being changed

Compression of embedded data

Encryption of embedded data

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Support for JPEG, BMP, WAV and AU files

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Picture, Image, Photo File

Open Image

Save Image

Steganography

Hide Text

Get Text

Text File

Open Text

Save Text

THIS IMAGE DOES NOT HAVE A QUICK STEGO SECRET TEXT MESSAGE

Upgrade

Exit

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Picture, Image, Photo File

Open Image

Save Image

Steganography

Hide Text

Get Text

Text File

Open Text

Save Text

The text message is now hidden in image.

Upgrade

Exit

Normal image



Stego image





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Picture, Image, Photo File

Open Image

Save Image

Steganography

Hide Text

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Save Text

Upgrade

Exit

Steghide

```
C:\Users\Jeremy\Documents\University Classes\ENSE 496AE\steghide>steghide embed -cf Cat.jpg -ef secret.txt
Enter passphrase:
Re-Enter passphrase:
embedding "secret.txt" in "Cat.jpg"... done
```

```
C:\Users\Jeremy\Documents\University Classes\ENSE 496AE\steghide>steghide extract -sf Cat.jpg
Enter passphrase:
the file "secret.txt" does already exist. overwrite ? (y/n) y
wrote extracted data to "secret.txt".
```

References

- <http://steghide.sourceforge.net/>
- <http://quickcrypto.com/free-steganography-software.html>