

# Steganography

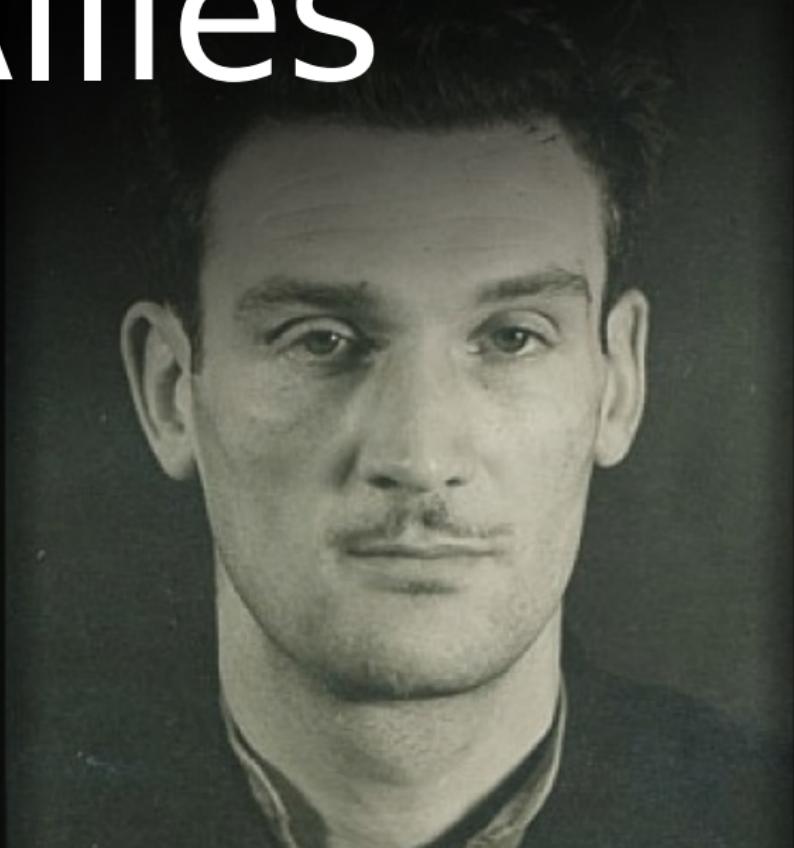
Cornelius Aschermann

Crypto Party

# The Greek



# The Allies



# The Terrorists

Dokumente aufgetaucht. Sie geben Einblick in das strategische Gedankengut der Al-Qaida-Bühne, aber sie offenbaren auch ihren Frust. VON YASSIN MUSHARBASH

15. März 2012 17:36 Uhr

16 Kommentare



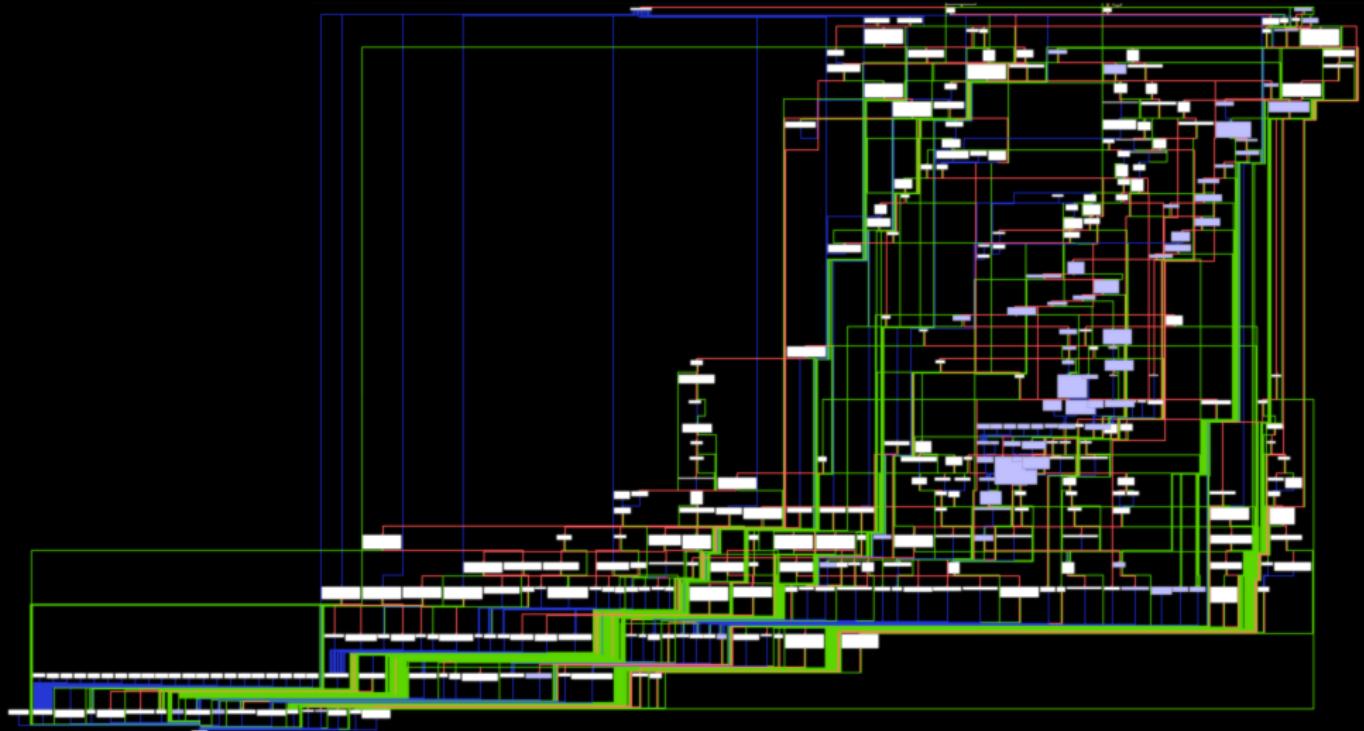
Die 141 Dateien, die Maksud L. bei seiner Festnahme am 16. Mai 2011 in Berlin dabei hatte, sollten nie entdeckt werden. Sie waren auf einer Speicherkarte durch ein Passwort geschützt und mit spezieller Software quasi unsichtbar gemacht. Aber die Beamten des Bundeskriminalamtes (BKA) fanden sie schließlich doch: Die Dateien waren in einem Pornovideo namens KickAss versteckt und in dem verschlüsselten Unterverzeichnis SexyTanja abgelegt. Drei Textdateien waren für die Fahnder von besonderem Interesse, denn nach Einschätzung von Behördenexperten stammen sie aus dem innersten Führungszirkel Al-Kaidas.

Es ist das erste Mal, dass in Europa solches Material auftaucht – das ist aufregend. Denn es gibt den Blick frei auf Al-Kaida, auf das Denken von: Zeit.de

But  
Where  
To  
**Hide?**



# Code



# Spam

via: spammimic.com

From Cornelius Aschermann★

Reply

Forward

Archive

Junk

Delete

Subject Dear Julian

08:28 PM

To julian.assange@fbi.de★

Other Actions ▾

Dear Decision maker , We know you are interested in receiving amazing intelligence . This is a one time mailing there is no need to request removal if you won't want any more . This mail is being sent in compliance with Senate bill 1625 ; Title 4 ; Section 302 . THIS IS NOT MULTI-LEVEL MARKETING ! Why work for somebody else when you can become rich as few as 33 days . Have you ever noticed people love convenience and more people than ever are surfing the web ! Well, now is your chance to capitalize on this ! WE will help YOU decrease perceived waiting time by 190% and increase customer response by 150% . You can begin at absolutely no cost to you

81%

Unread: 0

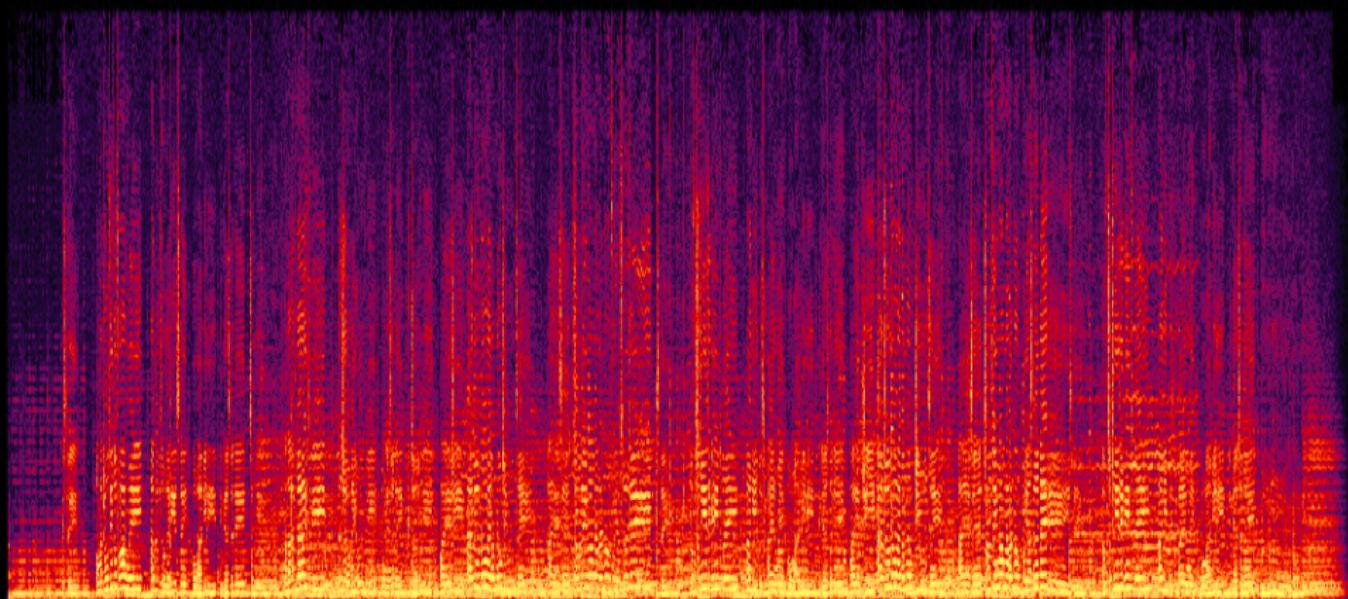
Total: 12

# Bad Keming

# Time



# Audio



Why you  
think the  
**net** was  
born?

# Cat Pics



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

How do  
they  
**work?**

# RGB Cat



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# RGB Cat



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# RGB Cat



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

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ALONE! TAKE THIS.



IT'S DANGEROUS TO GO  
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ALONE! TAKE THIS.

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ALONE! TAKE THIS.

# Pixel Cat



**IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.**

# Pixel Cat



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# RGB Pixels



(0.1, 0.3, 0.7)

(26, 77, 179)

(00011010<sub>2</sub>, 01001101<sub>2</sub>, 10110011<sub>2</sub>)

...000110100100110110110011...<sub>2</sub>

# RGB Pixels



(0.1, 0.3, 0.7)

(26, 77, 179)

(00011010<sub>2</sub>, 01001101<sub>2</sub>, 10110011<sub>2</sub>)

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... 000110100100110110110011...<sub>2</sub>

# Individuial Bits

10000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# Individuiual Bits

10000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

01000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# Individuial Bits

10000000



01000000



00100000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

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ALONE! TAKE THIS.

IT'S DANGEROUS TO GO  
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# Individuiual Bits

10000000



01000000



00100000



00010000



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ALONE! TAKE THIS.

01000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00100000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00010000



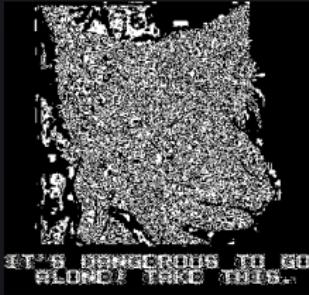
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00001000



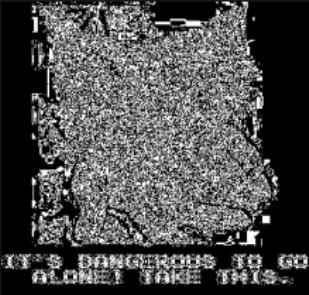
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000100



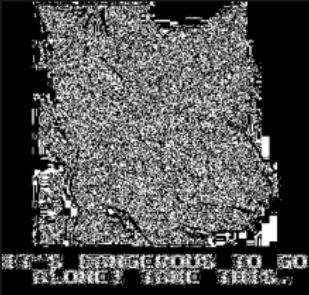
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000010



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000001



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# Least Significant Bits



# Hiding Data

( $00011010_2$ ,  $01001101_2$ ,  $10110011_2$ )  
(26, 77, 179)



# Hiding Data

( $00011010_2$ ,  $01001101_2$ ,  $10110011_2$ )  
(26, 77, 179)



# Hiding Data

( $00011010_2$ ,  $01001101_2$ ,  $10110010_2$ )  
(26, 77, 179)



# Hiding Data

( $00011010_2$ ,  $01001101_2$ ,  $10110010_2$ )  
(26, 77, 178)



# Hiding Data

( $00011010_2$ ,  $01001101_2$ ,  $10110010_2$ )  
(26, 77, 178)



# What Changes If...?

10000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

01000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00100000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00010000



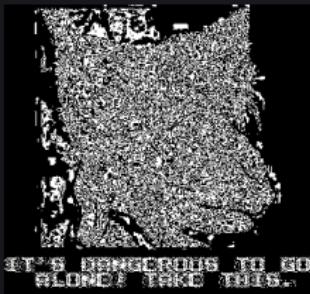
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00001000



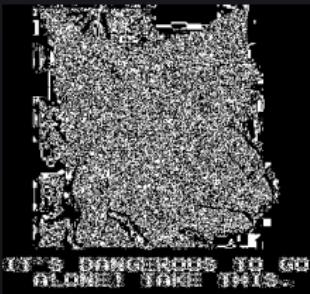
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000100



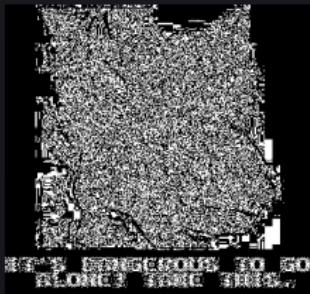
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000010



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000001



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

# What Changes If...?

10000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

01000000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00100000



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00010000



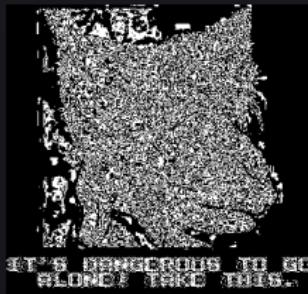
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00001000



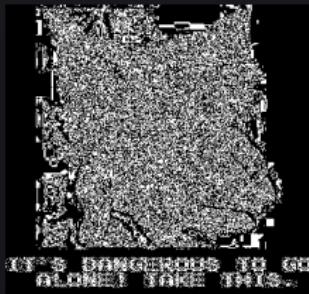
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000100



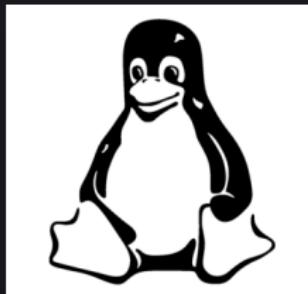
IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000010



IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.

00000001



# Not Much...

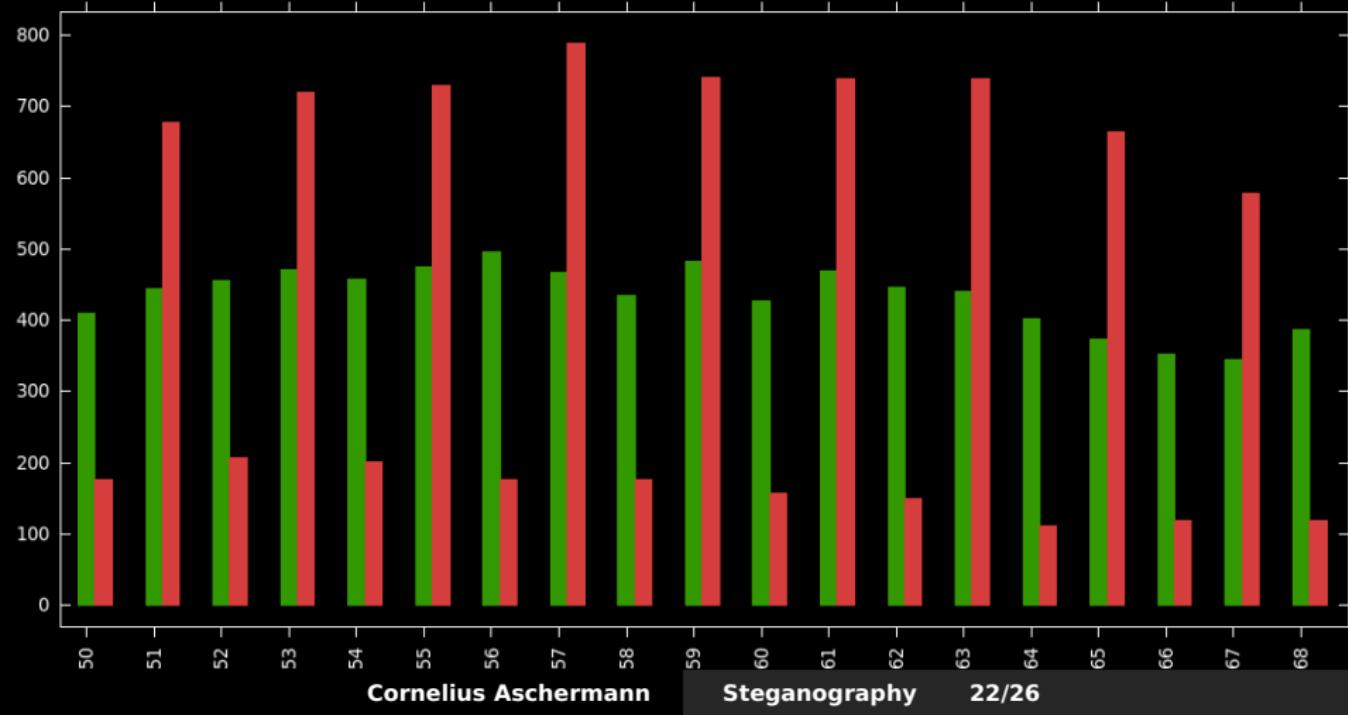


**IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.**

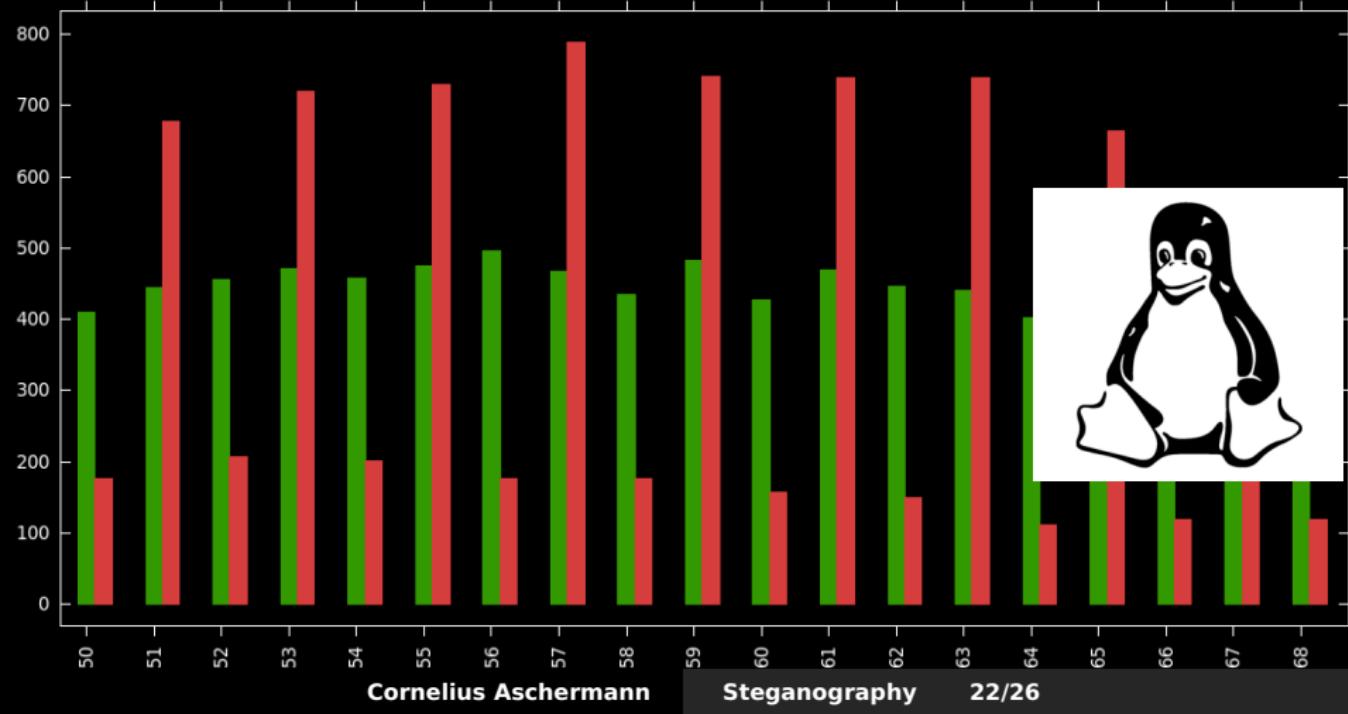
# Not Much...



# Or Does It?



# Or Does It?



# What Now?

# github.com/eqv

```
require 'chunky_png'

filename = ARGV[0] || 'kitty.png'
image = ChunkyPNG::Image.from_file(filename)
input = ChunkyPNG::Image.from_file('tux.png')

(0...image.width).each do |w|
  (0...image.height).each do |h|
    int = image[w,h]
    r,g,b = int >> 24 & 0xff, int >> 16 & 0xff, int >> 8 & 0xff
    lsb = if input[w,h] > 256 then 1 else 0 end
    image[w, h] = ChunkyPNG::Color.rgb(r,g, (b&0xfe)+lsb, 255)
  end
end
image.save("hidden_"+filename, :fast_rgb)
```



# Stegdetect

**outguess.com**



The image shows a vintage-style lamp with a warm, glowing light. The lamp's shade is tilted, revealing a handwritten letter underneath. The letter is written in cursive ink on aged paper. In the foreground, a small, open book or notebook is visible, showing more handwritten text. The overall atmosphere is cozy and historical.

# Other



# Media