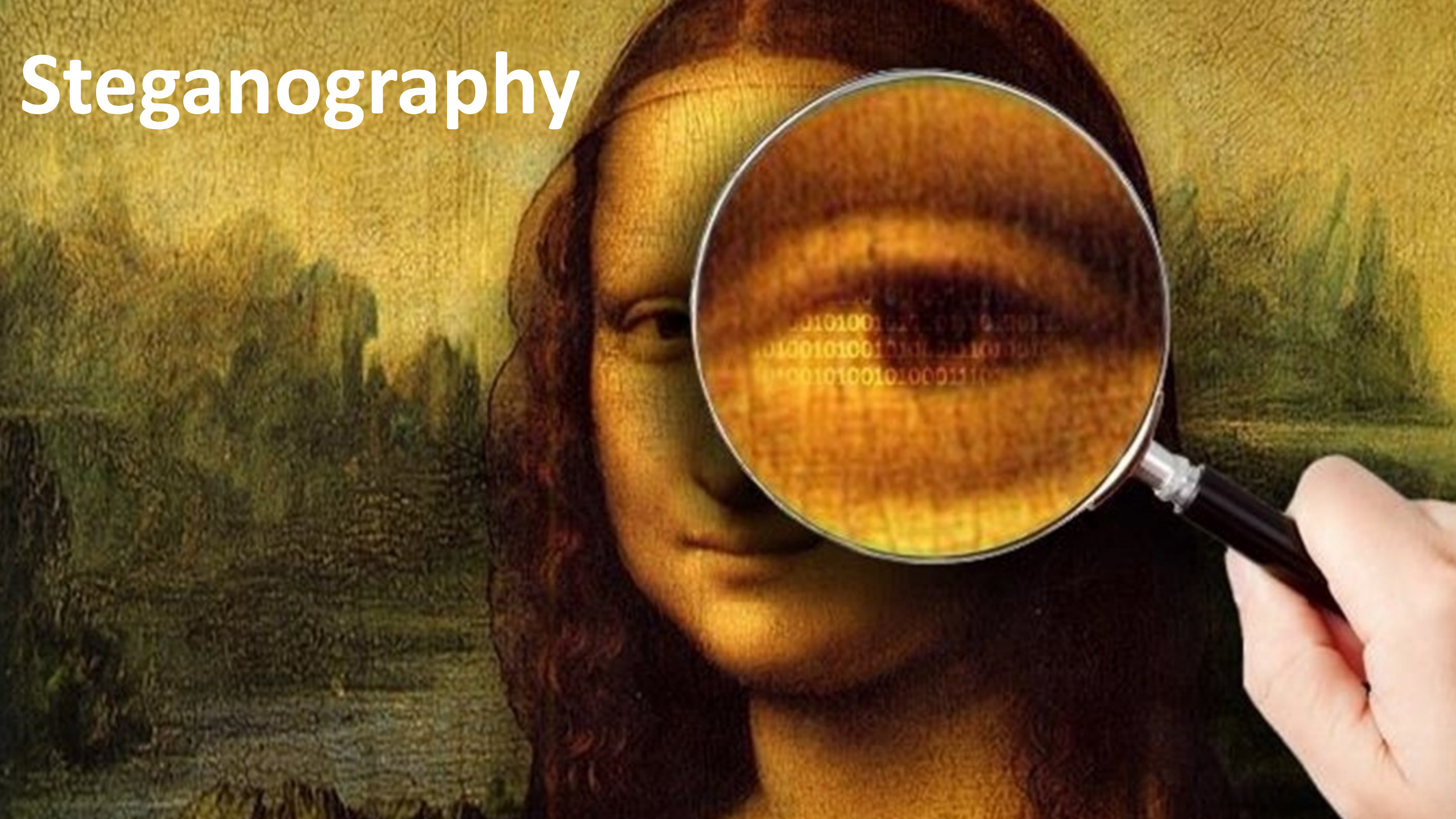


Steganography



Что такое стеганография?

— способ передачи или хранения информации с учётом сохранения в тайне самого факта такой передачи (хранения).

Шифрование

haahjr ha khdu!

VS

Стеганография

At Paris, just after dark one gusty evening in the autumn of 18--, I was enjoying the twofold luxury of meditation and a meerschaum, in company with my friend C. Auguste Dupin, in his little back library, or book-closet, au troisieme, No. 33, Rue Dunot, Faubourg St. Germain. For one hour at least we had maintained a profound silence; while each, to any casual observer, might have seemed intently and exclusively occupied with the curling eddies of smoke that oppressed the atmosphere of the chamber.

Dear Tim,....please find our revenues and profit statement for the last business year attached. This is confidential information.....Best regards..

0stkgNGafvEYc3V
w1JDkv4PVJ+Lk1H
FhSmZgQ2hcjtFF1
ZvkoFu+y3fAUd4L
N/q6TrR8YSnL81F
idsi16CrN7nMAgB
36mBVL2gL4hYYGh
C+z06K+6PJ1WEZX
tMONYqZj3PE1whz
8UIZCUscpnEB



Example

Since everyone can read, encoding text in neutral sentences is doubtfully effective

*Since **E**veryone **C**an **R**ead, **E**ncoding **T**ext
In **N**eutral **S**entences Is **D**oubtfully **E**ffective*

'Secret inside'

Есть ли разница?



Способ 1: в тексте

Example

*Since everyone can read, encoding text
in neutral sentences is doubtfully effective*

*Since **E**veryone **C**an **R**ead, **E**ncoding **T**ext
In **N**eutral **S**entences Is **D**oubtfully **E**ffective*

'Secret inside'

Эксперимент 1

```
00000000: FF FE 41 00-74 00 20 00-40 DB 41 DC-50 00 61 00  At @A Pa
00000010: 72 00 69 00-73 00 2C 00-20 00 40 DB-74 DC 6A 00  ris , @t.j
00000020: 75 00 73 00-74 00 20 00-40 DB 74 DC-61 00 66 00  ust @t.a f
00000030: 74 00 65 00-72 00 20 00-40 DB 61 DC-64 00 61 00  ter @a.d a
00000040: 72 00 6B 00-20 00 40 DB-63 DC 6F 00-6E 00 65 00  rk @c.o ne
00000050: 20 00 40 DB-6B DC 67 00-75 00 73 00-74 00 79 00  @k.g u s t y
00000060: 20 00 40 DB-20 DC 65 00-76 00 65 00-6E 00 69 00  @.e ven i
00000070: 6E 00 67 00-20 00 40 DB-61 DC 69 00-6E 00 20 00  ng @a.i n
00000080: 40 DB 74 DC-74 00 68 00-65 00 20 00-40 DB 20 DC  @t.t he @
00000090: 61 00 75 00-74 00 75 00-6D 00 6E 00-20 00 40 DB  a u t u m n @
000000A0: 64 DC 6F 00-66 00 20 00-40 DB 61 DC-31 00 38 00  d.o f @a.1 8
000000B0: 2D 00 2D 00-2C 00 20 00-40 DB 77 DC-49 00 20 00  - , @w.I
000000C0: 40 DB 6E DC-77 00 61 00-73 00 20 00-40 DB 21 DC  @n.w a s @!
000000D0: 65 00 6E 00-6A 00 6F 00-79 00 69 00-6E 00 67 00  e n j o y i n g
000000E0: 20 00 74 00-68 00 65 00-20 00 74 00-77 00 6F 00  t h e t w o
000000F0: 66 00 6F 00-6C 00 64 00-20 00 6C 00-75 00 78 00  f o l d l u x
00000100: 75 00 72 00-79 00 20 00-6F 00 66 00-20 00 6D 00  u r y o f m
00000110: 65 00 64 00-69 00 74 00-61 00 74 00-69 00 6F 00  e d i t a t i o
00000120: 6E 00 20 00-61 00 6E 00-64 00 20 00-61 00 20 00  n a n d a
00000130: 6D 00 65 00-65 00 72 00-73 00 63 00-68 00 61 00  m e e r s c h a
00000140: 75 00 6D 00-2C 00 20 00-69 00 6E 00-20 00 63 00  u m , i n c
00000150: 6F 00 6D 00-70 00 61 00-6E 00 79 00-20 00 77 00  o m p a n y w
00000160: 69 00 74 00-68 00 20 00-6D 00 79 00-20 00 66 00  i t h m y f
00000170: 72 00 69 00-65 00 6E 00-64 00 20 00-43 00 2E 00  r i e n d C .
00000180: 20 00 41 00-75 00 67 00-75 00 73 00-74 00 65 00  A u g u s t e
```

<https://www.irongeek.com/i.php?page=security/unicode-steganography-homoglyph-encoder>

Способ 2: картинка



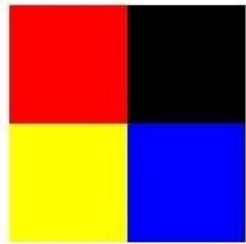
No Message



Attack at midnight

Как прятать сообщение в картинке?

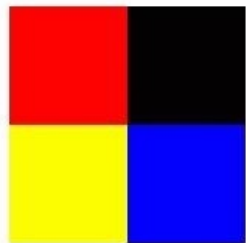
Original Image



11111111	00000000
00000000	00000000
00000000	00000000
11111111	00000000
11111111	00000000
00000000	11111111

Least Significant Bit Steganography

Stego Image



11111101	00000011
00000010	00000001
00000000	00000010
11111100	00000011
11111101	00000001
00000001	11111100



c	a	t
01 10 00 11	01 10 00 01	01 11 01 00

Почему этот способ плох
для текстовых файлов?

Эксперимент 2



```
steghide.exe embed -ef D:\..\..\..\test.txt -cf D:\..\..\..\wMIUMiE.jpg -Z
```

Способ 3, 4, 5, n ?



Просите, и дано будет вам; **ищите, и
найдете**; стучите, и отворят вам;
ибо всякий просящий получает, и
ищущий находит, и стучащему отворят.

Мф 7:7–8

Спасибо за внимание и...

To be continued