STEGANOGRAPHY

INTRODUCTION

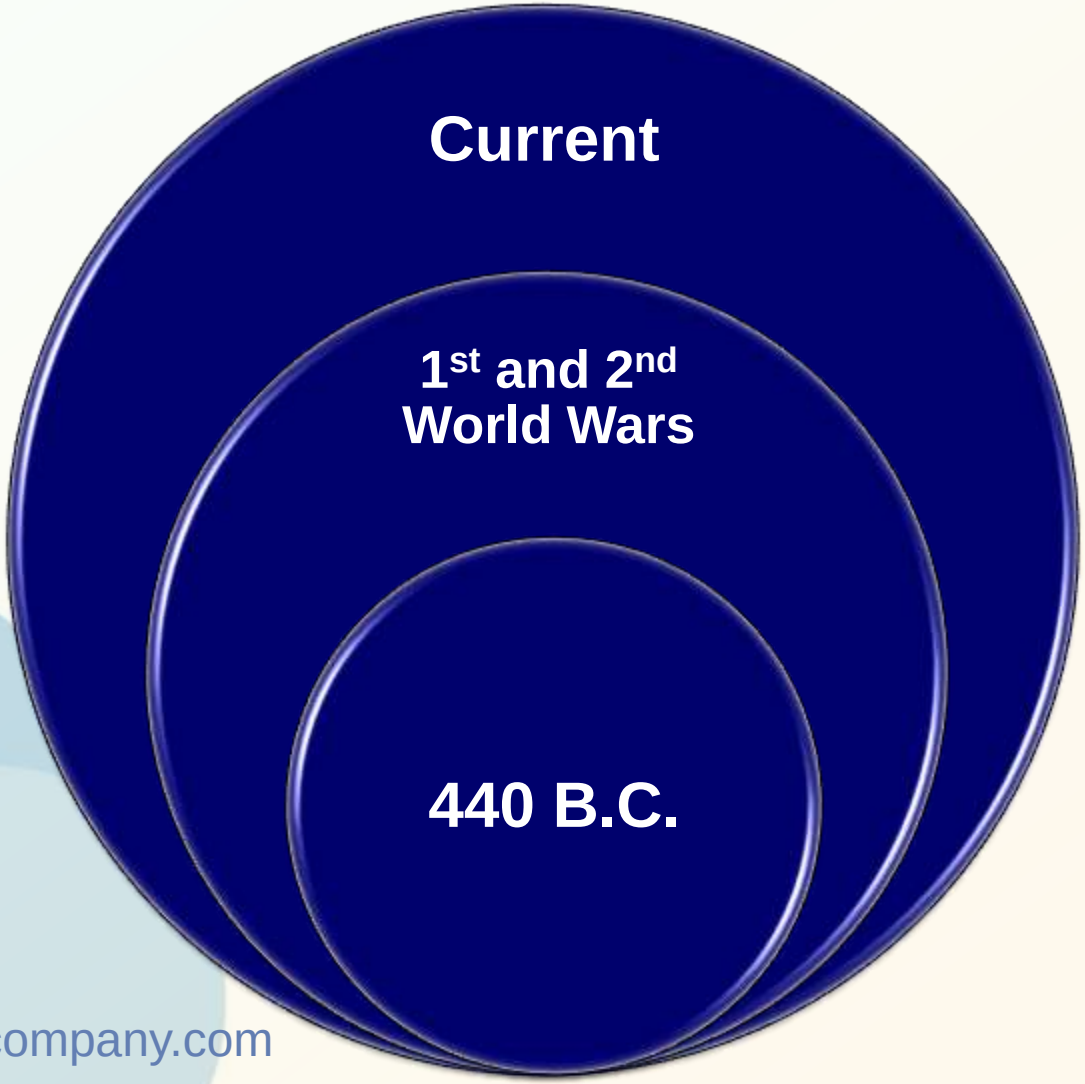
Art and science of writing hidden messages

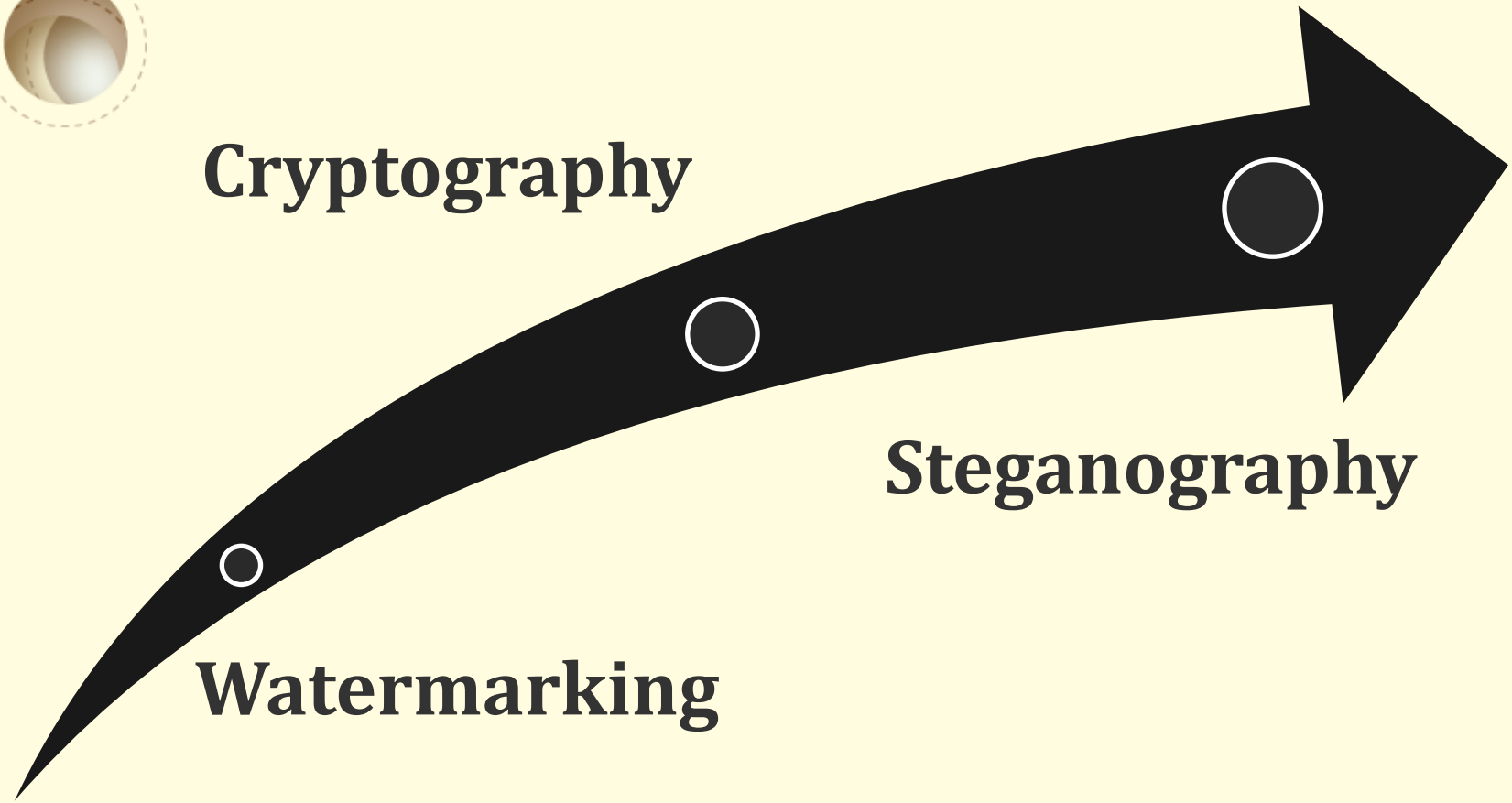
A form of security through obscurity

No one apart from the sender and intended recipient, suspects the existence of the message

ETYMOLOGY

HISTORY OF STEGANOGRAPHY





EVOLUTION

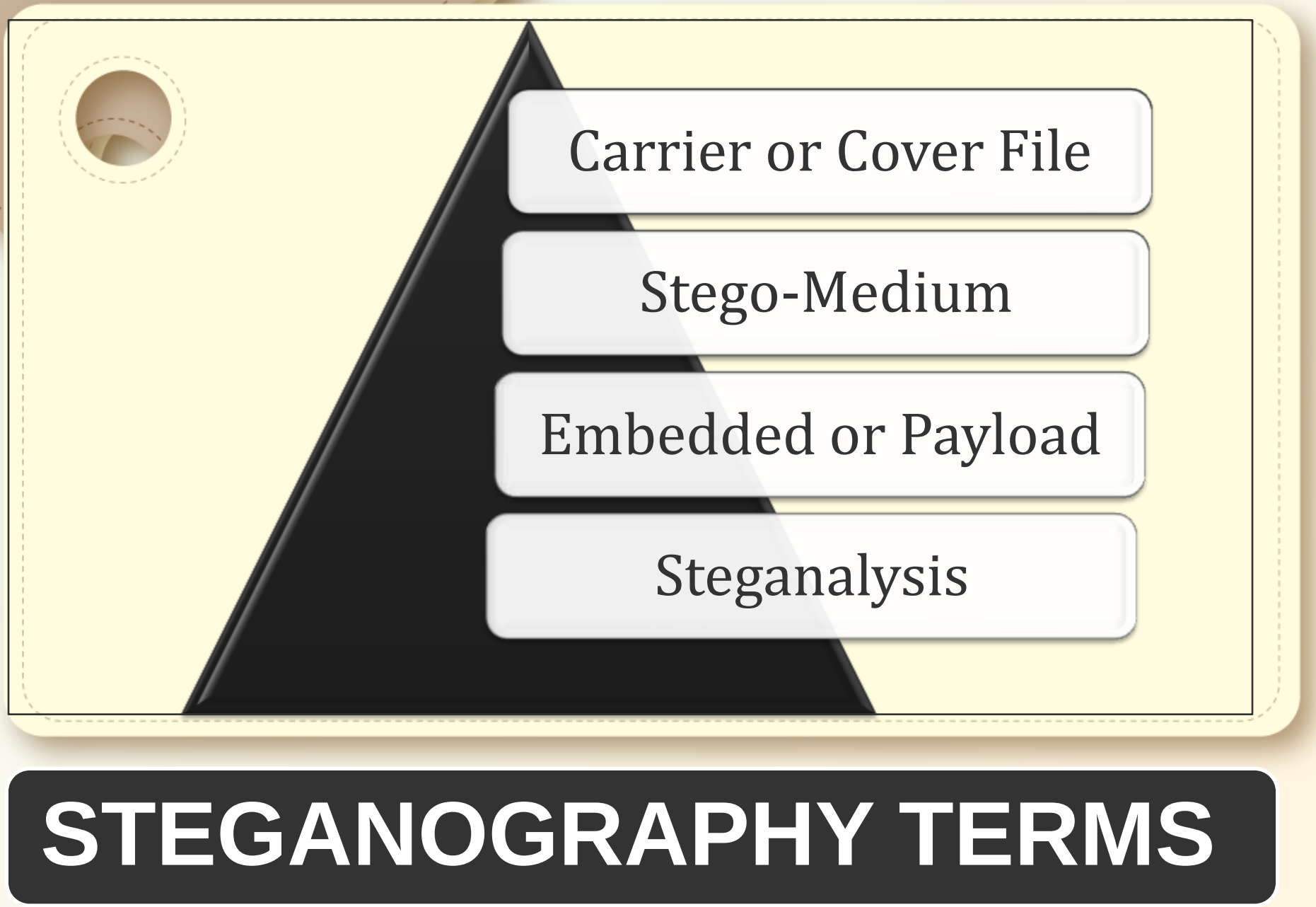
ADVANTAGE OF STEGANOGRAPHY OVER CRYPTOGRAPHY

Messages do not attract attention to themselves

Protects both messages and communicating parties

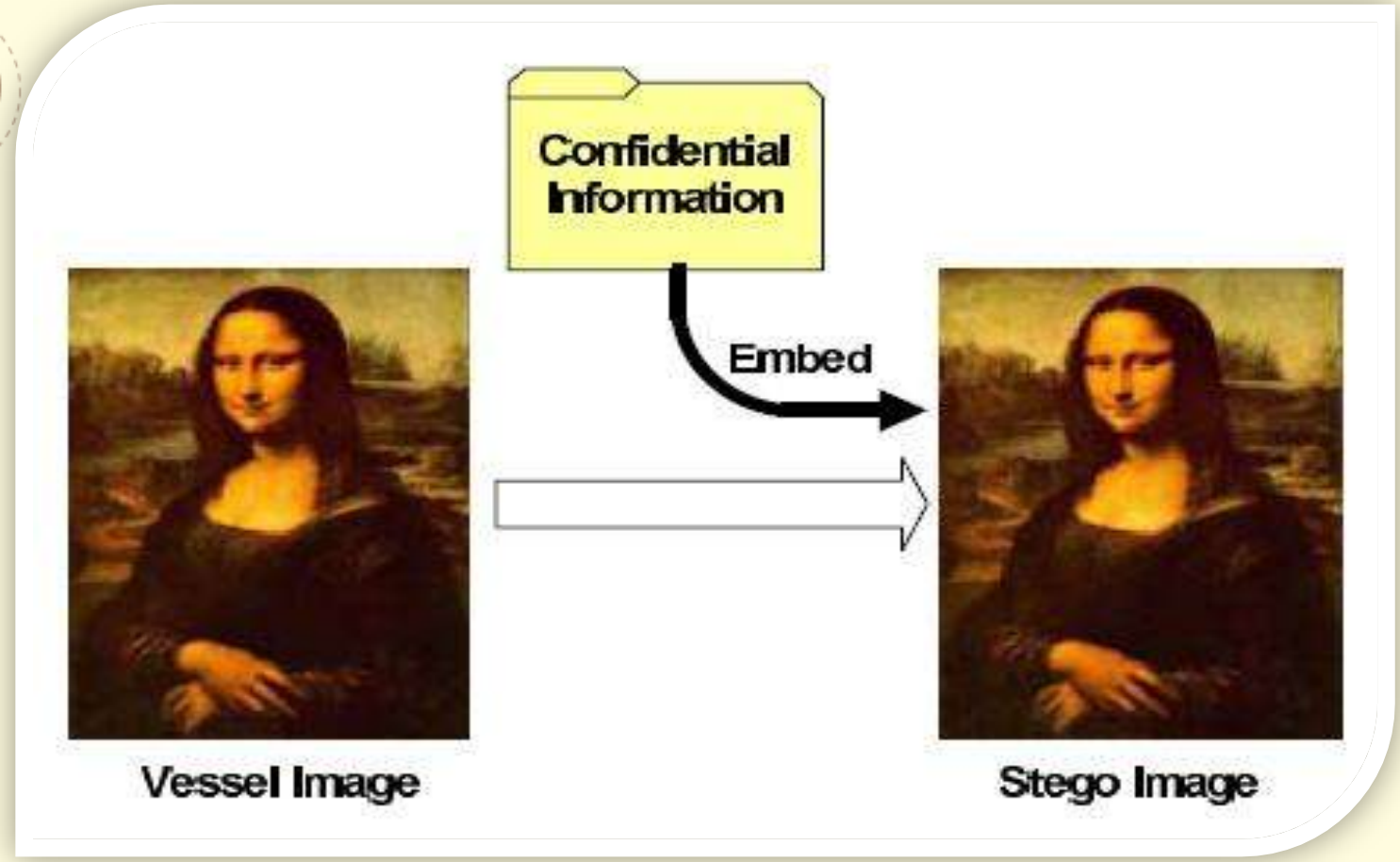
TYPES OF STEGANOGRAPHY

- Steganography In Text/Documents
- Steganography In Video
- Steganography In Audio
- Steganography In Images



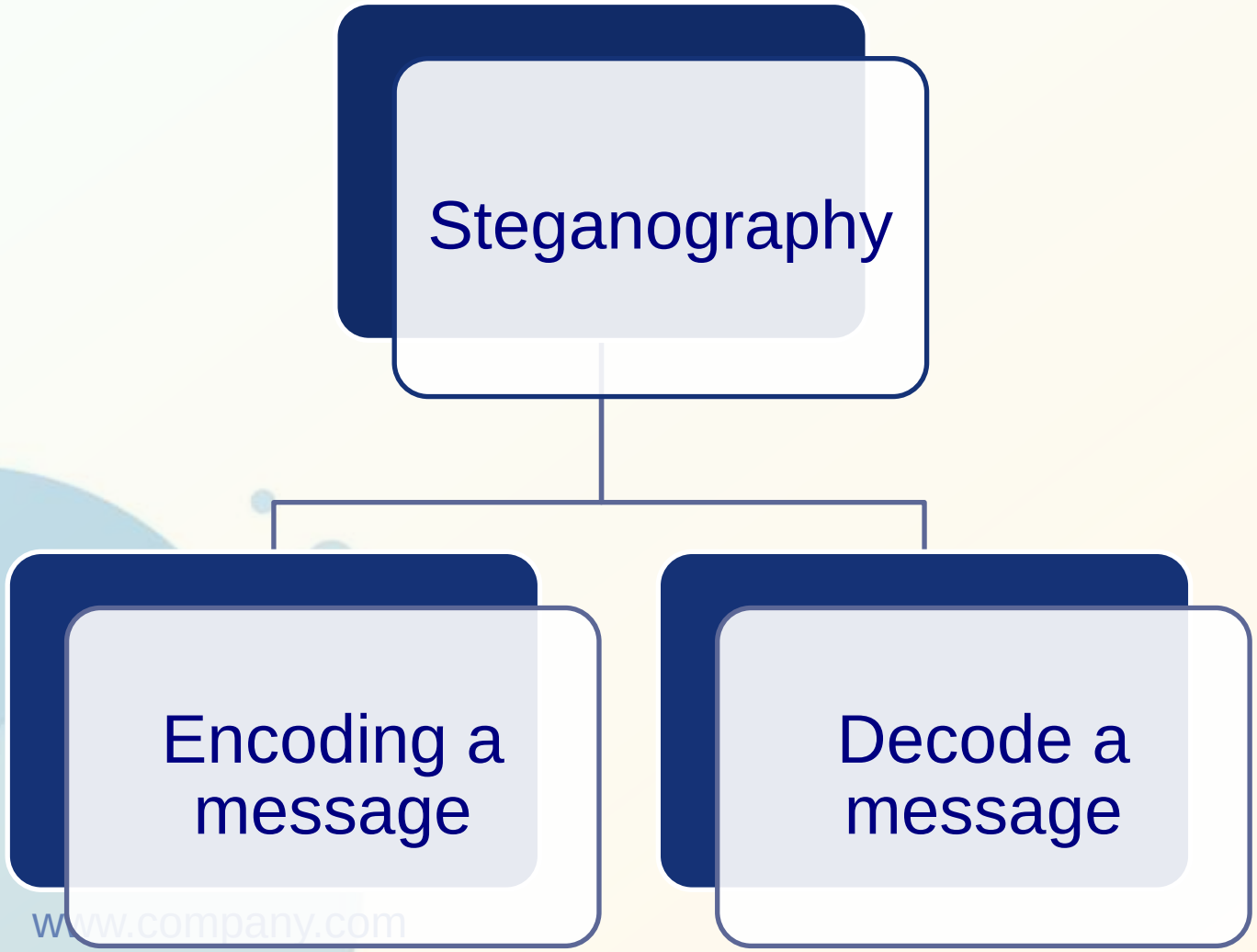
STEGANOGRAPHY TERMS

VIDEO



HOW IT WORKS

STEGANOGRAPHY STEPS



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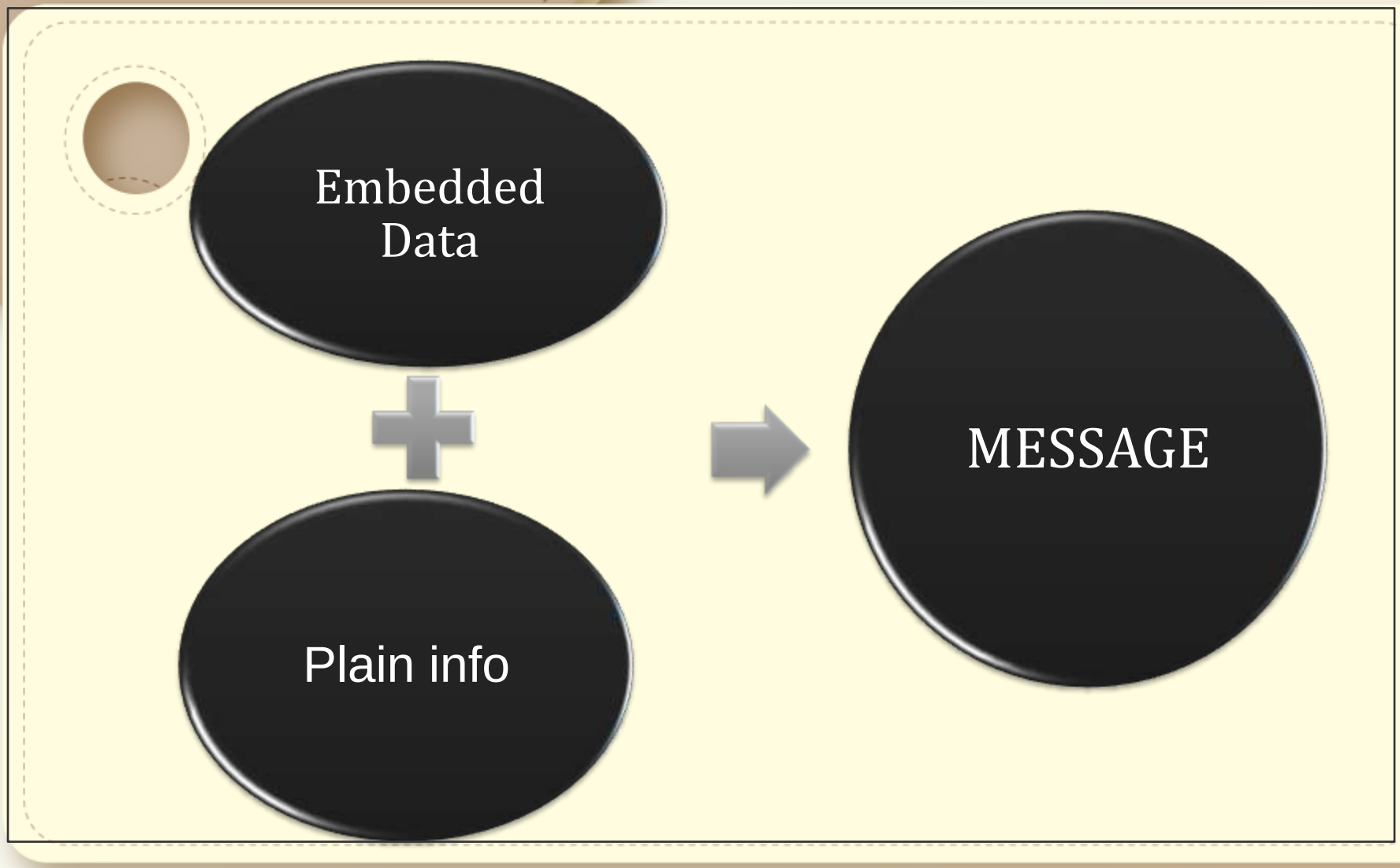
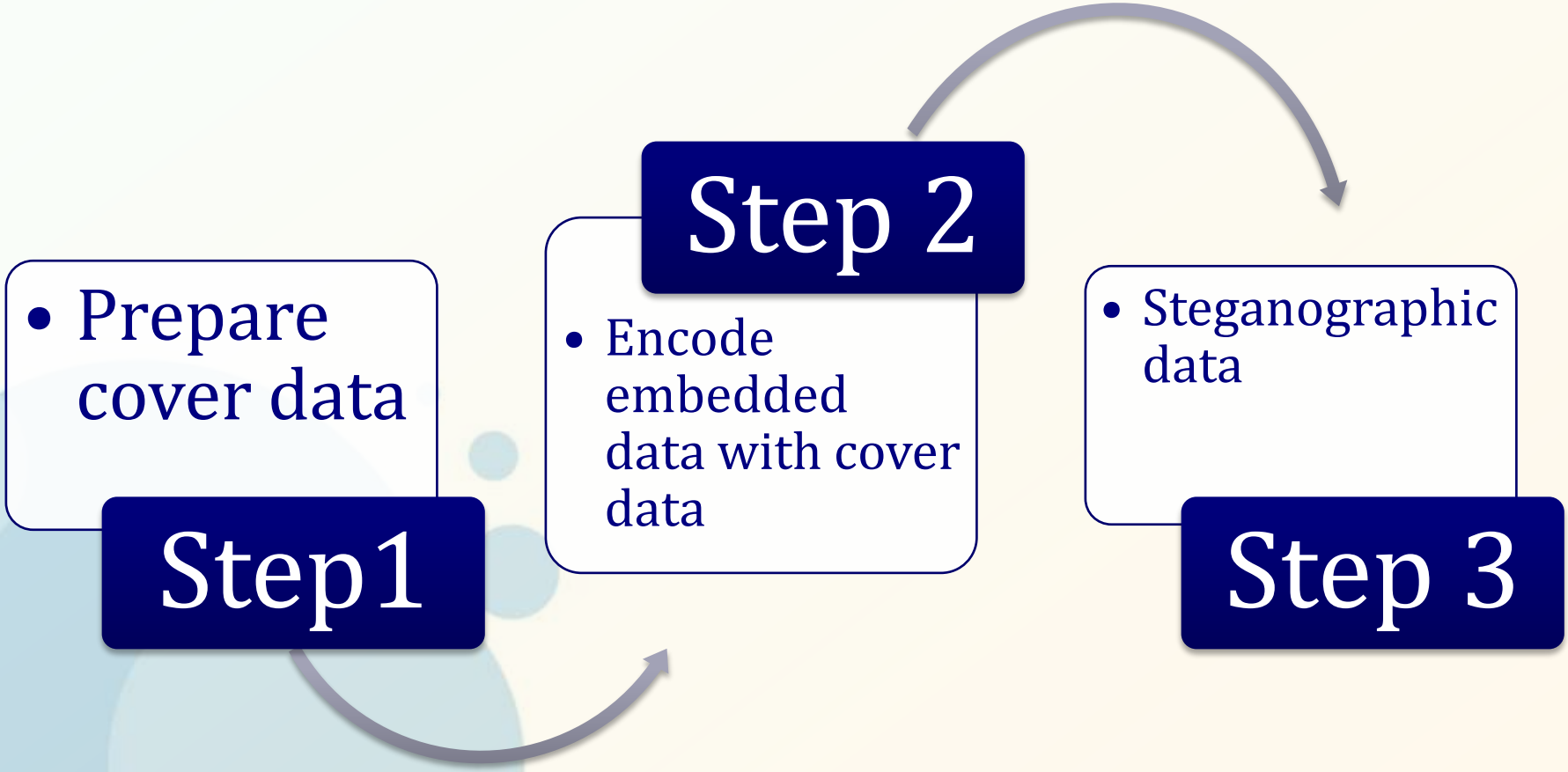


MESSAGE

ENCODING


Step 2
• Encode embedded data with cover data
• Prepare cover data
Step1
• Steganographic data
Step 3

DECODING

- Steganographic Data

Step1

Step 2

- Decode Plain info

- Embedded data obtained

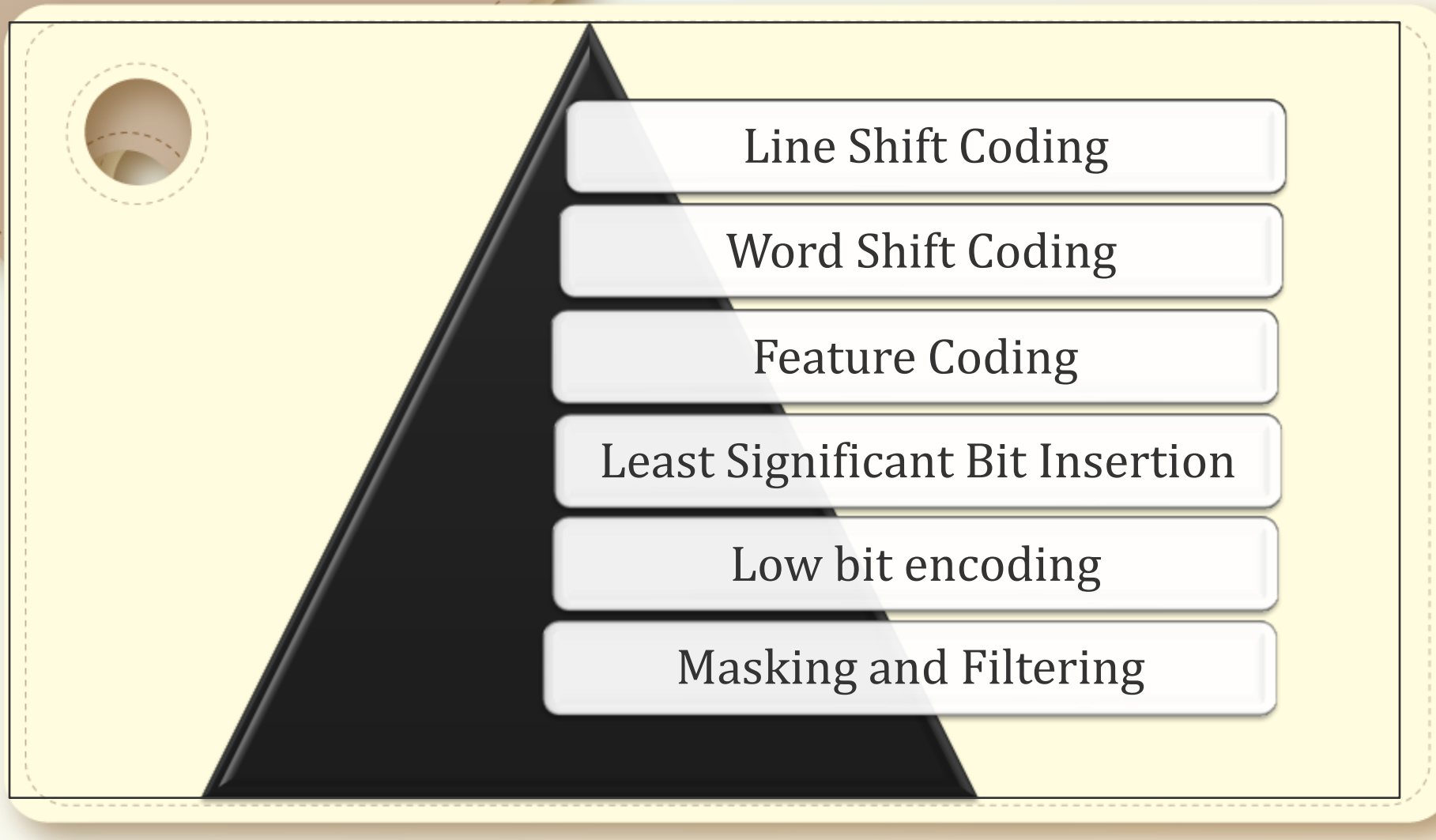
Step 3

STEGANALYSIS

Art and Science of detecting hidden messages

Just discover Steganography

Not deals with decrypting the data



STEGANOGRAPHY TECHNIQUES

STEGANOGRAPHY USING LEAST SIGNIFICANT BIT

```
01011010 00101011 10101011 10101010 11101011 11010100 01000111 11111001
01011010 10101101 10010111 10101111 10101011 10100111 01010110 01011011
10110111 11111011 00101011 10010101 10101000 01010100 10101010 11010101
10100100 01011000 11011010 01010101 01001001 10110000 01000010 01010100
```

Example: Inserting the word "bomb" using LSB techniques:

- b = 01100010
- o = 01101111
- m = 01101101
- b = 01100010

PRACTICAL

Program	Image files	Audio files	Video files	Document files
OpenPuff	BMP, JPG, PNG, TGA	Mp3, WAV	3gp, Mp4, MPEG-1, MPEG-2, VOB, SWF, FLV	Pdf
MP3Stego	-	Mp3	-	-
OpenStego	BMP, PNG	-	-	-
S-Tools	BMP, GIF	Wav	-	-
StegFS	-	-	-	-
Steganographic Laboratory (VSL)	BMP, PNG, JPG, TIFF	-	-	-
PHP-Class StreamSteganography	PNG	-	-	-

List of some tools for Steganography

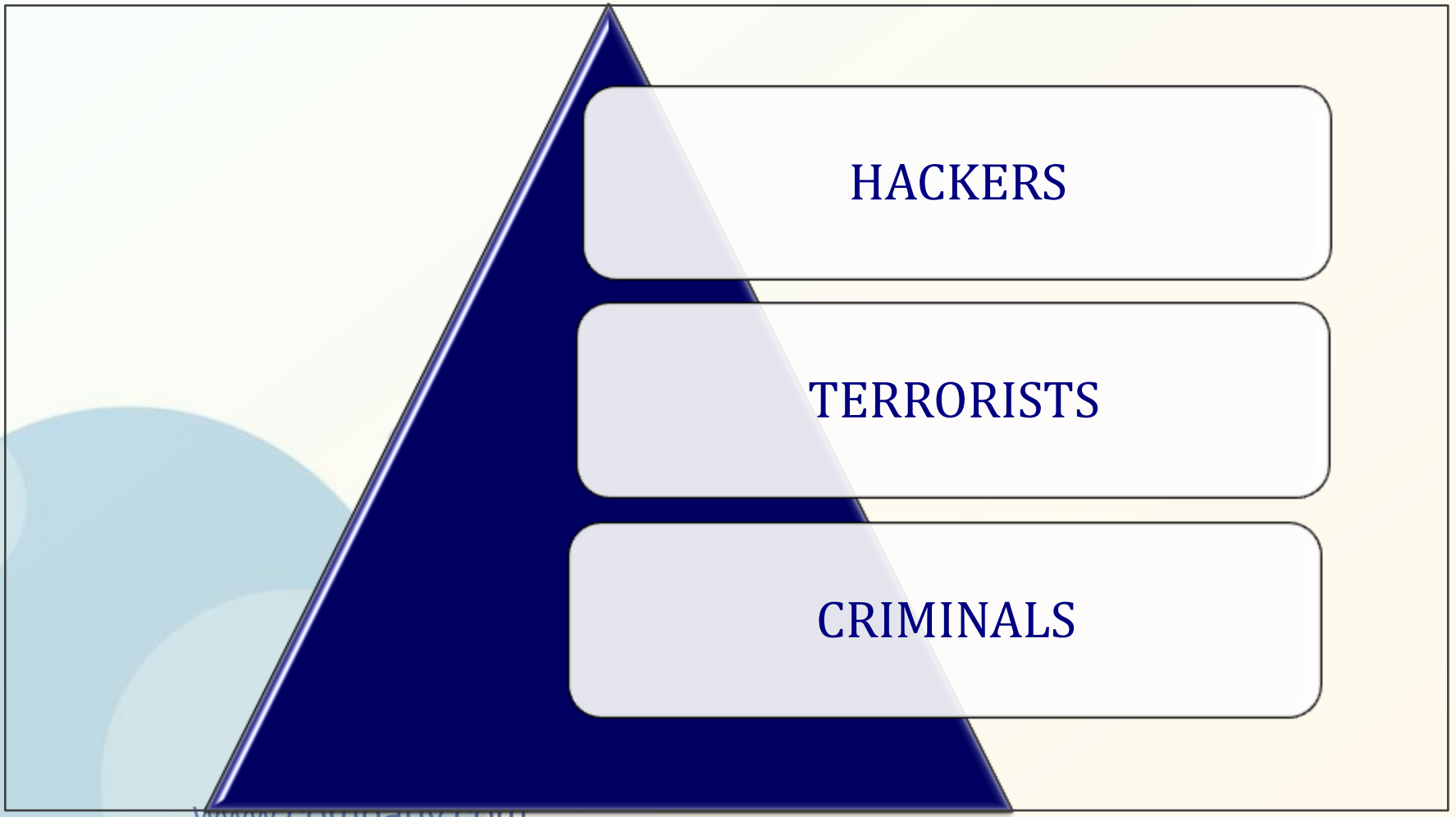
USAGE IN MODERN PRINTERS

Tiny yellow dots are added to each page

Printer serial numbers date and time stamps are encoded on yellow dots

EXAMPLE: HP and Xerox color laser printers.

ILLEGAL USAGE



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CONCLUSION

QUERIES