



# OUTLINE

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- Definitions
- Types Of Steganography
- Historical Examples
- Types Of Steganography
  - Text Steganography
  - Image Steganography
  - Audio Steganography

# DEFINITIONS:

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- **Steganography** means literally “Covered Writing” in Greek
  - **Stegano**: covered, from the Greek “steganos”
  - **graphy**: writing, from the Greek “graphia”
- **Digital Steganography** is defined as the science of hiding or embedding “data” in a transmission medium
  - **Payload** is the secret data intended for embedding
  - **Carrier** is the image file we intend to embed the payload in
  - **Stego** is the *Carrier* file after embedding

- Steganography process :

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$$\text{Cover-media} + \text{Hidden data} + \text{Stego-key} = \text{Stego-medium}$$

- **Cover media:**

It is the file in which we will hide the hidden data

Cover-media can be image or audio file.

- **Stego-key:**

Cover-media can be encrypted using stego-key:

- **Stego-medium.**

The resultant file is of above process called stego medium.

# HISTORICAL EXAMPLES

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- Invisible Ink used in WWII



- Microdot: A page of information, the size of a printed period.



# HISTORICAL EXAMPLES.. CONT.

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- **Waxed Tablets**
  - In ancient Greece, wax tablets with wooden backing were common writing surfaces since the wax could be melted and reused.
- **A person's head! (SHAVED HEAD STEG)**
  - 5th century BC (the tattooed head)



# NULL CIPHER (unencrypted messages)

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- Message sent by German spy in WWII  
Apparently neutral's protest is thoroughly discounted and ignored.  
Isman hard hit. Blockade issue affects pretext for embargo on by  
products, ejecting suets and vegetable oils.
- PERSHING SAILS FROM NY [R] JUNE I

# TYPES OF STEGANOGRAPHY:

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- **Text Steganography**
- **Image Steganography**
- **Audio Steganography**



# Text Steganography: Example

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*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 **I**s **D**oubtfully **E**ffective*

***‘Secret inside’***

# Image Steganography

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- Image Steganography refers to the process of hiding data within an image file.
- The image selected for this purpose is called the cover-image.
- The image obtained after steganography is called the stego-image.