**Steganography**

is the science that serves to hide a specific message in a suitable cover file without making a noticeable changing with the cover that bring an attention of HSS (Human Sense Systems) in both (Human Visual System - HVS and Humane Auditory System - HAS) and / or Computer detecting software which lead to steganoanalysis.

When the Greek Histiaeus was held as a prisoner by king Darius in Susa during the 5th century BCE, he had to send a secret message to his son-in-law Aristagoras in Miletus. Histiaeus shaved the head of a slave and tattooed a message on his scalp. When the slave's hair had grown long enough he was dispatched to Miletus.

Steganography simply takes one piece of information and hides it within another Computer files (images, sounds recordings, even disks) contain unused or insignificant areas of data Steganography takes advantage of these areas, replacing them with information (encrypted mail, for instance). The files can then be exchanged without anyone knowing what really lies inside of them An image of the space shuttle landing might contain a private letter to a friend.

**Steganography types:**

There are three basic types of Steganography:

1- Pure Steganography: Pure Steganography does not require the prior exchange of a stego-key, so both sender and receiver have to access the embedding and extraction algorithms.If an outsider knows the extraction algorithm, he can extract the secret message out of every cover sent between the two parties

1. The embedding process can be described as the mapping:

E: C x M --C., where C is Cover, M is Message

2. The Extraction process consists of mapping:

D: C --M

2- Secret Key Steganography: Secret key Steganography uses stego-key to embed the secret message into a cover and extracts the secret message using the same stego-key. both parties could agree on the key before sending the secret message.

1. The embedding process can be described as :

EK:C x M x K --C (where K is the key and M is the Message and C is Cover).

2. The Extraction process consists of:

DK: C x K --M

Secret Key Steganography requires the exchange of some keys, although transmission of additional secret information subverts the invisible communication.

3 Public Key Steganography: Public key Steganography requires a public key to embed the secret message and a private key in reconstruct process.