

Introducing Steganography

Hi. In this video, I'm going to be introducing the concept of steganography. Steganography is the art of hiding information in plain sight. It's a concept which has been around since ancient Greece. In Histories of Herodotus, we see an example where someone wanted to get a message to say that the Persians were going to invade.

And do this they took a tablet and removed the wax from that tablet, engraved a message on the wood, and then covered it up with wax. This meant that if a soldier intercepted them and had a look at the tablet, they couldn't see that there was a message hidden there. This is in contrast to cryptography, which doesn't hide the existence of the message itself.

Instead, it just encrypts it in such a way that someone who intercepts it would be unable to read it without the key. In modern day practice, steganography has obviously moved on. We make use of cover objects. These can include things such as digital images, which have quite a lot of redundant information.

You'd be surprised at the amount of information that we can take away from a digital image and not perceive any differences with the naked eye. This makes a great cover object for steganography. There are a number of different algorithms which you can use to achieve this. But fundamentally, they take away that information which is unneeded by the human eye and replace it with the payload. So the general process for modern steganography is to start with a cover object, have your payload--

so that's the information that you want to hide.

Because we're talking ones and zeros, that can be any form of file. And obviously, we want to then take that information, hide it within our cover object, and the resulting output is what we refer to as a stego object. When we're looking at images, we're looking at cover image, payload, and stego image.

Now the whole idea behind this is that the stego image should not be any noticeably different from the original cover image. And so this introduces the concept of steganography. I hope

you enjoy exploring this topic in more depth. And I'll see you next time.

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