STEGANOGRAPHY

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ABSTRACT

Can you imagine if we had the capacity and authority to conceal information that is there in front of us? Today's world generates and transmits a lot of data, thus it should come as no surprise that many data protection techniques have developed.

Well in the world of cybersecurity, steganography is one of the popular techniques for concealing sensitive information inside a regular, non-secret file or message in order to avoid detection and only be decoded at the destination.

The term **"STEGANOGRAPHY"** comes from the Greek words **"steganos"** (which means hidden or covered) and **"graphia"** (which means writing), so steganography translates **"covered in hidden writing".** Steganography is a form of security technique through obscurity, the science and art of hiding the existence of a message between sender and intended recipient. It is a more effective method of communication security than cryptography, which merely hides the message's existence—not its content. The original message is concealed within a carrier such that the carrier's changes are imperceptible. Secret messages have been hidden in a variety of formats, including text, music, video, and digital photos using steganography. When message is hidden in the carrier a stego carrier is formed for example a stego-image and it will be perceived to be as close as possible to the original carrier or cover image by the human senses.

Steganography is limited, just as encryption. For example, if Jack wishes to give Lily an image that contains a hidden message, he must first secretly agree with Lily on a steganography method; otherwise, the image will be useless because the recipient won't know that it contains a secret message.

Steganography is used for covert communication, or keeping a message's existence secret from outside parties. Sending news and information without being restricted or worrying that the communications may be intercepted and linked back to us is achievable with steganography as a solution. For those working in the fields of law enforcement, intelligence, and the military, understanding steganography is becoming increasingly important as they use steganography with existing communication techniques to conduct secret communications.