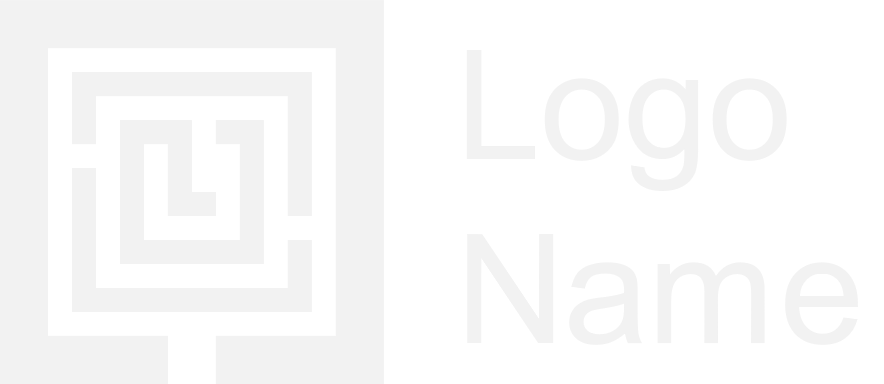


Steganography

Project

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| March 26  2011 Snake Eaters  Authored by:  Tiago Araujo  Shay Jimerson Bailie Allemand Lane Snively |



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| Steganography  COSC 2030: Data Structures  Spring 2019 – Group Project  The art and science of writing hidden messages in such a way that no one separately from the sender and the intended recipient, suspects the presence of the message, a form of safekeeping through obscurity. Literally meaning concealing one piece of information within another.  Physical Techniques  The history of steganography is traced into Ancient Greece and China. The initial recordings go back to 440 BC when Herodotus mentions it twice in his writings. Later, Demaratus sent a warning about a impending attack to Greece by writing it directly on the wooden backing of a wax tablet before applying beeswax to the surface. In addition, after writing on a fine silk cloth the ancient Chinese would then scrunch it up into a ball then cover it in wax and the messenger would swallow the ball. Invisible ink utilized during the Revolutionary War and Da Vinci embedding secret meaning into a painting. During the Second World War, microdots were introduced. By photographically shrinking a page of text onto a dot the size of a millimeter and then stashing it in an innocent note. Knitting yarn written on in Morse code and then knitted into a piece of clothing worn by the courier.  **Digital Methods**  Digital techniques in steganography easily takes an image that can be stealthily encoded with data. Utilizing pixel values, brightness, and filter settings for an image are typically altered to affect the images’ artistic appearance. For security defenders the question is how to detect the modification between an image that’s been changed for legitimate reasons and one that’s been transformed to secretly contain malicious information. |
| *“Nothing is the same twice, there’s no pattern to look for, and the steg itself is completely undetectable.”*  -Simon Wiseman, Chief Technology Officer, Deep Secure |
| Steganography Termsï¨   Carrier or Cover File - A Original message or a file in which    hidden information will be stored ...  Steganography is a concept, not a specific method of clandestine data delivery, it can be used in all sorts of ingenious attacks. Hackers are progressively using this practice to smuggle malicious payloads past security scanners and firewalls. Concealing messages within the lowest bits of noisy images or sound files.  ABSTRACT DATA DESIGN  Design and partial implementation of an Abstract Data Type for a bit-map (raster) image files. The pixel data will start with a line indicating particular features of its image data. The line will say “Alpha=no” or “Alpha=yes” depending on whether the Alpha values are included.  ABSTRACT DATA TYPE   * Get details about the image   + File type   + Format detail   + Image Size * Read message to be hidden * Convert the message to binary data * Detect the image meets the size requirement to hide the message.   + If the image meets the requirements: alter the least significant bit in each pixel and save the new image * Read an image and find the hidden message within it |

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