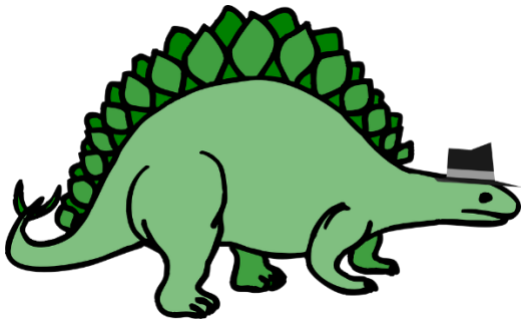

Steganosaurus

User's Guide

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CMSC 495: Current Trends and Projects in Computer Science

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April 5, 2022

Table of Contents

About This Application

Steganography is the practice of concealing a secret message in something that is not secret. It is a simple yet powerful technique for safeguarding and transmitting secret information. ***Steganosaurus*** allows you to explore one of the fundamental concepts of steganography by hiding text inside of an image.

This software allows you to choose any image from your computer, encode that image with your own secret message, then save the encoded image which you may send to your friends or post to the social media platform of your choice. The resulting image will look identical to the original image. However, unbeknownst to the naked eye, deep within the pixels of the image will be your embedded secret message.

Steganosaurus will also allow you to retrieve and display secret messages which have been encoded into an image using the same technique.

Use ***Steganosaurus*** to:

- Send secret messages to your friends
- Protect your 5th century battle plans
- Hide your grandmother's secret cookie recipe from prying eyes (a secret worth keeping!)

System Requirements

Steganosaurus is built with Python, so it is necessary to have Python version 3.9 or higher installed on your computer prior to starting up the application. To get the latest version of Python installed onto your computer, follow the installation procedures for your operating system:

- Windows: https://www.python.org/downloads/windows/
- macOS: https://www.python.org/downloads/macos/
- Linux: https://www.python.org/downloads/source/

You can verify that the installation has been successful by opening the terminal (that's the scary screen where you control your computer with words instead of pictures) and checking the Python version.

Windows

1. Open a terminal using the windows shortcut, *Windows Key + x* (or alternatively navigating to Start -> search -> and type "Command Prompt") and then selecting "Windows Terminal" or "Command Prompt."
2. Once the terminal is opened, type `python --version` and press enter.

3. Verify that the Python version is displayed (e.g., Python 3.9.4). If the Python version is not displayed, please refer to the above Python installation link for troubleshooting/reinstallation of Python.

macOS

1. Open the Terminal application (open the Applications folder, double-click the Utilities folder, then double-click Terminal.)
2. Once the terminal is opened, type `python --version` and press enter.
3. Verify that the Python version is displayed (e.g., Python 3.9.4). If the Python version is not displayed, please refer to the above Python installation link for troubleshooting/reinstallation of Python.

Linux

Python usually comes prepackaged with your Linux distribution so you might not need to install it. To check if it installed, open a terminal window with Ctrl+Alt+T and type `python --version` and press enter.

Getting Started

Open a terminal window in the Steganosaurus directory where you installed the application and type `python3 steganosaurus` to get started.

How To

We think ***Steganosaurus*** is easy to use, but we created it so we may be a bit biased. Below you will find instructions on how to use the various features of ***Steganosaurus***.

Choose an Image

1. Click the "Open Image" button to open the file browser.
2. Navigate to the image file that you want to use for your steganography. Make sure that the file you select is of a proper image file type.

NOTE: Only image files with .jpg, .jpeg, or .png are allowed. An error will display if you attempt to load any other file type.

Your image will display in the window when successfully loaded.

Decode an Image

The application will attempt to decode a stored message as soon as an image is loaded. The decoded message will be displayed in the text window below the image. Nothing will be displayed if the image selected does not contain a secret message.

NOTE: You may see a garbled message which does not make sense due to no message being encoded. This is completely okay.

Encode an Image

1. Open an image file (see Choose an Image above).
2. Enter your secret message in the text field. The number of characters remaining along with the number of characters allowed will be displayed.

NOTE: The length of the allowed message will be limited by the size of the selected image.

3. Click the "Encode Image" button when you are ready to encode the message into the image.

Congratulations! You have successfully encoded an image using steganography!

Reset an Image

If you change your mind, you can start over by removing an encoded message from an image before it is saved.

NOTE: Resetting an image can only be performed on newly encoded images. Saved images cannot be reset.

1. Click the "Reset Image" button.

When selected, any secret messages that you have encoded onto the image will be erased and the image will be restored to its unaltered original form from the time it was opened.

Save an Image

You may save your image after successfully encoding a message.
1. Click the "Save Image" button. The default File Explorer will open.
2. Navigate to the directory where your encoded image is to be saved.

NOTE: You may rename and save the image immediately after opening it before you begin the encoding process to make a copy and preserve the original image file.

Once saved, you can send your secret message as an attachment to an email, text message, or social medial post like any other image.