Abstract

StegChat: A Synonym-Substitution Based Algorithm for Text Steganography

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Steganography, the art of information hiding, has been around for thousands of years, with the earliest examples coming from as early as 450 B.C. Modern steganography can be applied to text, images audio and video. Text, however, has received less attention in recent years, primarily due to the lower capacity to hide information than the other mediums. This should not be the case, as text steganography has many benefits over the other mediums which make it ideal for effective steganography. One advantage of text steganography over images and audio is that while they are both susceptible to compression due to their use of redundant data, this is not an issue with text steganography as even though text contains redundancy, it can not be removed or compressed. Text is also still one of the major forms of communication in the world, both in digital and printed form, and there are not many people who do not have access to text.

In this project I propose a lightweight and robust algorithm for text steganography using the idea of synonym substitution. The algorithm will be demonstrated using a prototype chat-based application, StegChat, and evaluated for its resistance to both automatic and human analysis.