# SAFE COMMUNICATION USING STEGANOGRAPHY

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## ABSTRACT

This paper presents steganography for hiding the fact that communication is taking place, by hiding information in other information. Many different file formats can be used, but we use to digital images are the most popular because of their frequency on the internet. In this project we are trying to hide secret information in images, there exists a large variety of steganography techniques some are more complex than others and all of them have respective strong and weak points. There are different application requirements for steganography techniques used. This project hides the messages in the image using steganography. This project hides the message within the image. This project allows users to choose the bits for replacement instead of LSB replacement from the images. The sender will select the cover image with the secret text or text file and hiding it in the image is sent to the destination with the help of a private or public communication network on the other side. i.e., receiver. The receiver downloads the stego-image and using the software retrieves the secret text hidden in the stego-image. Image steganography is a method of hiding secret information within digital images, enabling covert transmission of data while maintaining the appearance of a harmless image. The proposed safe communication website provides a user-friendly interface that allows individuals to securely exchange confidential messages. The secure communication website aims to address the growing need for privacy and confidentiality in digital communication by leveraging the power of image steganography. By hiding messages within images, it provides a covert and secure means of transmitting information while maintaining the visual appearance of harmless images.

## INTRODUCTION

Steganography is a Greek word that means concealed writing. The word stegano means covered and graphical means writing. Steganography hides the secret data in another file in such a way that only the recipient knows the existence of the communicated data in such a way that it remains confidential. It maintains a secret between two communicating parties. In image steganography, secrecy is achieved by embedding data into the cover image and generating a stego image. There are different types of steganography techniques each has its strengths and weaknesses. In this paper, we review the different security and data-hiding techniques that are used to implement steganography such as LSB, ISB, MLSB, etc. In today'sworld, communication is the basic necessity of every growing area. Everyone wants the secrecy and safety of their communicating data. In steganography, the process of hiding information content inside any multimedia content like image, audio, or video is referred to as Embedding.

**To increase the confidentiality of communicating data both techniques may combine.**

**Application of Steganography**:

 i) **Confidential Communication**

 ii) **Protection of Data Alteration**

 iii) **Access Control System for Digital Content Distribution**

**SCOPE OF RESEARCH**

Steganography, though is still a fairly new idea There are constant advancements in the computer field, suggesting advancements in the field of steganography as well. Likely, there will soon be more efficient and more advanced techniques for Steganalysis. Knowing how difficult it is to detect the presence of a fairly large text file within an image, imagine how difficult it is to detect even one or two sentences embedded in an image! It is like finding a microscopic needle in the ultimate haystack. In the future, it is hoped that the technique of Steganalysis will advance such that it will become much easier to detect even small messages within an image. In this work, it explores only a small part of the science of steganography. **As a new discipline, there is a great deal more research and development to do. The following section describes areas for research that were offshoots of, or tangential to, our main objectives.**

1. **Detecting Steganography in Image Files**

2. **Steganography on the World Wide Web**

3. **Steganography in printed media**