



# An Android Application For Image Steganography And Editing App

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**Abstract:** Image Steganography is mainly used for hiding an image or secret message in a cover image. For data hiding this technique is being widely used for so many years. Image steganography is being used now by government, individual sender and receiver, in business and in so many fields. Now-A-Days this process has become very popular worldwide. People are doing research on image steganography and inventing new algorithms for image steganography. Hiding data in cover image by modifying bits of that is now optimized by so many new algorithms. Enthusiastic people are increasing demand of researching on image steganography and developing pc software and mobile application using different developing tools, programming languages and their own invention, algorithms etc. Images are the most widespread carrier medium. They are used for steganography in the following way. The message may firstly be encrypted. They're used for steganography in the following way. The message may firstly be encrypted. The sender embeds the secret message to be sent into a graphic file. This results in the production of what is called steganography-image. Additional secret data may be needed in the hiding process e.g. a steganography key etc. This steganography-image is then transmitted to the recipient.

**Keywords:** Android App, Image Steganography, Image editing app, Encoding and Decoding.

## I. INTRODUCTION

Data hiding is a popularly used technique for secure communication. Data hiding is the technique of embedding information into digital content without causing perceptual degradation. Watermarking, cryptography and steganography are three famous techniques used in data hiding. Steganography is an ancient science for hiding the information in the communication. Steganography is defined as a technique for concealing information and it is applied in the area of the computers and networks widely. There are different types of steganography processes like steganography for hiding data in a text, steganography for hiding data in an image, steganography for hiding images in an audio, steganography for hiding images in a video, steganography for hiding images in a protocol etc. Among them image steganography is the mostly used technique now-a-days. Image Steganography is defined as a hiding process of a secret message within an image.

## II. METHODOLOGY

For image steganography process in our android app we have done our works using some procedures. There are encoding step and decoding step. Procedures we have used are given below like algorithms.

### Algorithm for Encoding:

1. Read a cover image and a text message.
2. Convert cover image and text message into base 64 format.
3. Delete last 4 bits of the base 64 format data of cover image.
4. Calculate number of rest of the bits of base 64 format data of the cover image. Name it Pj
5. Add the text message there at the end of the base 64 format data of image.
6. Write steganography image.

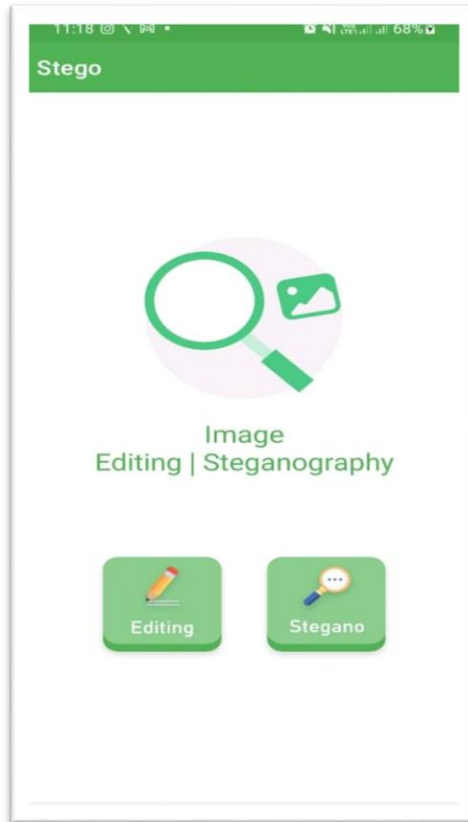
### Algorithm for Decoding:

1. Read the base64 data of steganography image
2. Calculate the number of the bits of base 64-bit format data of steganography image. Name it Qj.



3. Subtract Pj from Qj.Name it Msglen.
4. After knowing the Msglen we can easily retrieve the secret message from Qj.

**III. MODELING AND ANALYSIS**



**Fig 1: Home Screen**

**IV. RESULTS AND DISCUSSION**

For observing results we have tested it practically in an android handset. With 5 test images we have tested for various messages.

- ❖ The characteristics of smart phones used for testing:
- ❖ Used Model: SYMPHONY XPLOER ZV
- ❖ Version: Android 5.0 (Lollipop)
- ❖ Android Processor: Octa core 1.4 GHz
- ❖ ROM: 16GB
- ❖ The characteristics of the cover image:
- ❖ Type: JPG file Dimension: 4 KB
- ❖ Pixel arrangement: 8x8

**Table 1. Comparison between JPEG and PNG**

	JPEG	PNG
File Type	Joint Photographic Expert Group	Portable Network Graphics
File Size	Small	Larger than JPEG
File Suffix	.jpg	.png
Resolution	High	High

**V. CONCLUSION**

'Image Steganography' allows us to embed text and files into images, with optional encryption. Here we are using the term image steganography for hiding message data in image data bits. Here for image steganography process in our project android app we are using new techniques. We can input cover image of small size. Thus, execution of encoding and decoding will take less time. Images with size of less than 10 pixels will be better. Users will experience the app with more reliability. We shall try to build this app as a very efficient app and installable in most of the versions of android.

**VI. REFERENCES**

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