Recovering Of Images From Distortion Using Quality Index Method

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Abstract—**Nowadays, If we take input images from digital camera then we seen that images are distorted due to the change in camera position, noise and reflection angel. Full duplex; Real-time Transmission. images are one of the many types of media used on Wikipedia and may be photos, drawings, logos, or graphs. All images that are used must be legal in the United States, where Wikimedia's servers are located. Images are stored on the All free content is stored on "Commons" and images that have a copyright are stored on media, under a fair use rationale. So this is necessary to recover images that's why we can use magnitude and phase spectrum method. Previous researches can not provide purely colourfull images. New approaches provide best quality of result for recovering images.**
Keywords — magnitude, phase spectrum and quality index method.

I. Introduction

Data recovery is the process of salvaging and handling the data through the data from damaged, failed, corrupted, or inaccessible secondary storage media when it cannot be accessed normally. Often the data are being salvaged from storage media such as internal or external hard disk drives, solid-state drives (SSD), USB flash drive, storage tapes, CDs, DVDs, RAID, and other electronics. Recovery may be required due to physical damage to the storage device or logical damage to the file system that prevents it from being mounted by the host operating system (OS).

The most common data recovery scenario involves an operating system failure, accidental damage etc. (typically on a single-disk, single-partition, single-OS system), in which case the goal is simply to copy all wanted files to another disk. This can be easily accomplished using a Live CD, many of which provide a means to mount the system drive and backup disks or removable media, and to move the files from the system disk to the backup media with a file manager or optical disc authoring software. Such cases can often be mitigated by disk partitioning and consistently storing valuable data files (or copies of them) on a different partition from the replaceable OS system files.

Another scenario involves a disk-level failure, such as a compromised file system or disk partition, or a hard disk failure. In any of these cases, the data cannot be easily read. Depending on the situation, solutions involve repairing the file system, partition table or master boot record, or hard disk recovery techniques ranging from software-based recovery of corrupted data, hardware-software based recovery of damaged service areas (also known as the hard drive's "firmware"), to hardware replacement on a physically damaged disk. If hard disk recovery is necessary, the disk itself has typically failed permanently, and the focus is rather on a one-time recovery, salvaging whatever data can be read Photo recovery is the process of salvaging digital photographs from damaged, failed, corrupted, or inaccessible secondary storage media when it cannot be accessed normally. Photo Recovery can be considered a subset of the overall Data Recovery field. Photo loss or deletion failures may be due to both hardware or software failures.

When data have been physically overwritten on a hard disk drive it is generally assumed that the previous data are no longer possible to recover. In 1996, Peter Gutmann, a computer scientist, presented a paper that suggested overwritten data could be recovered through the use of magnetic force microscope. In 2001, he presented another paper on a similar topic.[Substantial criticism has followed, primarily dealing with the lack of any concrete examples of significant amounts of overwritten data being recovered.[7] Although Gutmann's theory may be correct, there is no practical evidence that overwritten data can be recovered, while research has shown to support that overwritten data cannot be recovered. To guard against this type of data recovery, Gutmann and Colin Plumb designed a method of irreversibly scrubbing data, known as the Gutmann method and used by several disk-scrubbing software packages.

In this paper Solid-state drives (SSD) overwrite data differently from hard disk drives (HDD) which makes at least some of their data easier to recover. Most SSDs use flash memory to store data in pages and blocks, referenced by logical block addresses (LBA) which are managed by the flash translation layer (FTL). When the FTL modifies a sector it writes the new data to another location and updates the map so the new data appear at the target LBA. This leaves the pre-modification data in place, with possibly many generations, and recoverable by data recovery software.

II. EXISTING METHOD

Visval Cryptography (VC) is a technique that encrypts a secret image into n shares, with each participant holding one or more shares. Anyone who holds fewer than n shares cannot reveal any information about the secret image. Stacking the n shares reveals the secret image and it can be recognized directly by the human visual system [1]. Secret images can be of various types: images, handwritten documents, photographs, and others. Sharing and delivering secret images is also known as a visual secret sharing (VSS) scheme. The original motivation of VC is to securely share secret images in non-computer-aided environments; however, devices with computational powers are ubiquitous

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(e.g., smart phones). Thus, sharing visual secret images in computer-aided environments has become an important issue today.

Conventional shares, which consist of many random and meaningless pixels, satisfy the security requirement for pro-tecting secret contents [6]–[8], but they suffer from two drawbacks: first, there is a high transmission risk because holding noise-like shares will cause attackers' suspicion and the shares may be intercepted. Thus, the risk to both the participants and the shares increases, in turn increasing the probability of transmission failure. Second, the meaningless shares are not user friendly. As the number of shares increases, it becomes more difficult to manage the shares, which never provide any information for identifying the shares. This method not create original images from this distortions output.

III. EXISTING SYATEM

Previous research into the Extended Visual Cryptography Scheme (EVCS) or the user-friendly VSS scheme provided some effective solutions to cope with the management issue [5]–[13]. The shares contain many noise-like pixels or display low-quality images. Such shares are easy to detect by the naked eye, and participants who transmit the share can easily lead to suspicion by others. By adopting steganography techniques, secret images can be concealed in cover images that are halftone gray images and true-color images [1]–[5] However, the stego-images still can be detected by steganalysis methods [7]. Therefore the existing VSS schemes still must be investigated for reducing the transmission risk problem for carriers and shares. A method for reducing the transmission risk is an important issue in VSS schemes. Disadvantages of Existing Systems are First, there is a high transmission risk because holding noise-like shares will cause attackers' suspicion and the shares may be intercepted. Second is The meaningless shares are not user friendly. As the number of shares increases, it becomes more difficult to manage the shares, which never provide any information for identifying the shares.

Second method is average based method, in this method we can average of temporal of the input images. But this method is fails when object is to be very large. It also requires fine details of system. Using new approaches we can identify the colour full images, also we obtain better quality of images as compared to other method.

Figure.1: input of test sequence.

Figure.1 shows a set of input images taken from a digital camera, during this process image is distorted such as reflection blurr and incorrect camera position.

Research has focused on gray-level and color secret images to develop a user-friendly VSS scheme that adds cover images into the meaningless shares [8]–[13]. To share digital images, VSS schemes use digital media as carriers, which makes the appearance of the shares more variable and more user-friendly [13]. Several papers investigated meaningful halftone shares [8]–[11] and emphasized the quality of the shares more than the quality of the recovered images. These studies had serious side effects in terms of pixel expansion and poor display quality for the recovered images, although the display quality of the shares was enhanced. Hence, researchers make a tradeoff between the quality of the shares, the quality of the recovered images, and the pixel expansion of the images.

In another research branch, researchers used steganography techniques to hide secret images in cover images [7-10]. Steganography is the technique of hiding information and making the communication invisible. In this way, no one who is not involved in the transmission of the information sus-pects the existence of the information. Therefore, the hidden information and its carrier can be protected. Steganography has been used to hide digital shares in VSS schemes. The shares in VSS schemes are embedded in cover images to create stego-images. Although the shares are concealed totally and the stego-images have a high level of user friendliness, the shared information and the stego-images remain intercepted risks during the transmission phase [11].

Recently, tried to share a secret image via natural images [18]. This was a first attempt to share images via natural images; however, this work may suffer a problem the textures of the natural images could be disclosed on the share. Moreover, printed images cannot be used for sharing images in the previous scheme.

So far, sharing visual secret image via unaltered printed media remains an open problem. In this study, we make an

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extension of the previous work in [18] to promote its practicability and explore the possibility for adopting the unaltered printed media as shares

Figure.2: output of average based method.

IV. PROPOSED METHOD

In this paper we can use **image segmentation** is the process of partitioning a digital image into multiple segments (sets of pixels, also known as superpixels). The goal of segmentation is to simplify and/or change the representation of an image into something that is more meaningful and easier to analyze.[1][2] Image segmentation is typically used to locate objects and boundaries (lines, curves, etc.) in images. More precisely, image segmentation is the process of assigning a label to every pixel in an image such that pixels with the same label share certain characteristics.

The result of image segmentation is a set of segments that collectively cover the entire image, or a set of contours extracted from the image (see edge detection). Each of the pixels in a region are similar with respect to some characteristic or computed property, such as color, intensity, or texture. Adjacent regions are significantly different with respect to the same characteristic(s).[1] When applied to a stack of images, typical in medical imaging, the resulting contours after image segmentation can be used to create 3D reconstructions with the help of interpolation algorithms like Marching cubes.

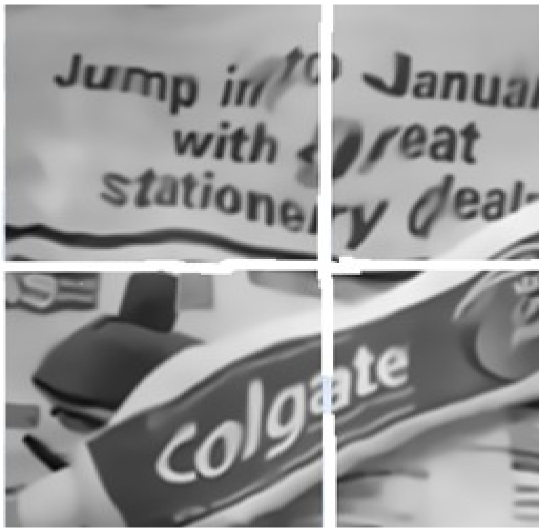

Figure.3: image dividation result.

A. Recovering data after logical failure

Logical Damage or the inability to view photos can occur due to many reasons. The most common reasons are:

1. Deletion of photos.
2. Corruption of boot sector of media.
3. Corruption of file system.
4. Disk formatting.
5. Move or Copy errors.

The majority of photo recovery programs work by using a technique called file carving (data carving). There are many different file carving techniques that are used to recover photos. Most of these techniques fail in the presence of file system fragmentation. Simson Garfinkel showed that on average 16% of JPEGs are fragmented, which means on average 16% of jpegs are recovered partially or appear corrupt when recovered using techniques that can't handle fragmented photos.

Physical damage:-

A wide variety of failures can cause physical damage to storage media. CD-ROMs can have their metallic substrate or dye layer scratched off; hard disks can suffer any of several mechanical failures, such as head crashes and failed motors; tapes can simply break. Physical damage always causes at least some data loss, and in many cases the logical structures of the file system are damaged as well. Any logical damage must be dealt with before files can be salvaged from the failed media.

Most physical damage cannot be repaired by end users. For example, opening a hard disk drive in a normal environment can allow airborne dust to settle on the platter and become caught between the platter and the read/write head, causing new head crashes that further damage the platter and thus compromise the recovery process. Furthermore, end users generally do not have the hardware or technical expertise required to make these repairs. Consequently, data recovery companies are often employed to salvage important data with the more reputable ones using class 100 dust- & static-free clean rooms.

Recovering data from physically damaged hardware can involve multiple techniques. Some damage can be repaired by replacing parts in the hard disk. This alone may make the disk usable, but there may still be logical damage. A specialized disk-imaging procedure is used to recover every readable bit from the surface. Once this image is acquired and saved on a reliable medium, the image can be safely analyzed

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for logical damage and will possibly allow much of the original file system to be reconstructed.

Hardware repair:-

Media that has suffered a catastrophic electronic failure requires data recovery in order to salvage its contents.

A common misconception is that a damaged printed circuit board (PCB) may be replaced during recovery procedures by an identical PCB from a healthy drive. While this may work in rare circumstances on hard drives manufactured before it will not work on newer hard drives. Each hard drive has what is called a System Area. This portion of the drive, which is not accessible to the end user, contains adaptive data that helps the drive operate within normal parameters. One function of the System Area is to log defective sectors within the drive; essentially telling the hard drive where it can and cannot write data. The sector lists are also stored on various chips attached to the PCB, and they are unique to each hard drive. If the data on the PCB do not match what is stored on the platter, then the drive will not calibrate properly. In most cases the hard drive heads will click, because they are unable to find the data matching what is stored on the PCB.

Logical damage:-

Result of a failed data recovery from a hard disk drive.

The term "logical damage" refers to situations in which the error is not a problem in the hardware and requires software-level solutions.

IV. ALGORITHMIC DETAILS AND RESULTS

Figure.4: flow chart of quality index.

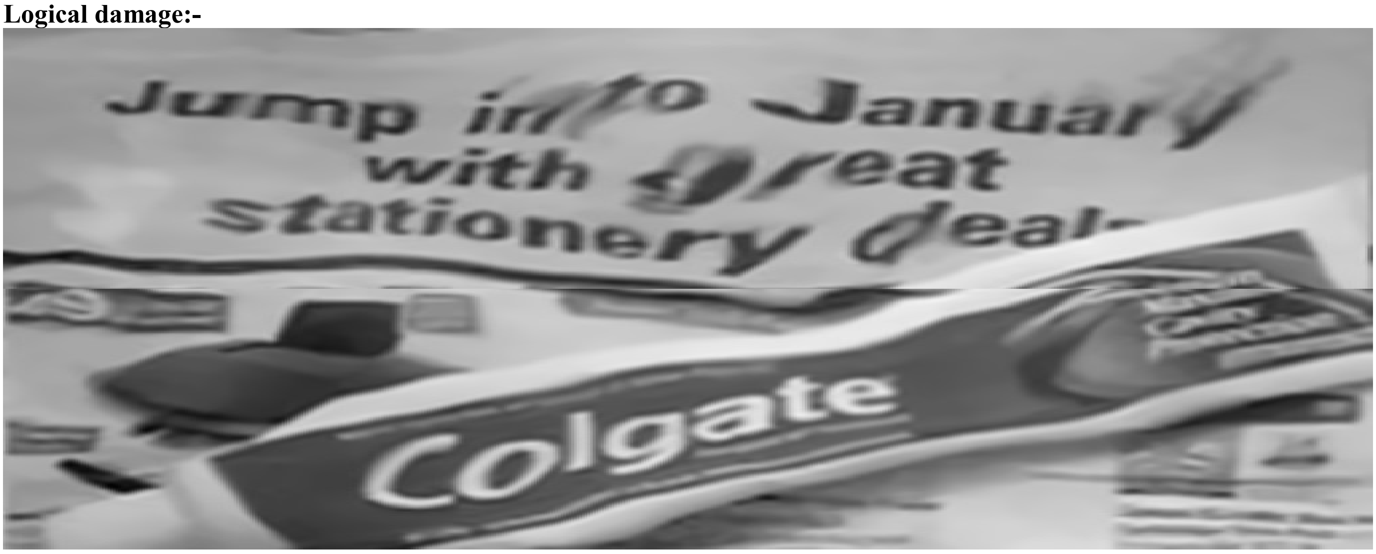

Figure.5: Result Of Our Method (Gray Form).

Figure.6: Result Of Our Method (Colour Form).

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V. CONCLUSION AND FUTUREWORK

In this paper, we recover the image from noisy images so its is very efficient method. Using magnitude and phase spectrum method. This method does not requires fine details .but fail when PSRR is larger than one. So new advanced approachs uses combination of visual cryptography And stegnography technique.this new approach can provides clearly images.

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