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# Detection of Video Piracy Using Invisible Watermarking

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Abstract—The most important attribute of digital information is the ease of production and distribution over numerous places. The threat that there are number of perfectly congruent copies of audio , video and image in the file requires counterattacking the need of hiding secret data within the original data. In day-to-day life, internet is an important channel for digital source, but many intruders are misusing by constructing illegal copies and leaking the information which creates a bad environment in the field of software field. The solution involves using digital watermarking. The work needs to be performed cautiously in order to maintain the availability of multimedia information but, till that time the industry must develop with ways to guard intellectual property of stakeholders of such data. Out of all possible methods, digital watermarking has earned most available attention in the software industry. In the field of information hiding steganography and watermarking work parallel as well as concurrently. Generally watermarks are used where authentication or ownership is required. It is a good way by which anyone can confirm the ownership of multimedia. This paper attempts to first introduce digital watermarking as well as some of its necessary notions.

Keywords—steganography; watermarking.

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## I.    INTRODUCTION

In situations where the video data should be credible, that is when it needs to be used as evidence, this issue becomes serious. So we need authentication techniques to maintain authenticity, integrity, and security of digital video content.A digital watermark is a distinguishing piece of information that is embedded in the data that it is intended to protect, this meaning that it should be very difficult to extract or remove the watermark from the watermarked object.The goal of the watermark is to help to identify the source of an unauthorized copy of media files and again trace them back to the copyright authorized recipient. Drawback of this system is very costly.

## II.    DESIGN AND IMPLEMENTATIONS

The Least Significant Bit (LSB) is one of the main techniques in spatial domain image Steganography. The LSB is the lowest significant bit in the byte value of the image pixel. The LSB based image steganography embeds the secret in the least significant bits of pixel values of the cover image (CVR).The algorithms presented here are implemented with Java with Net beans IDE downloaded. In java color pixel value is composed of four bytes: alpha value, red, green and blue planes(components) of image as shown in fig 1
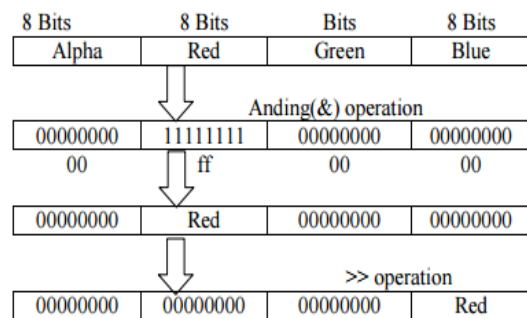


Fig 1: Representation of Java pixel

To perform any image operation on color image, red, green and blue components are separated. We can separate red, green and blue components by performing right shift operations. Once, these components are separated, we can process them as per requirement of application.

## III.    ALGORITHM.

For watermarking:
1. Video file is taken as input.
2. Now divide video into frames using MATLAB.
3. Using java import bits from frames.
4. Select Location and enter the detailed information.
5. Define the required snippet for selected location.

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6. Create key file to store location information.

7. Convert frames back into video.
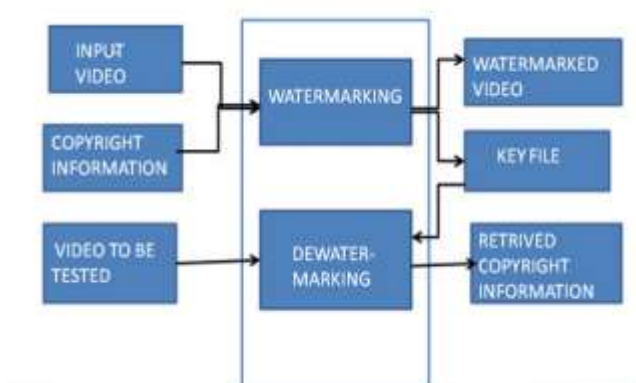


For Piracy Detection:

1. The sample video is taken as an input.

2. Using MATLABit is then divided into frames.

3. With java compare actual key file with generated key file.

4. True-video not pirated/False-video pirated.

## IV. CONCLUSIONS

Though there are various methods available protecting.the copyright and similar issues, digital watermark is usedbecause of its advantages like being robust, fragile andimperceptible nature.The proposed system in this projecthas used Invisible digital watermarking technique todetect video piracy and has overcome most of themajor short comings of the existing system .It has several advantages as compared to existing systems .The detection of video piracy is relatively easier ,simpler andSecure due to the password protected key which is availableonly to the owner of the video.

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