A

PROJECT REPORT

ON

LAZY WAVELET TRANSFORM BASED STEGANOGRAPHY IN VIDEO

Submitted in partial fulfilment of the

Requirements for the award of degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING

BY

DISHA HARPLANI (1014310819)

EKANSH AGARWAL (1014310820)

SHARAD MISHRA (1014310841)

SRISHTI AGARWAL (1014310845)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IMS ENGINEERING COLLEGE, GHAZIABAD (U.P.) INDIA

(Affiliated to U. P. TECHNICAL UNIVERSITY, LUCKNOW, INDIA)

April, 2014

LAZY WAVELET TRANSFORM BASED STEGANGRAPHY IN VIDEO

B.Tech Project Report

Submitted by

DISHA HARPLANI (1014310819)

EKANSH AGARWAL (1014310820)

SHARAD MISHRA (1014310841)

SRISHTI AGARWAL (1014310845)

Under the Guidance of

Ms Shaili Gupta, Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

IMS ENGINEERING COLLEGE, GHAZIABAD (U.P.) INDIA

(Affiliated to U. P. TECHNICAL UNIVERSITY, LUCKNOW, INDIA)

April, 2014

CANDIDATES DECLARATION

This is to certify that the work which is being presented in the B.Tech. Project Report entitled **"Lazy Wavelet Tansform Based Steganography in Video"**, in partial fulfillment of the requirements for the award of the **Bachelor of Technology in Computer Science & Engineering** and submitted to the **Department of Computer Science & Engineering** of **IMS Engineering College, Ghaziabad, UP** is an authentic record of our own work carried out during a period from August 2013 to April 2014 under the supervision of Ms Shaili Gupta, Assistant Professor, Computer Science and Engineering Department.

The matter presented in this project report has not been submitted by me for the award of any other degree elsewhere.

Disha Harplani
1014310819

Ekansh Agarwal
1014310820

Sharad Mishra
1014310841

Srishti Agarwal
1014310845

CERTIFICATE

This is to certify that the B.Tech. Project Report entitled **"Lazy Wavelet Transform based Steganography in Video"** submitted by Disha Harplani (1014310820), Ekansh Agarwal (1014310820) ,Sharad Mishra(1014310841) and Srishti Agarwal (1014310845) to the **Department of Computer Science & Engineering** of **IMS Engineering College, Ghaziabad (UP)**, is a bonafide work carried out under my supervision and guidance and is worthy of consideration for the award of the degree of **Bachelor of Technology in Computer Science & Engineering**.

(Signature)

Date:

Ms. Shaili Gupta
Assistant Professor

(Signature)

Prof.(Dr.) Pankaj Agarwal
Head of Department

(Signature)

Prof.(Dr.) S.P. Pandey
Director

ACKNOWLEDGEMENT

We would like to take this opportunity to express our deepest gratitude to all those who helped us directly or indirectly during the time we completed our project.

Firstly, we would like to thank our project mentor, Ms Shaili Gupta, for being a great mentor. Moreover, Mr Mayank Arya Chandra has been a great advisor. His advice, encouragement and critics have always acted as a source of constant motivation for us during the tenure of the project. We are highly obliged to all the faculty members of Computer Science and Engineering Department for their support and encouragement.

Last but not the least, we are grateful to our parents for their constant support during the course completing our graduation.

Disha Harplani
Ekansh Agarwal
Sharad Mishra
Srishti Agarwal

ABSTRACT

Steganography is the art of hiding information and an effort to conceal the existence of the embedded information. It serves as a better way of securing message than cryptography which only conceals the content of the message not the existence of the message. Original message is being hidden within a carrier such that the changes so occurred in the carrier are not observable. In this paper we will discuss how digital images can be used as a carrier to hide messages. This paper also analyses the performance of some of the steganography tools. Steganography is a useful tool that allows covert transmission of information over an over the communications channel. Combining secret image with the carrier image gives the hidden image. The hidden image is difficult to detect without retrieval.

The hidden message can be text, image, speech or even video and accordingly the cover can be chosen from either an image or a video. The message is concealed in lowest bits of cover. We shall perform steganography on videos and hide message in encrypted form, by this security is increased by two times. The mostly used technique is LSB (Least Significant Bit)[1] steganography. But instead of simple LSB technique, we will use Lazy Lifting Wavelet transform [2]and then apply LSB in the sub-bands of the video that has been obtained. The proposed approach will utilize the video as well as audio component to hide message, in video component we will hide the encrypted message and in audio we hide the length, up to which the message is hide in video, using LSB technique. Experimental results show that the proposed technique has a high payload capacity and low computational requirement.

TABLE OF CONTENTS

PAGE NO.

LIST OF FIGURES

PAGE NO.

LIST OF TABLES

PAGE NO.