VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

SNAKE AND LADDER BASED ALGORITHM FOR STEGANOGRAPHIC APPLICATION

SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF DEGREE OF

BACHELOR OF ENGINEERING

IN

INFORMATION SCIENCE AND ENGINEERING

BY

Ms. GOWRI BONDADE	4AL12IS015
Ms. SUSHMITA PUJARI	4AL12IS026
Ms. RACHANA SHETTY	4AL12IS027
Ms. SNEHA POOJARI	4AL12IS032

<u>Under the Guidance of</u>

Mrs. DIVYA RAVI. N

Assistant Professor

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA

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ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI D.K. - 574225

KARNATAKA

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project entitled "SNAKE AND LADDER ALGORITHM BASED ON STEGANOGRAPHIC APPLICATION" has been successfully completed by
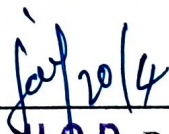
Ms. GOWRI BONDADE	**4AL12IS015**
Ms. SUSHMITA PUJARI	**4AL12IS026**
Ms. RACHANA SHETTY	**4AL12IS027**
Ms. SNEHA POOJARI	**4AL12IS032**

the bonafide students of Department of Information Science and Engineering, Alva's Institute of Engineering and Technology in partial fulfillment for the award of BACHELOR OF ENGINEERING in DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2015–2016.

It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

15/04/16

Mrs. Divya Ravi. N
Assistant Professor
Guide

Mr. Jayantkumar A. Rathod
Dept. Of In**Associate Professor** Engineering
Alva's **Head of the Department** nology
Mijar, MOODBIDRI - 574 225
External Viva

Dr. Peter Fernandes

Principal

Signature with Date

Name of the Examiners

1.

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ABSTRACT

Steganography is the art of hiding data in a particular form of media and making it accessible for the recipient. The process of encrypting data can be embedded in media like image and audio. The project represents a snake and ladder based algorithm for encrypting a streamline of bits in a grayscale image. The project has the algorithm based on the game of snake and ladder and the movement of participant based on the Prime and non prime value of pixel location.

Steganography is complementary to cryptography, it aims at hiding the existence of a message rather than making the message illegible through encryption. The stego key1 is encrypted on maximum PVD obtained Pixel value differencing is able to provide a high quality stegno image in spite of the high capacity of the concealed information. That is, the number of insertion bits is dependent on whether the pixel is an edge area or smooth area. In edge area the difference between the adjacent pixels is more, whereas in smooth area it is less. While human perception is less sensitive to subtle changes in edge areas of a pixel, it is more sensitive to changes in the smooth areas. It hides the data in the target pixel by finding the characteristics of four pixels surrounding it.

The idea of PDF from snake and ladder game is developed in along with the concept of pixel value differencing for encrypting the stegnokeys, the column addressand length of secret data. The image matrix is considered as M x N board of mentioned game.The project represents a safe and effective algorithm as compared to traditional difference steganography methods and developed a snake and ladder method for embedding secret data.