



Insights May - 2010



KOTTAM
INSTITUTIONS

Sri Kottam Tulasi Reddy Memorial College of Engineering

Kondair (V), Itikyal (M), Mahaboobnagar - 509 125.

Annual Day Celebrations

The 10th Annual Day of Sri Kottam Tulasi Reddy Memorial College of Engineering was celebrated on April 02, 2010. Sri C G S Sarma, former Director, DEBEL, Bengaluru was the Chief Guest on this occasion. In his address he advised the students to be competitive and acquire practical skills which are necessary for industrial application. The function was presided over by Sri. K L Narasimham, Chairman of the college. He expressed immense happiness on the performance of students and faculty on academic matters.

The winners in sports and cultural competitions received prizes from the Chief Guest and the Chairman. The students of the college presented a cultural programme.

Spare Your Time....

Spare time to observe
It is to rectify mistakes

Spare time to live
It is the source of wisdom

Spare time for friendship
It is the root of happiness

Spare time to work
It is base of property

Spare time to admire
It is for encouragement

Spare time to walk
It is the wealth for good health

Spare time to play
It is for discipline and enthusiasm

Spare time to read
It is foundation of knowledge

Spare time for family
It is foundation of humanity

Spare time to pray
It is worship for purity of thoughts

K SUMITHA
IV B Tech
ECE

DIGITAL WATERMARKING

Watermarking is one of the multimedia security techniques. This article is intended to give an introduction to watermarking, comparison with other data hiding techniques, basic principle involved for building watermarking system.

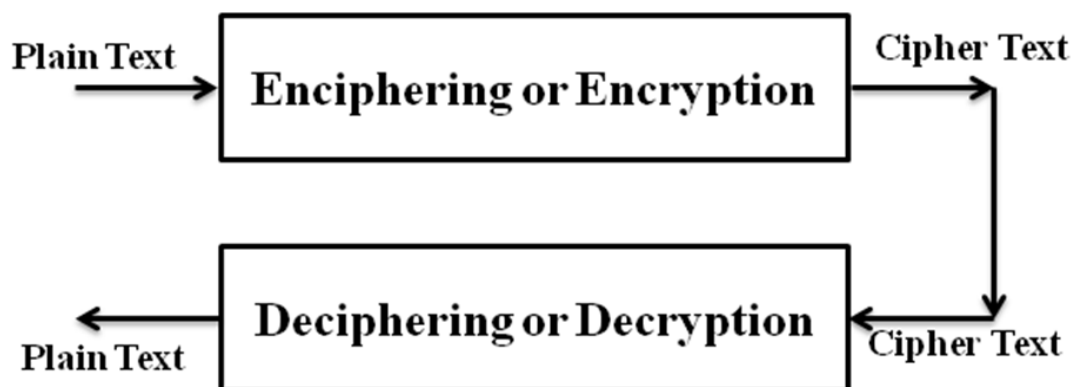
The rapid growth of multimedia over internet demands sophisticated techniques for secure and efficient access to information. With the advent of digital data, issues of copyright protection have become more important, since duplication of digital data signals results in an inherent decrease in quality. There is growing need to discourage unauthorised duplication and use of digital data. Early research concentrated on watermarking to protect copyrighted multimedia products such as text, audio, image and video.

The basic idea of a watermark is to include a special code or information within the host signal. This code should be transparent to the user and resistant against removal attacks of various types. The embedded watermark should be in such a way that it is invisible to the user to prevent unauthorized detection and removal. The watermark signal should also have similar characteristics as the original signal and be robust to any manipulation or signal processing operations on the host data. Watermarking is used for owner identification, royalty payments, and authentication by determining whether the data has been altered in any manner from its original form.

COMPARISON WITH OTHER DATA HIDING TECHNIQUES

Watermarking and Cryptography

Cryptography is a field of mathematics and computer science concerned with information security. It is concerned solely with encryption, means of converting information from its normal comprehensible form into an incomprehensible format, rendering it unreadable without secret knowledge. The general cryptography technique is shown in the figure.



Cryptography scrambles a message so that it cannot be understood. A watermarking method hides the message so it cannot be seen. The goal of watermarking is not to restrict or regulate access to the host signal, but to ensure that embedded data remain inviolate and recoverable. Watermarking is intended by its developers as the solution to provide protection for content.

Watermarking and Steganography

Steganography, data hiding, data embedding and watermarking are techniques used for invisible embedding of information in the host data, with the intent that information is stored/transmitted together with the host data retaining secret information. The main difference between steganography and watermarking is that steganographic methods rely on the fact that covert communication is a point to point communication between trusting parties alone and is unknown to third parties. Thus, steganographic methods are typically not designed to be robust against attempted attacks. In watermarking methods the existence of the embedded information is

unknown to unauthorised parties who have access to the data, and who can attempt unlawful attacks.

The two major branches of information hiding; steganography and watermarking, share many characteristics and also differ in a number of ways. The most fundamental difference is that the object of communication in watermarking is the host signal, with the embedded data providing copyright protection. In steganography the object to be transmitted is the embedded message, and the cover signal serves as an innocuous disguise chosen fairly by the user based on its technical suitability.

BASIC WATERMARKING SYSTEM

The process involved in building a watermarking system has three main issues which are design of a watermark, design of an embedded algorithm and design of detection algorithm.

The steps are

1. Design of watermark signal 'W' to be added to the host data 'X'. The watermark signal depend on the secret key 'K' and watermark information 'I' which is mathematically expressed as
2. Design of the embedding method that incorporates the watermark signal 'W' into the host data 'X' yielding watermarked data 'Y' which is mathematically expressed as

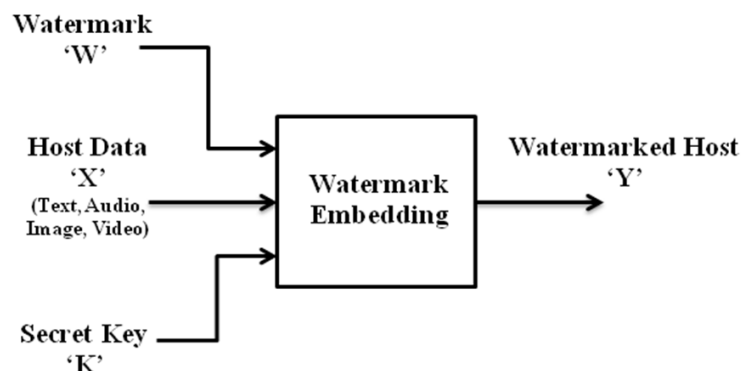
$$W = f_0(I, K)$$

where f_0 is a function to get watermark signal

$$Y = f_1(W, X)$$

where f_1 is a function for embedding method

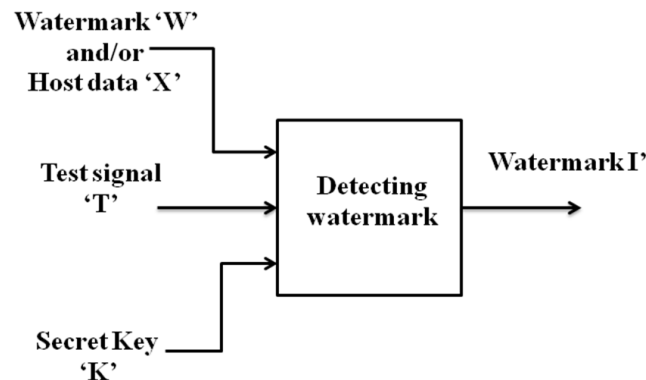
The block diagram in figure gives the steps involved for embedding the watermark in the host data.



3. Design of the detection method when tested signal 'T' is given that recovers the watermark information 'I' from the watermarked data Y and secret key K. In some watermarking techniques even the host data is taken for the detection. The block diagram shown in figure explains the steps involved for detection of the watermark. This can be expressed in mathematical form as

$$I = f_2(Y, K)$$

where f_2 is a function for detection method



Principal block diagram of watermark detection.

M. R. Srinivas
Asst. Prof, ECE

ACHIEVEMENTS AND ACTIVITIES

- **S. Suraj Siddhartha and K. Shiva Sai Krishna** of III B. Tech, ECE presented a paper on “Wireless Technology” on March 23, 2010 at AEON, Kakinada, JNTU.
- **S. Suraj Siddhartha and K. Shiva Krishna** of III B. Tech, ECE presented a paper on “4G Technology” at 41st IETE Symposium on Role of IT and Telecommunication in Rural India, SVU, Tirupathi, during April 9 – 10th , 2010.
- **S.Vinay Kumar and K. Shiva Sai Krishna** of III B. Tech, ECE presented a paper on “WIFI & WIMAX in Satellite Communication” during April 9 – 10th , 2010 at 41st IETE Symposium, SVU, Tirupathi. They got 3rd prize.
- **T. Shankarnath Goud and M. Ganesh** of III B. Tech, ECE presented a paper on “Wireless Technology to Increase access to Villages ” during April 9 – 10th , 2010 at 41st IETE Symposium, SVU, Tirupathi.
- **P.V.Kavya and Chaitra R. Ananth** of III B. Tech, ECE presented a paper on “Fuzzy Logic Content based Image Resizing using Seam Carving” in PRAGNYA – 2010, 7th National Level Technical Conference on Emerging Technologies organized by JPNCE, Mahabubnagar during April 16 - 17, 2010.
- **P.Harisha and V. Mounika** of III B. Tech, IT presented a paper on “Mobile Computing and Communications” in PRAGNYA – 2010, 7th National Level Technical Conference on Emerging Technologies organized by JPNCE, Mahabubnagar on 16th and 17th April, 2010. They won the first prize of Rs 10,000/-.

- **M. P. Pavithra and R.N. Padmavathy** of III B. Tech, CSE presented a paper on “SIGNCRYPTION” at VNR Vignan Jyothi Institute of Engineering & Technology, Hyderabad on 24.02.2010.
- **B. Rajesh and Srujana** of IV B. Tech, EEE presented a paper on “Wireless Energy Transmission” at MVSR Engineering College, Hyderabad on 09.10.2009.
- **M. Srikanth and M. Srividya** of IV B. Tech, EEE presented a paper on “Wireless Energy Transmission Systems” at G. Pullaiah College of Engineering & Technology, Kurnool on 10.04.2010.
- **M. Praveen and M. Kumar** of II MCA presented a paper on “A New Technology for Data Mining” at Annamacharya Institute of Engineering & Technology on 12.03.2010.
- **R. Anand, M.A. Amreen and T. Rajasekhar** of II MBA attended NEUPHYTE(H.R) at Prabhath Institutions, Nandyal on 29.03.2010.
- **R. Anand, C. Srinivasulu and K. Ashok** of II MBA attended BIZDOM(Marketing) event at St. John’s College of Engineering, Yemmiganur on 31.03.2010 and won II prize.
- **K. Tejaswi and G. Bindu Madhavi** of II MBA attended NEUPHYTE(Finance) event at Prabhath Institutions, Nandyal on 29.03.2010.
- A ten day programme with our college NSS volunteers was conducted from February 14 – 23, 2010 at Jinkalapally village. During the camp various activities were taken up in the village.
- **T. Jayaramulu** of IV B. Tech, ECE is qualified in GATE-2010.
- **G. Tejaswini** of IV B. Tech, ECE was selected to Infosys Technologies Limited.
- I B. Tech, ECE Students visited Gadwal & Wanaparthy, BSNL Exchanges on 20th February, 2010.
- III B. Tech, EEE Students visited Surya Teja Power Project Pvt. Ltd. on 23.01.2010.
- **T. Venkata Sowmya and M.A. Amreen** of II MBA attended IGNITE(paper presentation) at G. Pllaiah college of Engineering, Kurnool and won II prize on 10.04.2010.
- **S. Amruth Valli and Y. Srividya** of II MBA attended IGNITE(paper presentation) at G. Pllaiah college of Engineering, Kurnool on 10.04.2010.

PAPER PUBLICATIONS BY FACULTY

- **Dr. Nayanathara K.S.** presented a paper titled “Coupling through a rectangular slot in a Cross Coupler” at IEEE Conference on Aerospace Electronics, Communications and Instrumentation at Vijayawada during January 6 – 7, 2010.
- A paper by **K. Govardhan Reddy** of CSE and **PVS Srinivas** of JPNCE on “Implementation of Honey pots to provide Network Security” has been accepted for publication in the international journal of Computer Applications in Engineering, Technology and Sciences.

- **Sri. S. Venkateswarlu** of Mechanical Engineering presented a paper titled “The Mathematical Approach in Machine Loading Problem in FMS” at International conference, NIT, Calicut on 17.12.09.
- **A. Venkateswarlu** of CSE presented a paper on “A Fast Tree Pattern Matching Algorithm for XML Query” at CSI College of Engineering, Ooty on 05.02.2010.
- **K. Govardhan Reddy** and **J. Durga** of CSE presented a paper on “A Novel Approach to Predict the Trustworthiness of the Web” at Satyabhama University on March 6, 2010.

WORKSHOPS ATTENDED BY FACULTY

SI.No	Name of the faculty	Department	Course
1	Ms. Amana Khatoon Sri. P. Chakradhar	English MBA	A 3-day course on “Train the Trainer” at Infosys Technologies Ltd., Hyderabad
2	Sri. V. Jaya Prakash	Mechanical	“Infosys Campus Connect Foundation” program at Dr. B.V. Raju Institute of Technology, Narsapur.
3	Sri. P. Sunil Kumar Sri. K. Sudhakar Reddy Sri. B. Santha Kumar	ECE MBA MCA	“Manufacturing Strategies” at UGC Academic Staff College, JNTUH.
4	Sri. Sharad Kulkarni	ECE	IETE Advisory Committee meeting at Sailing club, Secunderabad.
5	Sri. K.Govardhan Reddy Sri. S. Masthan Valli	CSE CSE	“IBM Technology Day” at University of Hyderabad
6	Sri. K.Govardhan Reddy	CSE	Accreditation Awareness Workshop at JNTUH.
7	Sri. V.V. Parthu Ms. B. Namratha	English English	2 day workshop on “English Communication Skills, Opportunities & Challenges” at GPREC, Kurnool

Campus Placement Drive – 2010

Campus Placement Drive-2010 was conducted on 17th April 2010 at Kondair campus for MBA II Yr students of Kottam Institutions. 17 companies belonging to Banking, Insurance, consultancies, consumer, and non-consumer goods sectors visited the campus, conducted preliminary interviews and short listed 130 students for final interviews.



All the II, III and IV B. Tech students are informed to pay the tuition fees of the college, bus fees and hostel fees for the academic year 2010 – 11 as per the given schedule without fail in the form of DD drawn from any nationalized bank in favour of **“SRI KOTTAM TULASI REDDY MEMORIAL COLLEGE OF ENGINEERING”** payable at Kurnool only.

TEST YOUR APTITUDE

1. If $x=y=2z$ and $xyz=256$ then what is the value of x ?
(a) 12 (b) 8 (c) 16 (d) 6
2. Pipe A can fill in 20 minutes and Pipe B in 30 mins and Pipe C can empty the same in 40 mins. If all of them work together, find the time taken to fill the tank
(a) $17 \frac{1}{7}$ mins (b) 20 mins (c) 8 mins (d) none of these
3. Find the smallest number in a GP whose sum is 38 and product 1728
(a) 12 (b) 20 (c) 8 (d) none of these
4. A goat is tied to one corner of a square plot of side 12m by a rope 7m long. Find the area it can graze?
(a) 38.5 sq.m (b) 155 sq.m (c) 144 sq.m (d) 19.25 sq.m
5. The average age of 10 members of a committee is the same as it was 4 years ago, because an old member has been replaced by a young member. Find how much younger is the new member?
(a) 15 (b) 20 (c) 35 (d) 40
6. Three cards are drawn at random from an ordinary pack of cards. Find the probability that they will consist of a king, a queen and an ace.
7. A number of cats got together and decided to kill between them 999919 mice. Every cat killed an equal number of mice. Each cat killed more mice than there were cats. How many cats do you think there were?
(a) 989 (b) 992 (c) 990 (d) 991
8. Can you tender a one rupee note in such a manner that there shall be total 50 coins but none of them would be 2 paise coins.?

Dear Parent / Guardian,

Greetings! In our crest for overall excellence, we have decided to implement dress code for all students on all working days (Monday to Friday) from July 12, 2010, the date of reopening of the college of new academic year. This will inculcate a sense of dignity, discipline and pride of a professional in the student's mind. The following is the dress code for boys and girls:

- | | | | |
|------------|---|------|---|
| 1) A) Boys | - | i. | Grey Trousers(Formal) |
| | | ii. | Grey and White striped shirt (Half sleeves, Formal) |
| | | iii. | Black Belt (Formal) |
| | | iv. | Black shoes (Formal) and socks |
| B) Girls | - | i. | Grey salwar |
| | | ii. | Grey and White striped kurta |
| | | iii. | Grey dupatta |
| | | iv. | Black shoes (Formal) |

Samples of cloth are supplied to the students. The dress material is available with Bombay Dyeing showroom at Kurnool.

- 2) Students must wear their identity cards at all times.
On Saturdays students may come in decent civil dress. You are requested to ensure that your ward follows the dress code.

The college reopens on 12.07.2010. The schedule for payment of tuition, bus and hostel fees is as follows:

Last date for payment of **Tuition fees**

Without fine	:	15.07.2010
With fine of Rs. 500/-	:	22.07.2010
With fine of Rs. 1000/-	:	29.07.2010

Last date for payment of Hostel fees	Ist Installment	II Installment
Total fees of Rs 27,500/-	15,000/-	12,500/-
Without fine	: 15.07.2010	15.12.2010
With fine of Rs. 500/-	: 22.07.2010	23.12.2010
With fine of Rs. 1000/-	: 29.07.2010	30.12.2010

Admission of students who fail to pay fees by 29.07.2010 will be cancelled from College/Hostel rolls. Readmission with a fine of Rs. 5000/- will be done upto 08.08.2010 only.

Last date for payment of Bus fees	Ist Installment	II Installment
Total fees from Kurnool of Rs 10,500/-	5,000/-	5,000/-
Total fees from Wanaparthy of Rs 7,000/-	4,000/-	3,000/-
Without fine	: 15.07.2010	15.12.2010
With fine of Rs. 500/-	: 22.07.2010	23.12.2010
With fine of Rs. 1000/-	: 29.07.2010	30.12.2010

You are requested to be prompt in payment of fees to avoid levy of fine.

We thank you for your cooperation so far and request the same in future in our combined efforts to mould your ward into a confident professional.

Sd/-
DIRECTOR