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Authors: K.S. Kulkarni, R.S.Bindu

Paper Title: Design Modification for Failed Grill Bracket using Finite Element Analysis

Abstract: Grill is a part placed on vehicle located in front of the Engine cooling module by means of bracket. The purpose of the Grill is to protect the cooling module from front impact and at the same time provide appropriate aesthetic value to the vehicle. This report presents the failure analysis of grill bracket of Engine cooling module of a Truck using Finite Element Analysis. The Grill bracket has failed in the field before warranty period so it has to be replaced with new one. Replacing old bracket means economic loss to the company. The Failure of this Grill bracket is analysed using Finite Element Analysis. 3 D models were created using Pro –E CAD softwares and Finite element analysis was done using Medina and Permas softwares. After doing Finite Element Analysis it was observed that high stresses were coming at failure location on the Grill bracket. The high stresses were mainly observed due to accelerations loads. Several proposals for alternate designs were created considering the packaging data, availability of the standard materials and manufacturing feasibility. These alternate designs were again checked by finite element analysis. The most optimized design was finalized through this process. The finalized design showed 60% lower stress values at failure location compared to current design. New proposed design was found to pass the given warranty period (100000 miles). Thus Finite element analysis proved to be very suitable tool for the situation where quick solution is expected.

Keywords: FEA, Grill

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Authors: Nikita Gupta, Swapna Devi

Paper Title: EEG Forward Problem Solution for a Multi- Shell Head Model

Abstract: The forward problem of EEG deals with estimation of electrical potential difference measured over the scalp generated due to neural activity inside the brain. These signals measured over scalp are highly affected by the head characteristics taken into account. This work envisages the effect of taking white matter and gray matter into account while solving the forward EEG problem. The work shows that a five layered head model, comprising scalp, skull, cerebrospinal fluid, gray matter and white matter, is more accurate in finding forward EEG solution in comparison to a four layered comprising scalp, skull, CSF & Brain or three layered head model represented by scalp, skull & brain.

Keywords: EEG, Forward Problem, Head Model.

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3	**Authors:**	**Keta Raval, Rajni Bhoomarker**
	Paper Title:	**Unified Approach to Secure and Robust Digital Watermarking Scheme for Image Communication**

Abstract: Digital Watermarking has become essential and prime need for multimedia industry, internet users and digital data authentication fields. With rapid growth of digital data, we have problems related to security and copyright authentication .These increased use of digital data creates new challenges for document owners and their reliable customers. Digital Watermarking has provided global and cost effective solution for digital image communication. In this paper a robust digital watermarking algorithm based on Joint DWT-DCT Transformation is proposed. A secrete message is scrambled and embedded in DWT-DCT coefficients of host image. Uncompressed digital watermark images need a lot storage capacity and bandwidth. For efficient image transmission needs image compression. Then watermarked data is used for desired application by channel communication.

Keywords: Digital Watermarking, Discrete Cosine Transform, Discrete Wavelet Transform

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4	**Authors:**	**Yusuf H.Shaikh, Gazala Shaikh, Nazneen Akthar, Gulam Rabbani**
	Paper Title:	**Modeling of Fractal Growth by Simulation**

Abstract: In the present work deals with the simulation of fractal growth patterns in electrodeposition (Diffusion limited aggregation) using concept of off lattice random walk.The simulation of electrodeposition under different electric field conditions is implemented to simulate the growth of dendritic patterns in circular cell geometry. The DLA growth in circular cell geometry is under the influence of two main driving forces, namely, the random Brownian motion of the ions and the radial ionic motion due to the applied electric field. In the simulation, the effect of radial movement of ions is superimposed over the zigzag random motion of the ions in the electrolyte. The relative influence of the random motion and radial motion is controlled by introducing a biasing parameter. It is observed that the growth patterns with lower values of bias (corresponding to lower electric field) are less crowded with limited branching and more closely resemble true DLA. As the electric field is increased (higher value of B), the growth tends to be dense and with more crowding of branches. The box counting technique was implemented to calculate the fractal dimensions of the patterns developed. The results are compared with the experimental observations.

Keywords: Fractal, Fractal Dimension, Simulation, electrodepositio

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5	**Authors:**	**N.Durairajaa, J.Joyprincy, M.Palanisamy**
	Paper Title:	**Design of Low Power and Area Efficient Architecture for Reconfigurable FIR Filter**

Abstract: Finite Impulse Response (FIR) filters are widely applied in multi-standard wireless communications. These filters provide linear phase and absolute stability. The FIR offers a low sensitivity for the coefficient quantization errors. These properties increase the usage of FIR filter. In this paper, reconfigurable digital filter architecture is proposed. The approach is well suited if the filter order is fixed. The filter is dynamically reconfigured

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by changing the filter order. The order is changed by turning of the multiplier whose inputs are mitigate to be eliminated. The complexity of linear phase FIR filters is dominated by the number of adders (sub-tractors) in the coefficient multiplier. The Common Sub-expression Elimination (CSE) algorithm reduces number of adders in the multipliers and dynamically reconfigurable filters can be efficiently implemented. The proposed filter architectures offers power and area reduction over the existing FIR filter implementation.

Keywords: Approximate filtering, low power filter, reconfigurabledesign,commonsubexpressionelimination(CSE).

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6	**Authors:**	**S. Kumar, Z. Ahmad, T. Mansoor, S. K. Himanshu**
	Paper Title:	**A New Approach to Analyze the Flow over Sharp Crested Curved Plan form Weirs**

Abstract: Weirs have widely been used for the flow measurement, flow diversion and its control in the open channels. Generally they are used as normal weirs of various shapes like rectangular, triangular, trapezoidal, etc. pose problems of submergence upstream of the weir due to large afflux required to pass the discharge downstream. Several weirs of modified plan form like oblique weirs, diagonal weirs, Duckwill weirs, Labyrinth weirs etc. have successfully been used to control the afflux and to enhance their discharging capacity with minimum head over the weirs. Labyrinth weirs are folded in the plan view (i.e. the weir crest is not straight in plan form) to provide a longer crest length compared to a normal weir having the same lateral space to increase the discharge for a given operating head. For large reservoirs, the labyrinth weir is used as the overflow structure. It allows the overflow sill to be raised for the same maximum level of the water and flood, and thus, increase the storage capacity of the reservoir. This paper contains the results of experimental study carried out to analyse the flow characteristics of a sharp-crested curved plan-form weirs under free flow conditions in a rectangular channel with weir height around 0.10 m and vertex angles ranging from 00 (i.e. normal weir) to 1200. The equations for the discharge coefficient of curved weirs have been proposed. The results show that there is a gain of about 50% in discharge over a curved weir with vertex angle of 1200 as compared to a normal weir. Finally, equations for discharge coefficient for all tested curved weirs in a free flow situation have been proposed.

Keywords: Sharp crested weir, Curved plan-form, Flow measurement, Coefficient of discharge, Open channel.

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	Authors:	**S. Sakthivel, M. Gayathri, V. Manimozhi**
	Paper Title:	**A Nature Inspired Optimization Algorithm for Reactive Power Control in a Power System**

Abstract: In power system operation, minimizing the real power loss in transmission lines and the voltage deviation at the load buses by controlling the reactive power flow is an important task. This ensures for secured operation of power systems with regard to voltage stability and economics of operation owing to loss minimization. In this paper, the nature inspired Big Bang – Big Crunch (BB-BC) algorithm is implemented to solve the multi constrained optimal reactive power flow problem in a power system. The algorithm is free from large number of operators and can be easily coded in any programming language. Generator bus voltages, transformer tap positions and settings of switched shunt var compensators are used as decision variables to control the reactive power flow. BB-BC algorithm is tested on the standard IEEE-30 bus test system and the results are compared with other methods to prove the effectiveness of the new algorithm. The results are quite encouraging and the algorithm is found to be efficient.

Keywords: Big Bang–Big Crunch Algorithm, Optimal Reactive Power Flow, Loss Minimization, Optimal Reactive Power Flow Control.

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8	**Authors:**	**Naseer M. Basheer, Mustafa Mushtak Mohammed**

	Paper Title:	**Design and FPGA Implementation of a Lifting Scheme 2D DWT Architecture**

Abstract: This paper presents an area efficient, and simple design, of multilevel two dimensional discrete wavelet transform (2-D DWT) modules for image compression. The proposed architecture is based on lifting scheme approach, using the (5/3) wavelet filter, aiming to reduce the hardware complexity and size of the on-chip memory. This architecture consists of a control unit, a processor unit, two on-chip internal memories to speed up system operations, and an on-board off-chip external memory (Intel strata parallel NOR flash PROM). The 2-dimensinal discrete wavelet transform lifting scheme algorithm has been implemented using MATLAB program for both modules forward discrete wavelet transform (FDWT) and inverse discrete wavelet transform (IDWT) to determine suitable word length for DWT coefficients and the peak signal to noise ratio (PSNR) for the retrieved image. The decomposition algorithm of this transform is designed and synthesized with the VHDL language and then implemented on the FPGA Spartan 3E starter kit (XC3S500E) to check validation of results and performance of design.

Keywords: Two dimensional discrete wavelet transform (2-D DWT), lifting scheme, (5/3) wavelet filter, and FPGA applications..

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	Authors:	**Nasseer M. Basheer, Mustafa H. Mohammed**
	Paper Title:	**Segmentation of Breast Masses in Digital Mammograms Using Adaptive Median Filtering and Texture Analysis**

Abstract: Breast cancer continues to be one of the major causes of death among women. Early detection is a key factor to the success of treatment process. X-ray mammography is one of the most common procedures for diagnosing breast cancer due to its simplicity, portability and cost effectiveness. Mass detection using Computer Aided Diagnosis (CAD) schemes was an active field of research in the past few years, and some of these studies showed a promising future. T`hese CAD systems serve as a second decision tool to radiologists for discovering masses in the mammograms. In this paper, a breast mass segmentation method is presented based on adaptive median filtering and texture analysis. The algorithm is implemented using MATLAB environment. The program accepts a digital mammographic image (images taken from the Mammographic Image Analysis Society (MIAS) database). Adaptive median filtering is applied for contouring the image, then the best contour is chosen based on the texture properties of the resulting Region-of-Interest (ROI). The proposed CAD system produces (92.307%) mass sensitivity at 2.75 False Positive per Image (FPI) which is considered as a proper result in this field of research.

Keywords: adaptive median filtering, Digital mammograms, mass detection, texture analysis..

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Authors: **L. Ramachandran, N. Alagumurthi**

Paper Title: **Appraisal of Equipments for Lean Manufacturing Environment- A MCDA Approach**

Abstract: Nowadays, Lean manufacturing tools become a key strategy for global competition. In a lean manufacturing environment, the selection of process equipments is a complex multi criteria problem. To solve such types of problems we use the VIKOR method . By using the VIKOR method decision makers can take the decision which is closer to the ideal solutions. In this paper linguistic fuzzy data is used to find out the ranking. It explains the procedure of VIKOR model in selecting a machine with a numerical example.

Keywords: Equipment selection, Fuzzy VIKOR, Lean manufacturing,.

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Authors: **Amandeep Bakshi, Rupinder Singh**

Paper Title: **Component Based Development in Software Engineering**

Abstract: In today's world, Component Based development is an active research area for more than a decade in software engineering. As they provide automated or semi-automated support for the various processes and the methods. There are three main approaches in Software Engineering world such as Structured, Object-oriented and Component-based approach. The last Component-based approach introduces more benefits to this world in terms of reusability, flexibility and maintainability. This paper basically provides the background of various software engineering approaches and compares the Component based development to the object oriented development approach and to the various other traditional approaches.

Keywords: Component Based Development, Commercial off the shelf (COTS), Object-oriented Development, Process Models.

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Authors: **T.Anitha, S.Arulselvi**

Paper Title: **Design and Implementation of Intelligent Control of a Fly back Quasi Resonant Converter**

Abstract: Power supply voltages in digital systems have been reduced considerably in recent years and often digital components requiring different voltages are present in the same board. This has increased the demand for multiple output power distribution systems with tight load regulation. In this paper, a detailed analysis and design of a multi-output flyback zero voltage switching (ZVS) quasi resonant converter(QRC) has been carried out. The effect of cross regulation due to load resistances and leakage inductances are studied and obtained. To reduce the effect of cross-regulation, conventional PI controllers are designed and simulated. In order to improve the performances of the converter due to nonlinearity, intelligent controller like fuzzy logic controller is proposed and simulated. The output results for load regulations are presented and the performances of both the controllers are compared. The result reveals that fuzzy logic controller gives satisfactory performances.

Keywords: dc-dc converters, flyback converter, fuzzy logic control , cross regulation.

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13	**Authors:**	**Rupinder Singh, Amandeep Bakshi**
	Paper Title:	**Need of Agile Development**

Abstract: There are numerous developing methods in the manufacturing and software development industries which are broadly classified into traditional and agile methods. This paper reviews the important aspects of traditional and agile methods of software development. It also explains the properties of both methodologies by making comparison between them. We will discuss the flaws and challenges faces by traditional development processes and how will agile overcome them which leads us to the conclusion that agile have an edge upon traditional methods.

Keywords: Agile, SDLC, Traditional methods, Iterative approaches

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14	**Authors:**	**Priyanka M.Lokhande, A.P.Thakare**
	Paper Title:	**An Efficient Scheduling Technique for the Improvement of WSN with Network Lifetime & Delay Constraint**

Abstract: This paper highlight about the maximization of network lifetime & minimization of delay parameter which is important to improve the performance of the wireless sensor network as effective and reliable Wireless mostly energy is used when communication radios are on. The network lifetime is usually defined as the time until the first node fails because of energy depletion. So sleep-wake scheduling is effective mechanism to increase network lifetime. Sleep-wake scheduling is efficient to increase network lifetime but it could result in substantial delays because a transmitting node needs to wait for its next-hop relay node to wake up. We attempts to reduce these delays by developing "anycast"-based packet forwarding schemes, where each node opportunistically forwards a packet to the first neighboring node that wakes up among multiple candidate nodes such set of nodes called forwarding node set. We used anycast forwarding schemes to forward the data packet to next hop node which minimizes the expected packet-delivery delays from the sensor nodes to the sink node. Based on this result, we provide a solution to the problem of how to optimally control the system parameters of the sleep-wake scheduling protocol and the anycast packet forwarding protocol to maximize the network lifetime and minimize the delay with constraint on the expected end-to-end packet-delivery delay.

Keywords: WSN, any cast, sleep–wake scheduling, network lifetime, Network delay.

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	Authors:	**Aparna.Ch, Vijay Kumar.K, Prathap.T**
	Paper Title:	**Unified Power Quality Conditioner for two feeders in a Distribution System**

Abstract: A UPQC consists of a series voltage-source converter (VSC) and a shunt VSC both joined together by a common dc bus. This paper proposes a new connection for a unified power quality conditioner (UPQC) to improve the power quality of two feeders in a distribution system. It is demonstrated how this device is connected between two independent feeders to regulate the bus voltage of one of the feeders while regulating the voltage across a sensitive load in the other feeder. Since the UPQC is connected between two different feeders (lines), this connection of the UPQC will be called an interline UPQC (IUPQC). This paper gives the structure; control and capability of the IUPQC under some special conditions like sag has been created in feeder 1 and 2 are discussed. The efficiency of the proposed configuration has been verified through simulation studies using MATLAB

Keywords: Interline Unified power quality conditioner (IUPQC), power quality, sensitive load, voltage sag, voltage-source converter (VSC).

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	Authors:	**Ravina Mithe, Supriya Indalkar, Nilam Divekar**
	Paper Title:	**Optical Character Recognition**

Abstract: The Optical Character Recognition is a mobile application. It uses smart mobile phones of android platform. This paper combines the functionality of Optical Character Recognition and speech synthesizer. The objective is to develop user friendly application which performs image to speech conversion system using android phones. The OCR takes image as the input, gets text from that image and then converts it into speech. This system can be useful in various applications like banking, legal industry, other industries, and home and office automation. It mainly designed for people who are unable to read any type of text documents. In this paper, the character recognition method is presented by using OCR technology and android phone with higher quality camera.

Keywords: Binerization, Optical Character Recognition, Pattern Matching, Segmentation, Tesseract, Text Extraction.

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17	**Authors:**	**Vikas Pandey, Prabhakar Tiwari, N.K.Sharma, A.N.Tiwari, M.K.Singh**
	Paper Title:	**Ultra Mega Power Projects: Additional Re-Structural Capacity to Existing Indian Grid System**

Abstract: The demand for power in India is ever increasing, as industrial sector is one of the largest consumers of electrical energy in India. More and more efforts are made by the Government every year to overcome this problem. Ultra Mega Power projects (UMPP) are a series of ambitious power projects planned by the Government of India. With India being a country of chronic power deficit, the Government of India has planned to provide 'power for all' by the end of the eleventh plan. This would entail a creation of an additional capacity of at least 100,000 MW. The Ultra Mega Power projects, each with a capacity of 4000 megawatts or above, are being developed with an aim to bridge this gap. The UMPPs are seen as an expansion of the MPP (Mega Power Projects) projects that the Government of India undertook in the nineties but met with limited success. The Ministry of Power in association with Central Electricity Authority and Power Finance Corporation Ltd. has launched an initiative for development of coal-based UMPP's in India. These projects will be awarded to developers on the basis of competitive bidding.

Keywords: Competitive Market, Open Access, Re-regulation, Ultra Mega Power Plants.

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17	**Authors:**	**Amit Kumar Amod, Ansuman DiptiSankar Das, Tapas Sahu, Sekhar Sahani, Deepak Kumar Panda**
	Paper Title:	**A Novel Architecture for Super Speed Data Communication for USB 3.0 Device Using FPGA**

Abstract: The need for SuperSpeed data communication leads to the use of USB 3.0. USB 3.0 utilizes dual bus architecture which provides both SuperSpeed and non-SuperSpeed connectivity. This can be possible by mixing the advantage of parallel and serial data transfer. This paper provides a novel architecture for communication between USB 3.0 device and USB 3.0 host controller at a data rate of maximum up to 5.0 Gbps using Altera's Stratix IV FPGA. To maintain synchronization between GPIF II and PCIe hard IP, FIFO is used. PLL is used to provide clock signal at different frequencies.

Keywords: FIFO, FPGA, GPIF, Hard IP, PLL, USB 3.0.

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18	**Authors:**	**S. Singaravelu, G. Balasubramanian**
	Paper Title:	**Wind driven Induction Generator with Vienna Rectifier and PV for Hybrid Isolated Generations**

Abstract: The need for SuperSpeed data communication leads to the use of USB 3.0. USB 3.0 utilizes dual bus architecture which provides both SuperSpeed and non-SuperSpeed connectivity. This can be possible by mixing the advantage of parallel and serial data transfer. This paper provides a novel architecture for communication between

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	USB 3.0 device and USB 3.0 host controller at a data rate of maximum up to 5.0 Gbps using Altera's Stratix IV FPGA. To maintain synchronization between GPIF II and PCIe hard IP, FIFO is used. PLL is used to provide clock signal at different frequencies. **Keywords:** DC-DC converter, Fuzzy logic, SEIG, PV array, Vienna Rectifier, and Wind energy. **References:** 1. Jaganmohan Reddy, Y.V. Pavan kumar, K. padma raju, and Anil kumar ramesh, " Retrofitted Hybrid Power System Design With Renewable Energy Sources for Buildings", IEEE Transaction on Smart Grid , Vol.3, no.4, pp. 2174-2186, Dec 2012. 2. S.Meenakshi, K.Rajambal, C.Chellamuthu, and S.Elangovan, "Intelligent Controller for Stand-Alone Hybrid Generation System", Power India Conference IEEE, pp 8-15, 2006. 3. Ashraf A.Ahmed, Li Ran, Jim Bumby, "Simulation and control of a Hybrid PV-Wind System", Power Electronics Machines & Drives, PEMD 4th IET conference, pp 421-425, 2008. 4. Meenakshmisundaram Arutchelvi, Samuel Arul Daniel, "Grid Connected Hybrid Dispersed Power Generators Based on PV Array And Wind Driven Induction Generator", Journal of Electrical Engineering, Vol., 60, pp 313-320, 2009. 5. Hao Chen, Dionysios C. Aliprantis , " Analysis of Squirrel-cage Induction Generators with Vienna Rectifier for Wind Energy Conversion System", IEEE Transactions on Energy Conversion, Vol.26, no.3, 2011. 6. M.G.Villalva, J.R.Gazol, and E.R.Filho, "Comprehensive Approach to Modeling and Simulation of Photovoltaic Arrays", IEEE trans. on Power Electronics, vol.24, no.5, pp.1198-1208, 2009. 7. H. Patel, and V. Agarwal, "MATLAB based modeling to study the effects of partial shading on PV array characteristics", IEEE trans. on energy conv., vol. 23, no.1, pp. 302-310, 2008. 8. A.Karthikeyan, C.Nagamani, G.Saravana Illango, A.Sreenivasulu, "Hybrid, open-loop excitation system for a wind turbine –driven stand-alone induction generator", IET Renewable Power Generation, Vol.5, no.2,pp.184-193,2011. 9. Timothy and Ross J, Fuzzy logic with engineering applications, McGraw hill international editions, Electrical engineering series, New York, 1997.	
19	**Authors:**	**Tahere Panahi, Tahere Heidari, Vahid Sattari Naeini**
	Paper Title:	**An Efficient Parallel Algorithm for Solving the 3-Partition Problem Based On ADI**
	Abstract: The three-partition problem is one of the most famous strongly NP-complete combinatorial problems. Most of the recently proposed computational methods for solving partial differential equations on multiprocessor architectures stem from the 'divide and conquer' paradigm and involve some form of domain decomposition. For those methods which also require grids of points or patches of elements, it is often necessary to explicitly partition the underlying mesh, especially when working with local memory parallel processors. In this paper, a family of cost-effective algorithms for the automatic partitioning of arbitrary two- and three-dimensional finite element and finite difference meshes is presented and discussed in view of a domain decomposed solution procedure and parallel processing. We introduce properties which, in many cases, can allow either a quick solution of an instance or a reduction of its size. The average effectiveness of the properties proposed is tested through computational experiments. In this paper we propose a new approach to organize a parallel computing for finding all solutions of a problem, whose sequential algorithm takes too long finding all solutions. The parallel computing organization above presented is an combination of the bottom-up design and the divide and conquer design. We also propose a new efficient and simple algorithm for the 3-partition problem and paralellize the algorithm. **Keywords:** three-Partition problem, Dynamic programming, NP complete, Divide. **References:** 1. Dell'Amico, M. and Martello, S. (1995). Optimal scheduling of tasks on identical parallel processors, ORSA Journal on Computing, vol. 7, pp. 191–200. 2. Garey, M.R. and Johnson, D.S.(1975). Complexity results for multiprocessors scheduling under resource constraints, SIAM Journal on Computing, vol. 4, pp. 397–411. 3. Kern ,W. and Qiu, X. (2011). Improved taxation rate for bin packing games. In A. Marchetti-Spaccamela and M. Segal, editors, First International ICST Conference on Theory and Practice of Algorithms in (Computer) Systems, TAPAS 2011, Rome, Italy, volume 6595 of Lecture Notes in Computer Science, PP. 175–180. 4. Ghaddar, B. Anjos, M. and Liers, F. (2008). A branch-and-cut algorithm based on semidefinite programming for the minimum k-partition problem. Annals of Operations Research, PP. 1–20. 5. Brendan,D. McKay. nauty User's Guide. (2009). Australian National University. 6. N. J. A. Sloane. Sloane's series.(2007). Number of isomorphism classes of connected 3-regular loopless multigraphs of order 2n. 7. Donald E. Knuth. Dancing links, November(2000). Technical report, Stanford University.	**94-98**
20	**Authors:**	**Syed Asif Ali**
	Paper Title:	**Design of Minimal States Deterministic Finite Pattern Using the Concept of Regular Expression**
	Abstract: the purpose of this paper is to design a minimal states deterministic finite automaton for Sign language pattern using the concept regular expression. Deterministic finite automata are a practical approach used for designing a computational model. This paper also emphasis on minimization of Sign language DFA using the concept of contraction (or merging) of equivalent states algorithm. **Keywords:** Sign Language pattern, Deterministic Finite Automata (DFA), Minimization of DFA. **References:** 1. John C Martin, "Introduction to languages and Automata Theory", 3rd Edition, 2003. 2. Thomas Sudkamp, 'Automata Theory, Languages, and Computation', Third Edition. 3. ASL II American Sign Language Thesaurus by Don Cabbage Ph.D. Published by International Communication Publishers PO Box 371007, E1 Paso, TX79937 (915)855-7575 doncabbage@juno.com 4. Martin L.A. Sternberg, 'American Sign Language Dictionary, Third Edition', Third Edition. 5. Vegas, NV, USA, May 14-May 17, ISBN: 0-9785699-0-3, Minjun Wang, Indiana University, U.S.A, Geoffrey Fox, Indiana University, U.S.A, Marlon Pierce, Indiana University, U.S.A	**99-101**

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21	**Authors:**	**Divya Jose, S. Berclin Jeyaprabha**
	Paper Title:	**Design and Simulation of Wind Turbine System to Power RO Desalination Plant**

Abstract: Desalination is the process that removes dissolved minerals (including salts) from seawater or brackish water. Existing water desalination processes are either thermal or membrane technology. Wind power is one of the most popular form of renewable energy for water desalination. The proposed system is driven entirely by renewable energy sources . It converts wind energy directly into kinetic energy so as to drive brackish water through pre-treatment units and a RO desalination unit. Most of the existing desalination plants uses wind power as an auxiliary energy supply. The direct use of wind energy in an RO desalination system is done in this work. This project aims to develop a simple, cost-effective water desalination system for small scale remote area applications. In conventional systems the electric power was used to run the system instruments for data acquisition and control. The incorporation of the hybrid system to power the data acquisition and control instruments is a solution for this.

Keywords: Wind energy, RO System, Desalination, Renewable energy

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22	**Authors:**	**Manda Jaya Sindhu, Y. Madhavi Latha, V. Samson Deva Kumar, Suresh Angadi**
	Paper Title:	**Multimedia Retrieval Using Web Mining**

Abstract: Multimedia is a media that uses a combination of different forms which includes audio, text, video, images, etc...So, for the purpose of better understanding of user it's better to retrieve Multimedia data rather than text. Web mining is retrieving the content using data mining techniques from World Wide Web. Multimedia retrieval using web mining deals with the retrieval of useful patterns based on the user's search requirements. The images and video clips were retrieved by crawling the World Wide Web. The main theme of this paper is to know the mining details of various types of data in form of multimedia retrieval where all kinds of data or information is retrieved based on the search pattern of the user.

Keywords: Multimedia, Web Mining, World Wide Web, Data Mining.

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23	**Authors:**	**Priya Deshpande, Aniket Bhaise, Prasanna Joeg**

	Paper Title:	**A Comparative analysis of Data Replication Strategies and Consistency Maintenance in Distributed File Systems**	
	Abstract: The data plays vital role in data intensive applications or applications which relay on large data files, In the era of information technology the size of data is increasing drastically and this type of data is usually referred to as "Big Data". Which is usually in the unstructured or may be in structured format in data grids or in cluster, and manipulation of such type of data like retrieving, storing and updating it is very tedious job in data intensive application. Data grids are type of data cluster technique which deals with such big data. which may be heterogeneous or homogeneous in nature depending on their property but in the era of fast growing technology the term heterogeneous data grids now replacing by cloud computing to serve as one of the service of cloud computing. In network of cloud computing, data replication and consistency maintenance plays key role to share data between nodes (data intensive applications) to achieve high performance, data availability, consistency and partial tolerance. In this paper we discuss the various data replication strategies with Hadoop Distributed File System which provides MapReduce Framework for data replication and consistency maintenance in cloud computing, to achieve high performance, consistency, availability and partial tolerance and discuss the performance evaluation of these various techniques and frameworks like cloud MapReduce, Integrated data replication and consistency maintenance and also MapReduce with Adaptive Load balancing for Heterogeneous and Load imbalanced cluster (MARLA). **Keywords:** Distributed System, Data Intensive Applications, Data Grids, Data Replicas, Job Scheduling, Cloud Computing. **References:** 1. 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24	**Authors:**	**Alpa K. Oza, Shailendra Mishra**	
	Paper Title:	**Elimination of Noisy Information from Web Pages**	
	Abstract: A Web page typically contains many information blocks. Besides, the content blocks, it usually has such blocks as navigation panels, copyright and privacy notices, and advertisements. These blocks that are not the main content blocks of the page, we call them as noisy blocks. We show that the information contained in these noisy blocks can seriously harm Web data mining. Thus eliminating these noises is of great importance. In our work we focus on identifying and removing local noises in web pages to improve the performance of mining. A simple idea for detection and removal of noises a new DOM tree structure is proposed. The result shows the remarkable increase in F score and accuracy is obtained. **Keywords:** Noise elimination, DOM tree, Web page cleaning. **References:**	**115-117**

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25	**Authors:**	**Nahid Rahman, B. P. Singh**
	Paper Title:	**Comparison of SRS & SBS (Non Linear Scattering) In Optical Fiber**

Abstract: Low power design has become the major challenge of present chip designs as leakage power has been rising with scaling of technologies. As modern technology is spreading fast, it is very important to design low power, high performance, and fast responding SRAM (Static Random Access Memory) since they are critical component in high performance processors. The Conventional 6T SRAM cell is very much prone to noise during read operation. To overcome the problems in 6T SRAM cell, researchers have proposed different SRAM topologies such as 8T, 9T, 10T etc. bitcell design. These designs can improve the cell stability but suffer from bitline leakage noise. In this paper, an SRAM memory has been designed to overcome power consumption problem. It also improves the Cell stability by increasing the Read Static-Noise-Margin.

Keywords: Fiber nonlinearity; Fiber optic communications, stimulated Brillouin scattering, stimulated Raman scattering.

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26	**Authors:**	**Rahul Umesh Kale, Pavan Mahadeo Ingale, Rameshwar Tukaram Murade**
	Paper Title:	**Design of Low Power Sram Memory Using 8t Sram Cell**

Abstract: The nonlinear scattering effects in optical fiber occur due to thermal molecular vibrations within the fiber. Due to molecular vibration produces the phonon. This phonon also produces due to incident photon. This paper describes basic of SBS (stimulated Brillouin scattering) & SRS (stimulated Raman scattering).Also do the comparative study of their thresholds, reduction in power penalty and applications.

Keywords: CMOS logic, SRAM, VLSI, Read-Static Noise Margin (SNM), Stability and Power Consumption.

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27	**Authors:**	**Sudeep K. Hase, Milind B. Vaidya**
	Paper Title:	**Substance Cache Mechanism in the Cloud by Using Substance Provisioning Framework**

Abstract: The substance (context) information in the context-aware systems may be about human, entity and computing situations has a powerful temporal aspect i.e. for a specific period of time it remains valid. This property can be exploited in caching mechanisms that desired to exploit such locality of reference. Substance information The substance information have varying temporal validity durations and a varied spectrum of access frequencies. This variation affects the suitability of a single caching strategy and an ideal caching mechanism should utilize dynamic strategies based on the type of substance data, access patterns and quality of service heuristics and frequencies of context consuming applications. This paper investigates the various context-caching strategies and proposes a novel bipartite caching mechanism in a Cloud-based substance provisioning system. The bipartite context caching mechanism is achieved through both simulation and deployment in a Cloud platform.

Keywords: Cloud Computing, Substance (context) provisioning, Intelligent caching, substance aware clouds

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28	**Authors:**	**Zhibin Gui, Antonio Piras, Limin Qiao, Kai Gui, Boya Wang**
	Paper Title:	**Improving Germination of Seeds Soaked GA3 by Electrostatic Field Treatment**

Abstract: Tree species with shallow dormancy are used for reforestation by airplane sowing in order to establish forest in mountain areas. To enhance germination and the quality of young seedling, an electrostatic field is used to treat pine seeds soaked with 100 ppm of gibberellic acid (GA3). The experimental results showed that the multiple factors treatment of the seeds is better than a single factor, and the treatment effect depended on the dosage, process and vigor index of the seeds. The optimal dosage was 500 kV/m 10 minutes for 50-100 ppm soaked seeds to improve germination, seedling height and root length during initial germination and middle and later stages of seedling development.

Keywords: Electrostatic Field, Germination, 100 ppm GA3, Soaked Seed Treatment

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Authors: **Akella Ramakrishna, Kambampati Manasa, Chandrupatla Anusha, Anusha Balabhadrapatruni**

Paper Title: **Design of Intelligent Solar Grid Oriented PWM Inverter for Livelihood Generation in Rural Areas**

Abstract: Excessive demand of power is always difficult to meet and as a result national economy is being hampered severely due to this deregulation of electricity. Unfortunately most IPS i.e., Instant Power Supply system has poor charge controlling mechanism which makes it a massive power consumer. The cost of solar panel and the consumers' awareness to preserve AC power has stimulated the demands of high effective Grid connected power sources. Here the designed interfacing PWM inverter is operated by both solar energy and storage batteries that highly satisfies the necessity in rural areas where National Grids are hardly available and power cut problem reduces the effectiveness of IPS. Solar energy gets priority rather than AC source to charge storage battery that may save hundreds of mega watts power every day. To extend the battery lifetime and keep system components hazard-free, it includes exact battery-level sensing, charging-current controlling by microcontroller unit (MCU) and a cumulative DC/AC MPPT (Maximum Power Point Tracking) charges to obtain maximum PV energy from AC Solar Modules.

Keywords: Charge controller, Grid, inverter, MPPT charger, PWM, Solar energy.

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Authors: **Shrinivas K Saptalakar, Manjunath Lakkannavar**

Paper Title: **Design and Analysis of 8-bit Low Power Parallel Prefix VLSI Adder**

Abstract: The binary adder is the critical element in most digital circuit designs including digital signal processors (DSP) and microprocessor data path units. As such, extensive research continues to be focused on improving the power delay performance of the adder. High speed and low power Arithmetic units are required for applications of digital signal processing like Fast Fourier Transform, Finite Impulse Response filters, convolution etc. The present work focused on designing of high performance low power 8-bit parallel prefix adder structure. For improving the speed and to reduce the power, we have reduced the static power and dynamic power. The design is simulated using Xilinx 13.2 ISE and implemented on Spartan 3 FPGA Board.

Keywords: Parallel Prefix Adder, Propagation signal, Power, Delay.

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31	**Authors:**	**S. Rajeswari, C. Rekha**
	Paper Title:	**Implementation and Comparison of Minuscule ICCLMA with Minuscule Conformal Monopole Antenna**

Abstract: In this paper, a high gain small size antennas such as minuscule ICCLMA (Inductively Coupled Capacitively Loaded monopole antenna) with minuscule conformal monopole antenna were designed and compared. These different types of antenna topologies were designed with same dimensions to produce higher gain. We begin with the comparison between the antenna designs, requirements and continue with a discussion issues and simulation results. In fact, each technique is uniquely designed to produce size reduction and higher gain antennas. Among two antennas the minuscule ICCLMA provides high gain is 45.2dB as compared to minuscule conformal monopole antenna. The simulation results are done by using CST Microwave Studio. The minuscule conformal monopole antenna reduces the cross polarization. The minuscule ICCLMA size is 3.393X0.0474mm while the minuscule conformal monopole antenna radius is 0.113mm.

Keywords: Antenna radiation patterns, lumped elements, monopole antennas, vertically polarized antennas.

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32	**Authors:**	**S.Ezhil Arasu, B.Gowri, S.Ananthi**
	Paper Title:	**Privacy-Preserving Public Auditing In Cloud Using HMAC Algorithm**

Abstract: Cloud computing is the arising technology to minimize the user burden in the updation of data in business using internet. Instead of local data storage and maintenance, the user is assisted with the cloud storage so that the user can remotely store their data and enjoy the on-demand high quality application from a shared pool of resources. The data stored must be protected in the cloud storage. To enhance the correctness of data, auditing process is done which is carried out by TPA(Third Party Auditor). The TPA must be efficient to audit without demanding the local copy of data. In this paper we have proposed a method that uses the keyed Hash Message Authentication Code (HMAC) with the Homomorphic tokens to enhance the security of TPA..

Keywords: Cloud storage, Integrity, Third Party Auditor

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34	**Authors:**	**Sashikala, Melwin .Y., Arunodhayan Sam Solomon, M.N.Nachappa**
	Paper Title:	**A Survey of Compression Techniques**

Abstract: Digital data is owned, used and enjoyed by many people all over the world. Compressing data is mostly done when we face with problems of constraints in memory. In this paper we have attempted to discuss in general about compression and decompression, the different techniques of compression using 'Lossless method compression and decompression' on text data using a simple coding technique called Huffmann coding.

Keywords: Lossless text data compression, Huffman coding.

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35	**Authors:**	**Prakash Chandore, Prashant Chatur**
	Paper Title:	**Outlier Detection Techniques over Streaming Data in Data Mining: A Research Perspective**

Abstract: Data mining is extensively studied field of research area; where most of the work is emphasized over knowledge discovery. Data stream mining is active research area of data mining. A data stream is a massive sequence of data elements continuously generated at a rapid rate. In streaming huge amount of data continuously inserted and queried such data has very large database. Streaming data analysis has recently attracted attention over data stream rather than mining large data sets in data mining community. Outlier Detection as branch of data mining has many applications in data stream analysis and requires more attention. Finding and removing outlier over data stream is very important aspect in data mining. Detecting outlier and analyzing data stream for large dataset we can consider two main groups where one group refers to data stream and data mining techniques and second group refers to different efficient algorithm to mine data stream. Detecting outliers and analyzing large data sets can lead to discovery of unexpected knowledge in area such as fraud detection, telecommunication, web logs, and web document and click stream, etc. In this paper we try to clarify problem with detecting outlier over Dynamic data stream and specific techniques used for detecting outlier over streaming data in data mining..

Keywords: about four key words or phrases in alphabetical order, separated by commas.

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Authors: **Muthulakshmi V, Ahamed Yaseen A, Santhoshkumar D, Vivek M**

Paper Title: **Enabling Data Security for Collective Records in the Cloud**

Abstract: Cloud computing is a computing paradigm in which tasks are assigned to a combination of connections, software and services that can be accessed over internet. A major advantage of a cloud computing is enabling the distributed or remote access from known or unknown machines at any time. While Accessing the Cloud Services, the data owner faces a lot of issues related to security services (while sharing their data). To overcome these security issues, we provide automated – decentralized mechanism to capture and monitor the every usage of the users from various location. In this paper, we proposed a logging mechanism to keep track of the actual usage of the system. We leverage the jar file mechanism to ensure any data access will trigger authentication and automated logging mechanism. To consolidate user's control, we provide distributed auditing mechanisms, we also provide comprehensive experimental studies that demonstrate the efficiency and effectiveness of the proposed approaches.

Keywords: Cloud computing, data sharing, data security.

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Authors: **Mir Roomi Rahil, Rajesh Mahind, Saurabh Chavan, Tanumay Dhar**

Paper Title: **GLCD-Touchpad Based Restaurant Ordering & Automatic Serving System**

Abstract: GLCD-Touchpad Based Restaurant Ordering & Automatic serving System is a concept with a new innovative idea in the field of Hospitality Industry. The concept of this project has conceived in mind on observing take away fast food outlets , Mc Donald counters, Sub Way counters, Punch screens at various fast food restaurants etc. In restaurant most items are listed in menu by names only. They don't have brief or detailed description of any dish, so fearing how would they taste, what would be the ingredients, we end up ordering regular items. Considering these problems we came up with an idea of having digital ordering system. The concept is we can browse the menus/sub-menus by jus fingertip. The items would be well defined & descripted and the selected order will be served over the conveyer belt to the particular table.

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Keywords: GLCD.

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Authors:	**Vinita Vasundhara, Rintu Khanna, Manoj Kumar**
Paper Title:	**Improvement of Power Quality by UPQC Using Different Intelligent Controls: A Literature Review**

Abstract: This paper presents a comprehensive review on the unified power quality conditioner (UPQC) to improve electric power quality. This is intended to present a broad overview on the different possible intelligent controls used with UPQC.

Keywords: Active power filters, ANN, Fuzzy logic controller, Power quality, Unified Power Quality Conditioner (UPQC).

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Authors: **Marjan Eshaghi, S.Z. Gawali**

Paper Title: **Investigation and Analysis of Current Web Mining Techniques as well as Frameworks**

Abstract: Everyone using the Web, experiences how the connection to a popular web site may be very slow during rush hours and it is well known that web users tend to leave a site if the wait time for a page to be served exceeds a given value. Therefore, performance and service quality attributes have gained enormous relevance in service design and deployment. This has led to the development of Web benchmarking tools largely available in the market. One of the most common critics to this approach, is that synthetic workload produced by web stressing tools is far to be realistic. Moreover, Web sites need to be analyzed for discovering commercial rules and user profiles, and models must be extracted from log files and monitored data. This paper deals with a benchmarking methodology based on the integrated usage of web mining techniques and standard web monitoring and assessment tools.

Keywords: web mining, pattern extraction, usage mining, preprocessing.

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Authors: **Mahdi Alhaji Musa, Farouk Muhammad Aliyu**

Paper Title: **Design of Electronic Voting Systems for Reducing Election Process**

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Abstract: the electoral process in Nigeria is known with tedious activities and time consuming. There is a serious problem in terms of delivering the electoral facilities to the voting station and securing such facilities. even before this activities there must be training of personal that will be involve in such exercise with involve huge amount of money and time consuming. it is in line with this problem the researcher intend to develop an online electronic

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voting systems to checkmate those problems. Each voter will be screen for eligibility, thereafter the information will be store in database so that at any time the voter can login and cast his/her vote and monitor the result online. Whenever a voter cast a vote the systems will automatically saves all his records including the ballot, username, address and password for future references. an administrator will then be able to monitor all the process and check for any illegal actions.

Keywords: This systems if put into use will increase transparency anaccountability as the observer can monitor all the activitiesduring the registration/poling exercise.

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Authors: **S.Shahar Banu, V.Saravanan, R. Shriram**

Paper Title: **Extracting Peculiar Data from Multidatabases Using Agent Mining**

Abstract: Data mining is a broad term that describes the search to extract some meaningful information from data that is unformatted and either unstructured or partially structured Similarly, Fayyad et. al. described it as "The nontrivial process identifying valid, novel, potentially useful, and ultimately understandable patterns in data" . Data mining is also known as knowledge discovery, knowledge extraction, information harvesting, data archeology, and data pattern processing. Although most algorithms provide some unique implementation of each phase, there are several common steps to achieve the goal of identifying patterns in data. Generally, data mining (sometimes called data or knowledge discovery) is the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. This paper discusses the peculiar data mining and agent mining. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified.

Keywords: Data mining peculiar mining, agent based system, multi agent.

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Authors: **S. Ashwin, S. Jayanthi Sree, S. Aravind Kumar**

Paper Title: **Study of the Contemporary Motion Estimation Techniques for Video Coding**

Abstract: Video compression is vital for efficient archival of entertainment based video (CD/DVD) as well as real-time reconnaissance / video conferencing applications. While ISO MPEG sets the standard for the former types of application, ITU sets the standards for latter low bit rate applications. In the entire motion based video compression process motion estimation is the most computationally expensive and time-consuming process. Motion estimation involves interframe predictive coding, one of the most powerful image coding techniques which calculates motion vectors and can eliminate redundancy in natural scenes. The research in the past few decades has focused on reducing both of these side effects of motion estimation. This paper reviews the literature pertaining to the different types of contemporary block matching algorithms used for motion estimation in video compression. The algorithms that are illustrated in this paper can be adopted by the video compressing community to be implemented in various standards. In addition, the advantages, limitations and applications of these techniques are revealed and guidelines for future research are discussed.

Keywords: Video Compression, Motion Estimation, Motion Vectors, predictive coding.

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Authors: **Vilas Mapare, Suraj Shinde, Maheshkumar Latpate, Tejas Khairnar Pallavi Kadam**

Paper Title: **Employment of Artificial Neural Network in Manipulating Design Constraints of Rectangular Microstrip Patch Antenna**

Abstract: The parameter optimization by means of the neural networks is the major attraction, which highlights the ease, precision and reduction in computational time for the designers of interest. The paper deals with the design of a probe fed rectangular Microstrip patch antenna for 2.4 GHz frequency. The analytical results for various conceivable dimensions and different dielectric values were intended without any structural complexities. To achieve an optimum value for the design parameters of the Microstrip antenna, Multilayer Perceptron Neural Network (MLP) and Back Propagation algorithm were implemented to train the network. The analytical results were tested by simulating with basic design software HFSS. The bid of artificial neural network ensures an optimal design methodology which is revealed when relating the results with analytical methods, results of the simulation software.

Keywords: ANN, HFSS, Microstrip, nntool.

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Authors: **S.Vimala**

Paper Title: **Enhanced Min-Max Procedure based on Block Truncation Coding for Image Compression**

Abstract: In this paper, we have proposed a method based on Block Truncation coding (BTC) for image compression. The existing Min-Max procedure based on BTC is enhanced to further improve the quality of the reconstructed images. Images are decoded using three quantization levels by extending the size of the bitplane. The three quantization levels being Minimum, Maximum and the average of both are preserved for each block. Experiments were carried over standard images like Lena, Cameraman, Boats, Bridge and Baboon. For all images, the proposed method outperforms the existing method in terms of PSNR values.

Keywords: BTC, Image Compression, MinMax, Quantization Levels, Bitplane, PSNR.

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45	**Authors:**	**Manoj Kumar Meena, Shweta Meena**	
	Paper Title:	**A Survey on Different Security Techniques of Mobile Code**	
	Abstract: Mobile agents are software which moves autonomously through a computer network with aim to perform some computation or gather information on behalf of its creator or an application. In the last several years, mobile agents have proved its numerous applications including e-commerce. In most applications, the security of mobile agents is a burning issue. This article presents comparison of different aspects of mobile code security, namely the protection of hosts receiving a malicious mobile code and the protection of a mobile code within a malicious host. **Keywords:** Security, Mobile agents, Mobile code, malicious host, Electronic commerce. **References:** 1. Software Security TechniquesInternal Report, COSIC], Jan Cappaert, Brecht Wyseur, and Bart Preneel KULeuven/ESAT/COSIC, October 2004 2. R. Wahbe, S. Lucco, T. E. Anderson, and S. L. Graham, "Efficient software-based fault isolation," In Proceedings of the 14th ACM Symposium on Operating Systems Principles, pages 203--216, Dec. 1993. 3. D. Rubin and D. E. Geer, "Mobile code security," IEEE Internet Computing, 1998. 4. D. Chess, J. Morar, "Is Java still secure?," IBM T.J. Watson Research Center, NY, 1998. 5. L. Gong, "Java Security Architecture (JDK1.2)," Technical Report, Sun Microsystems, Inc., 901 San Antonio Road, Palo Alto, California 94303, U.S.A, 1998. 6. Li Gong,"Secure java class loading," IEEE Internet Computing, pages 56-61, 1998. 7. M. Hauswirth, C. Kerer, and R. Kurmanowytsch, "A secure execution framework for Java," In Proceedings of the 7th ACM conference on computer and communications security (CCS 2000), pages 43--52, Athens, Greece, Nov. 2000. 8. L. Gong, M. Mueller, H. Prafullchandra, and R. Schemers, "Going Beyond the Sandbox: An Overview of the New Security Architecture in the Java Development Kit 1.2," In Proceedings of the USENIX Symposium on Internet Technologies and Systems, Monterey, California, Dec. 1997. 9. Signed Code," (n.d.). Retrieved December 15, 2003, from James Madison University, IT Technical Services Web site: http://www.jmu.edu/computing/infosecurity/ engineering/issues/signedcode.shtml 10. "Introduction to Code Signing," (n.d.). Retrieved December 15, 2003, from Microsoft Corporation, Microsoft Developer Network (MSDN) Web site: http://msdn.microsoft . 11. Gary McGraw and Edward Felten (1996-9). Securing JAVA [Electronic version]. John Wiley and Sons. http://www.securingjava.com/ 12. M. Dageforde. (n.d.). "Security Features Overview," Retrieved December 21, 2003, from Sun Microsystems, Inc. The JavaTM Tutorial Web site: http://java.sun.com /docs/books/tutorial/security1.2 /overview/ 13. R. Levin (1998). "Security Grows Up: The Java 2 Platform," Retrieved December 21, 2003, from Sun Microsystems, Inc. Sun Developer Network (SDN) Web site: http://java.sun.com/features/1998/11/jdk.security.html 14. P. Lee and G. Necula, "Research on Proof-Carrying Code on Mobile-Code Security," In Proceedings of the Workshop on Foundations of Mobile Code Security, 1997. 15. S. Loureiro, R. Molva, and Y. Roudier, "Mobile Code Security," Institut Eurecom, 2001. 16. P. Lee. (n.d.), "Proof-carrying code," Retrieved December 28, 2003, from Web site: http://www-2.cs.cmu.edu/~petel/papers/pcc/pcc.html 17. L. D'Anna, B. Matt, A. Reisse, T. Van Vleck, S. Schwab, and P. LeBlanc, "Self- Protecting Mobile Agents Obfuscation Report," Report #03-015, Network Associates Laboratories, June 2003. 18. G. Wroblewski, "General Method of Program Code Obfuscation," PhD Dissertation, Wroclaw University of Technology, Institute of Engineering Cybernetics, 2002, (under final revision). 19. F. Hohl, "Time Limited Blackbox Security: Protecting Mobile Agents from Malicious Hosts," To appear in Mobile Agents and Security Book edited by Giovanni Vigna, published by Springer Verlag 1998. 20. B. Barak, O. Goldreich, R. Impagliazzo, S. Rudich, A. Sahai, S. Vadhan, and K. Yang, "On the (Im)possibility of Obfuscating Programs," in Advances in Cryptology, Proceedings of Crypto'2001, Lecture Notes in Computer Science, Vol. 2139, pages 1-18. 21. G. Hachez, "A Comparative Study of Software Protection Tools Suited for Ecommerce with Contributions to Software Watermarking and Smart Cards," Universite Catholique de Louvain, 2003. 22. C. Collberg, C. Thomborson, and D. Low, "A taxonomy of obfuscating transformations," Technical Report 148, Department of Computer Science, University of Auckland, July 1997.	**201-203**
46	**Authors:**	**Riya Garg, Suman Nehra, B. P. Singh**	
	Paper Title:	**Low Power 4-2 Compressor for Arithmetic Circuits**	
	Abstract: Most of the VLSI circuits used adders as a crucial portion, since they form the base element of all arithmetic functions. Increasing demand for portable equipments requires area and power efficient VLSI circuits. This paper presents 4-2 compressor using two different 8T full adder designs. The aim of this paper is to reduce the power consumption of 4-2 compressor without compromising the speed and performance. All pre-layout and post-layout simulations have been performed at 45nm technology on Tanner EDA tool version 12.6 and compared in terms of power consumption, power-delay product (PDP) over various input voltages, temperatures and frequencies.. **Keywords:** 2T (2 transistors), 3T, 8T and PDP. **References:** 1. Ahmed M. Shams, Tarek K. Darwish and Magdy A. Bayoumi, "Performance Analysis of Low-Power1-Bit CMOS Full Adder Cells." IEEE Transactions on Very Large Scale Integration (VLSI) System, Vol. 10, No. 1, 2002, pp. 20-29. 2. Fabio Frustaci et al, "Designing High-Speed Adders in Power-Constrained Environments," IEEE Transactions on circuits and systems, Vol. 56, No. 2, 2009, pp. 172-176. 3. M. Alioto and G. Palumbo, "Analysis and comparison on full adder block in submicron technology," IEEE Trans. Very Large Scale (VLSI) Syst., vol. 10, no. 6, 2002 pp. 806–823. 4. Sreehari Veeramachaneni et al, Novel Architectures for High-Speed and Low-Power 3-2, 4-2 and 5-2 Compressors," International Conference on VLSI Design, IEEE, 2007. 5. Sung Mo Kang and Yusuf Leblebici, "CMOS digital integrated circuits-analysis and design," 2003, Tata McGraw-Hill, third edition. 6. N. Weste and K. Eshraghian, "Principles of CMOS Digital Design, A System Perspective," 1993, MA: Addison Wesley. 7. John P. Uyemura, "Introduction to VLSI Circuits and Systems," 2002, John Wiley and Sons, Inc. 8. D. Radhakrishnan, A.P. Preethy, "Low Power CMOS Pass Logic 4-2 Compressor for High-Speed Multiplication," Proc. IEEE Midwest Symp. on Circuits and Systems, 2000, pp. 1-3.	**204-207**

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