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Authors: Tazeem Ahmad Khan, M T Beg, M A Khan

Paper Title: Performance Analysis of WLAN Using OPNET

Abstract: Abstract- In this paper analyze the performance of Wireless Local Area Networks (WLANs), it is important to identify what types of network settings can cause bad performance. Low throughput, high packet loss rate, delayed round trip time (RTT) for packets, increased retransmissions, and increased collisions are the main attributes to look for when analyzing poor network performance. We use the OPNET Modeler to simulate the RTS/CTS mechanism to evaluate the performance of IEEE 802.11 MAC protocol. We have simulated two scenarios with and without RTS/CTS mechanism enabled on network nodes. We have concluded our findings by comparing the total WLAN retransmissions, data traffic sent/received, WLAN Delay of two scenarios. RTS/CTS mechanism is helpful to reduce the number of retransmissions if hidden node problem persists in network scenarios.

Keywords: RTS/CTS, wireless LAN, MAC layer, opnet.

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2.

Authors: N. Janardhan, M.V.S. Murali Krishna, P.Ushasri, P.V.K. Murthy

Paper Title: Comparative studies on Performance, Emissions and Combustion Characteristics of Jatropha Oil in Crude Form and Biodiesel in a Medium Grade Low Heat Rejection Diesel Engine

Abstract: Experiments were carried out to evaluate the performance of a medium grade LHR diesel engine consisting of air gap insulated piston with 3-mm air gap, with superni (an alloy of nickel) crown and air gap insulated liner with superni insert with different operating conditions of jatropha oil in crude from and biodiesel form with varied injection timing and injection pressure. Performance parameters of brake thermal efficiency (BTE), exhaust gas temperature (EGT) and volumetric efficiency (VE) were determined at various values of brake mean effective pressure (BMEP). Exhaust emissions of smoke and oxides of nitrogen (NOx) were recorded at different values of BMEP. Combustion characteristics were measured with TDC (top dead centre) encoder, pressure transducer, console and special pressure-crank angle software package. In comparison with CE with diesel operation, biodiesel operation on CE showed compatible performance while LHR engine showed improved performance. The performance of both version of the engine improved with advanced injection timing and higher injection pressure with test fuels. Peak brake thermal efficiency increased by 11%, at peak load operation-brake specific energy consumption decreased by 6%, exhaust gas temperature decreased by 25oC, volumetric efficiency decreased by 5%, smoke levels were compatible and NOx levels increased by 35% with biodiesel operation on LHR engine at its optimum injection timing (31obTDC), when compared with pure diesel operation on CE at manufacturer's recommended injection timing (27obTDC).

Keywords: Crude Jatropha oil, Biodiesel, CE, LHR engine, Fuel Performance, Exhaust emissions, Combustion characteristics.

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3.

Authors:	**Mamta Rajgor, Jayeshkumar Pitroda**
Paper Title:	**Stone Sludge: Economical Solution for Manufacturing of Bricks**

Abstract: A new approach to the production of brick was carried out by using Class F fly ash. Marble and granite industry has grown significantly in the last decades with the privatization trend in the early 1990s.Accordingly, the amount of mining and processing waste has increased .Stone waste is generally a highly polluting waste due to both of its highly alkaline nature,and its manufacturing and processing techniques ,which impose a health threat to the surroundings. Brick is one of the most common masonry units as a building material due to its properties. Many attempts have been made to incorporate wastes into the production of bricks, for examples, limestone dust, wood sawdust, processed waste tea, fly ash, polystyrene and sludge. Recycling such wastes by incorporating them into building materials is a practical solution for pollution problems. This paper represents the utilization of stone sludge waste in manufacturing fly ash bricks. In this paper, an attempt is made to study the properties of stone waste fly ash bricks

Keywords: Class F Fly ash, Stone sludge, Natural resources,Eco-construction bricks,Sustainability, Environment, Waste re-use, cost feasibility

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4.

Authors: **Deenanath Sahu, Kartik Dev Bharti, Mohit Singh**

Paper Title: **Bandwidth Enhancement and Radiation Properties of Slotted Antenna**

Abstract: The design of low-cost, wideband, printed inverted-F antennas (PIFAs) that are suitable for portable devices operating at the 2–3 GHz band is described. The design specifications were extracted according to the constraints of high data rate wireless sensor devices. Reactive tuning through slot loading was applied to enforce degeneration of a higher resonance, and thus double the bandwidth in the band of interest. Three slotted antenna configurations are reported plus a baseline configuration; a thorough numerical characterisation of performance is provided. Fractional bandwidth (FBW) in the range 22–34% was achieved, which is almost quadruple that of existing implementations. The antennas exhibit total efficiencies around 80% and are elliptically polarised. A suitable figure-of-merit is suggested for performance comparisons; it attempts to capture overall antenna performance in a single quantity. Antenna performance depends heavily on electrical size, which depends on the size of the ground plane, since the RF ground is an integral part of the total radiator. The ground-effect study showed that wrong choice of size can force resonant modes to vanish. Best performance for a slotted PIFA was obtained with a ground plane measuring 0.20l _ 0.28l, significantly smaller than predicted in prior studies. Bandwidth augmentation through slot loading is supported by measurements. Fabricated antennas with sub-optimal ground plane sizes exhibit FBWs in the range 20–23%.

Keywords: Degeneration, Configuration. Performance, Antenna, Measurement.

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5.

Authors: **Ankit Nileshchandra Patel, Jayeshkumar Pitroda**

Paper Title: **Stone Waste :Effective Replacement Of Cement For Establishing Green Concrete**

Abstract: Stone waste is one of the most active research areas that encompass a number of disciplines including civil engineering and construction materials. In India, stone dust is settled by sedimentation and then dumped away which results in environmental pollution, in addition to forming dust in summer and threatening both agriculture and public health. Therefore, utilization of the stone dust in various industrial sectors especially the construction,

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agriculture, glass and paper industries would help to protect the environment. It is most essential to develop eco-friendly concrete from stone waste.In this research study the(PPC) cement has been replaced by stone waste accordingly in the range of 0%, 10%, 20%, 30% 40%, & 50% by weight for M-25 grade concrete. Concrete mixtures were produced, tested and compared in terms of workability and strength to the conventional concrete. These tests were carried out to evaluate the mechanical properties for 7, 14 and 28 days. As a result, the compressive strength increased up to 20% replacing of stone waste. This research work is concerned with the experimental investigation on strength of concrete and optimum percentage of the partial replacement by replacing (PPC) cement via 0%, 10%, 20%, 30%, 40% and 50% of stone waste. Keeping all this view, the aim of the investigation is the behavior of concrete while replacing of waste with different proportions of stone waste in concrete by using tests like compression strength.

Keywords: Industrial Waste,Stone Waste, Eco-Friendly, LowCost, Compressive Strength, PPC Cement

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6.	**Authors:**	**Valarmathi.S, Sathishkumar.S, Venkatesan.D**
	Paper Title:	**A Strong Execution Environment for a Critical Application Even in the Presence of Corrupted Environment**

Abstract: A strong execution environment is created for a critical application even in the presence of entrusted environment. Generally in an entrusted environment if any application is going to be executed mean suddenly it terminates an application or data loss is occurred. To overcome this drawback some of the existing technique was developed such as variant based and replication technique and it is not much effective because overhead problem is occurred. A new technique called Virtual Machine is going to be developed. In this technique VM is used as a secondary storage to store all the details. Two modes are created one is user mode and another one is kernel mode. In user mode user can view the file name only they do not have the rights to view the file content. In kernel mode only the user have the rights to view the content of the file. Virtual memory monitors and displays the user details that are when the user comes. This technique is mainly used for critical applications such as colleges, bank and hospitals and so on.

Keywords: Memory corruption, Operating System, Security, Virtual machine.

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7.

Authors: **Abhay Kumar Singh**

Paper Title: **Network Switch a Centralized Access Approach**

Abstract: This work gives a mechanism for doing authentication and authorization between managed element and server from a single database using a Centralized controller which can control a multiple switches. This work allows having one or more authentication servers for the switches to authenticate against which centralizes the authentication databases, making it easier to manage switch. Moreover, switch continues to support the pre-existing local authentication which works as a fallback in case of loss of connectivity to authentication server. Command authorization on per user basis is added which makes possible to have authorization of user to execute specific commands. Old access level authorization is continued to support as well. Protocol client is added and integrated into the existing system. As a part of this this work Remote authentication is supported meaning that authentication has not to be done by each switch by its own. Authentication database is shared with each other by switches now. Therefore each switch need not to be configured individually for a specific user and password in the network which will make the process of adding/modifying users very fast as opposed to time consuming in a large switch network and it is no more a security concern also. Chances of misconfiguration and mismatch are minimized.

Keywords: AAA, API, Authentication, Authorization, C, Database, Ftp, NAS, Session, Switch, Telnet, SSH.

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8.

Authors: **Chowdi Ravitej, Elphesj Churchill, Kishore Sonti**

Paper Title: **Design and Simulation of Cordic Co-Processor and Its Application in Avionics**

Abstract: A technique is allocated going to discuss the application of cordic algorithm in avionics. Actually here the process is dealing with avionics so, the smart application of cordic algorithm is in ARM processor. In GNSS (global navigation satellite system) receiver make use of ARM processor floating point instruction (FPI) are there to calculate the FPI. It contains floating point unit (FPU). So, to make easy calculation in FPU have implemented cordic algorithm here cordic calculation means calculating trigonometric values. In this way FPU has implemented. Here trigonometric values means sin, cosine, tangent after getting tangent values have to see timing response of the binary output. So, in navigation system. Now, accurate signals have been sensed. Without any critical path delay then automatically speed will increase delay will reduce this is more advantage in avionics system. For floating point addition, exponent matching and shifting of 24 bit mantissa and sign logic are coded in behavioral style. Prototypes are implemented on Xilinx vertex-4 and 5. By designing pipelining in cordic and wave pipelining in cordic is implemented in cordic algorithm to reduce the timing response in the navigation system.

Keywords: fpu, cordic algorithm, pipelining and wave pipelining in cordic, avionics.

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9.

Authors: **Kala O.S, R.Premkumar**

Paper Title: **A Taxonomy of Web Search Using Search History Clustering Mechanism**

Abstract: The size and richness of information available on the web growing very rapidly. To this end the users are trying to accomplish more complex task through online. The users can break down the complex tasks into a few co-dependent tasks and issue as multiple queries around these tasks. Search engines are the primary means of accessing information through online.While searching, the search engine can keep their old queries and clicks. Grouping of related queries in the search history is useful for a variety of search engine applications.Query grouping allows the search engine to better understand a user's session and tailor that user's search experience according to their needs. Hence this system presents a mechanism that automatically identifies query groups in the search history.

Keywords: search history, query group, search behavior graphs, query reformulation.

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10.

Authors: **Pradip P.Patel, Sameena Zafar, Syed Uvaid**

Paper Title: **Miniaturized Compact Patch Antenna for Multiband Applications Using Combination of Sierpinski Carpet & Giuseppe Peano Fractral Geometries**

Abstract: Modern telecommunication system require antenna with wider bandwidth and smaller dimensions. Various antennas for wide band operation have been studied for communication and radar system. A fractal monopole antenna is proposed for the application in the UWB frequency range, which is designed by the combination of two fractal geometries. The first iterations of Giusepe Peano fractal are applied on the edges of a square patch, and a Sierpinski Carpet fractal is formed on its surface. The fractal antenna is preferred due to small size, light weight and easy installation. A fractal micro strip antenna is used for multiband application in this project provides a simple and efficient method for obtaining the compactness. A sierpinski carpet based fractal antenna is designed for multiband applications. It should be in compactness and less weight is the major point for designing an antenna. This antenna is providing better efficiency.

Keywords: component; Sierpinski gasket, fractal, multiband antenna, miniaturization.

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11.

Authors: **Lakshmana Phaneendra Maguluri, Naga Srinivasu Parvathanni, Ravikiran Karri**

Paper Title: **An Efficient De noising Based Clustering Algorithm for Detecting Dead Centers and Removal of Noise in Digital Images**

Abstract: As of now, several improvements have been carried out to increase the performance of previous conventional clustering algorithms for image segmentation. However, most of them tend to have met with unsatisfactory results. In order to overcome some of the drawback like dead centers and trapped centers, in this

article presents a new clustering-based segmentation technique that may be able to overcome some of the drawbacks we are passing with conventional clustering algorithms. Clustering algorithms are used for segmenting Digital images however noise are introduced into images during image acquisition, due to switching, sensor temperature. They may also occur due to interference in the channel and due to atmospheric disturbances during image transmission and affecting the segmentation results Noise reduction is a pulmonary step prior to feature extraction attempts from digital images. In order to overcome this drawback, this paper presents a new clustering based segmentation technique that can be used in segmenting noise Digital images. We named this approach as De noising based Optimized K-means clustering algorithm (DOKM).where De noising is fully data driven approach. The qualitative and quantitative analyses have been performed to investigate the robustness of the OKM algorithm. And this new approach is effective to avoid dead centre and trapped centre in segmented Digital Images.

Keywords: limitations of conventional clustering algorithms; dead center problem; Salt-and-Pepper Noise; Image segmentation;

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12.

Authors:	**Samarth S. Mabrukar, Nitin S. Sonawane, Jasmine A. Bagban**
Paper Title:	**Biometric System using Iris Pattern Recognition**

Abstract: Iris is unique body part which does not change with respect to time. Also every individual has unique and different pattern of the Iris for both the eyes. This helps in identifying a person, quite accurately. Initially, a filter must be employed to get rid of any kind of noises before pre-processing stage. Initially we detect the pupil-iris boundary. After that, we give it to Circular Hough transform to detect its center which will be used to extract iris from the image. Using Daugman's Rubber sheet model, we normalize the iris pattern for making computations easy. Feature Extraction is done by using multi-scale Taylor series expansion of the iris texture. Feature vectors are extracted by binarizing the first and second order multi-scale Taylor coefficients. The proposed algorithm is tested against different images which gives better results in less computation time. The simulation is carried out using CASIA database on MATLAB.

Keywords: Hough Transform, Iris, Multi-Scale, Segmentation, Taylor Series Expansion.

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13.

Authors:	**Heena Sharma, Navdeep Kaur Kaler**
Paper Title:	**Data Mining with Improved and Efficient Mechanism in Clustering Analysis and Decision Tree as a Hybrid Approach**

Abstract: In this research, we are using clustering and decision tree methods to mine the data by using hybrid

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algorithms K-MEANS, SOM and HAC algorithms from clustering and CHAID and C4.5 algorithms from decision tree and it can produce the better results than the traditional algorithms. It also performs the comparative study of these algorithms to obtain high accuracy. Clustering method will use for make the clusters of similar groups to extract the easily features or properties and decision tree method will use for choose to decide the optimal decision to extract the valuable information.This comparison is able to find clusters in large high dimensional spaces efficiently. It is suitable for clustering in the full dimensional space as well as in subspaces. Experiments on both synthetic data and real-life data show that the technique is effective and also scales well for large high dimensional datasets.

Keywords: Clustering, Decision tree, HAC, SOM, C4.5, Data Mining, K-Means

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14.

Authors: **R.Gnanajeyaraman, P.Muneeshwari**

Paper Title: **Performance Analysis of Low power Low-cost Signal detection of MIMO- OFDM using NSD**

Abstract: This paper aims to maximize throughput by minimizing power as possible. Scores of optimization techniques such as FFT, IFFT and memory optimization are available for reducing power of mobile OFDM systems. An approach for achieving reduction in power of MIMO OFDM system by optimizing FFT architecture is addressed in this paper. Memory references in MIMO OFDM transceivers are costly due to their long delay and high power consumption . To implement fast Fourier transform (FFT) algorithms on MIMO OFDM. The proposed FFT structure is the combination of memory reference reduction evaluated using performance parameters such as BER and SNR. In order to reduce the hardware complexity of the MIMO OFDM synchronization, this paper proposed an efficient autocorrelation scheme based on time multiplexing technique and the use of reduced samples while preserving the performance. QoS is an important consideration in networking, but it is also a significant challenge. This QoS is based on some parameter like network traffic, data loss, data collision and speed. The VLSI implementation was done using ModelSim and Xilinx .Strutural realization and analysis pertaining to timing , power, QoS highthroughput and low-cost design with high performance to detect PSS using NSD is derived in this paper.

Keywords: Low power, low cost, primary synchronisation signal(PSS), FFT,LTE, IFFT, Inter symbol interference(ISI)

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15.

Authors: **Swati Kamra, Deepender Dhull, Nidhi**

Paper Title: **Bandwidth Estimation to Provide QoS Routing in MANET**

Abstract: In mobile ad hoc networks (MANETs), the provision of quality of service (QoS) guarantees is much more challenging than in wire line networks, mainly due to node mobility, multi-hop communications, contention for channel access, and a lack of central coordination. QoS guarantees are required by most multimedia and other time- or error-sensitive applications. The difficulties in the provision of such guarantees have limited the usefulness of MANETs. However, in the last decade, much research attention has focused on providing QoS assurances in MANET protocols. The QoS routing protocol is an integral part of any QoS solution. We propose a QoS routing protocol is the use of the approximate bandwidth estimation to react to network traffic. Our approach implements Admission control and feedback scheme by using two bandwidth estimation methods (Hello and Listen). We simulate our QoS- routing protocol for nodes running the IEEE 802.11 medium access control. Results of our experiments show those Comparisons among Hello and Listen Methods with the Qos metrics.

Keywords: Bandwidth estimation, mobile ad hoc routing networks (MANETs), Quality-of-service (QoS

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Authors: **Pramisha Sharma, Amit Dubey, S.K. Chatterjee**

Paper Title: **Physico- Chemical Analysis of Surface and Ground Water of Abhanpur Block in Raipur District, Chhattisgarh, INDIA**

Abstract: A segment of this investigation was carried out to study the ground water as well as surface water quality and its physico-chemical characteristics of Abhanpur block district Raipur of Chhattisgarh, India. The geographical area at study is situated between 210 3' N to 21 035'4" N latitude and 81043' E to 49.64'5" E longitude. The present work has been conducted by monitoring of ground and surface water i.e. well water, bore - well water of 8 wards of Abhanpur block as well as pond and tap water of the Abhanpur. Attempts were made to study and analyze the physico-chemical characteristics of water, i.e. , temperature, pH, total dissolved solids, alkalinity, hardness, and chloride.

Keywords: Ground water, Surface water, Physicochemical parameter, Raipur district.

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Authors: **Neethu Kunjappan, K.Lakshmanan**

Paper Title: **Video Survillence using Multifeature Background Subtraction Algorithm: A Self adaptive Security Mechanism**

Abstract: This is a security system based on background subtraction algorithm. Currently existing surveillance systems normally use Closed Circuit TVs. Background modeling and subtraction is a natural technique for object detection in videos captured by a static cameras. The proposed paper uses multi feature background subtraction technique. Here it uses a pixel wise background modeling and subtraction using multiple features. Here generative and discriminative techniques are combined for classification. In this algorithm, gradient, color, and Haar-like features are closely integrated so that they can handle variations in space and time for each and every pixel. A e background model that is pixel wise generative is obtained for each feature by Kernel Density Approximation (KDA). Background subtraction is performed using a Support Vector Machine (SVM). The proposed algorithm is resistant to shadow, illumination changes in light and spatial variations of background. It monitors an already captured environment and if an intruder comes, then it will send message alert to the administrator and it will send current streaming video to the admin system. All these actions are performed so fast that it will be easy to catch the intruder and needs no human interaction which makes the system efficient.

Keywords: Background Subtraction Algorithm,Kernel Density Approximation ,Support Vector Machine, Haar-like features

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Authors: **Navneet N Tewani, Neeharika Ithapu, K Raghava Rao, Sheik Nissar Sami, B. Sai Pradeep,V.Krishna Deepak**

Paper Title: **Distributed Fault Tolerant Algorithm for Identifying Node Failures in Wireless Sensor Networks**

Abstract: A Wireless Sensor Network is a set of multiple connected components. Sometimes due to the failure of some of its nodes, the sensor network communication fails. So that we consider this problem of node(s) failure termed as "cut" from the remaining nodes of a wireless sensor network. We propose an algorithm that allows (i) every node to detect when the connectivity to a specially designated node has been lost, and (ii) one or more nodes (that are connected to the special node after the cut) to detect the occurrence of the cut. The algorithm we proposed is distributed and asynchronous i.e. every node needs to communicate with only those nodes that are within its communication range. The algorithm is based on the iterative computation of the nodes. The convergence rate of the underlying iterative scheme is independent of the size and structure of the network. In this algorithm we devised a way to solve the problem of redundant information at the destination which arises due to availability of information at every node that is initially sent from the source node. We demonstrate the effectiveness of the proposed algorithm through simulation.

Keywords: Cut, iterative computation, redundancy, simulation, Wireless sensor networks.

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Authors: **Rahul Pal, Rahul Gotiya, Pankaj Singh, Amit Agrawal**

Paper Title: **Design of A Embedded Ethernet Packet Sniffer**

Abstract: In this paper we are proposing a brief description about embedded Ethernet based event controller Packet sniffers. These are devices or programs capable of intercepting and logging network traffic for which they were not the intended recipient. Their ability to eavesdrop on network traffic has made them indispensable tools for IT administrators. In modern IP networks, packet sniffers are often used to determine the source of network problems, detect intrusions and locate vulnerabilities. Sniffers can also be used for covert surveillance of users internet activities. Ethernet operates at higher bit rate than slow-speed embedded protocols.

Keywords: embedded, packet sniffer, collision domain.

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20.

Authors: **S. Paul Sathiyan, S. Suresh Kumar, A. Immanuel Selvakumar**

Paper Title: **A Comprehensive review on Cruise Control for Intelligent Vehicles**

Abstract: Automatic vehicle speed control is presently one of the most popular research topics throughout the automotive industry and particularly in the Intelligent Transportation Systems field (ITS). Cruise Control (CC) system employs the concept of running at set speed under no obstacle / vehicle in front (velocity Control). CC for the metropolitan areas can significantly enhance the benefits in terms of comfort, safety, traffic flow, noise and emissions with some improved technology. CC fails to work when a vehicle / obstacle is detected in the front of the host vehicle. To overcome this drawback, Adaptive Cruise Control (ACC) system was developed. ACC can also wok in velocity control mode along with distance control mode. In distance control mode ACC can automatically adjust the velocity of the vehicle in order to maintain a proper distance between leading vehicle and the host vehicle. This paper discuss about the various evolutions that has been evolved in the field of cruise control, its recent

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developments and research trend in the automation of the vehicles in longitudinal/lateral control. The control algorithms like fuzzy logic, sliding mode, genetic algorithm, sensor fusion techniques etc., are used to implement the various level of evolution of cruise control. The techniques with their merits and short comings have been reviewed, keeping safety first and then fuel economy and comfort. The paper concludes with suggestions for future improvement.

Keywords: Cruises Control, Distance Control, Intelligent Vehicle, Lateral Control, Longitudinal Control, Velocity Control.

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21.

Authors:	**Jaimon Chacko Varghese, Binesh Ellupurayil Balachandran**
Paper Title:	**Low Cost Intelligent Real Time Fuel Mileage Indicator for Motorbikes**

Abstract: The design of "Low Cost Intelligent Real Time Fuel Mileage Indicator for Motorbikes" is intended to developing a low cost device that can actively display the fuel mileage of a motorbike and display it in real time onto a display which is attached/placed on the dashboard of a vehicle along with other driver information system. A unique method and system has been devised for giving instantaneous mileage readings in real time during both driving conditions and idling conditions corresponding to the amount of fuel consumed and the distance travelled by the motorbike. This device can be added as an enhancement to existing motorbikes too which works on carburetor and even on bikes with fuel injection technology. The mathematical calculations done by humans to manually check the mileage of a vehicle can be automated with the implementation of this device. Also, the probable distance that can be travelled by the vehicle corresponding to the amount of fuel in the fuel tank can also be estimated. The method and apparatus in this device includes a flowmeter from which the amount of fuel consumed is sensed and given as the input signal to a microcontroller which in turn also receives the signals from vehicle speed sensors indicating the distance travelled. The microcontroller access the data obtained from both the sensors and computes numerical value which can be displayed onto a display unit digitally.

Keywords: driver information system; engine; flowmeter; fuel; low cost; mileage; motorbike; sensors

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Authors:	**Pravin W. Raut, S.L. Badjate**
Paper Title:	**MIMO-Future Wireless Communication**

Abstract: The exceptional growth of the telecommunication industry in recent years fueled by the widespread popularity of mobile phones and wireless computer networking. The demand of wireless communication is constantly growing and need the tether less connectivity. The major limitations to this growth is the disadvantages of traditional wireless communication System due to the limitations of available frequency resources, Bandwidth, channel capacity, complexity, reliability, transmission data rate and physical areas.
This paper addresses the overview of new technology Multi-Input-Multi-Output (MIMO)-the Future Wireless system will be much more efficient to meet the heavy demand of Wireless communication in available limited frequency

resources.

MIMO channel is frequency selective (multipath) and is known to boost channel capacity for high-data rate transmissions, low power implementation, sophisticated signal processing algorithm. The FPGA based coding techniques will reduce the size, complexity and increase the reliability of connectivity.

Keywords: MIMO, FPGA, Transmitter, Receiver, OFDM. Antenna, Channel estimation.

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10. An FPGA-based MIMO and Space-Time processing platform J. Dowle, S. H. Kuo, K. Mehrotra, I. V. McLoughlin Group Research.
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Authors: **Jeevan Prasad Adhikari**

Paper Title: **Performance Analysis of Protocols RIP & EIGRP**

Abstract: The Routing Information Protocol (RIP) is one of the Internet's first widely used routing protocol. It is still useful in local and medium area networks. RIP is classified as a distance-vector routing protocol, which employs the hop count as a routing metric, The maximum number of hops allowed for RIP is 15[3]. A hop count of 16 is considered an infinite distance viewing such distance as unreachable and undesirable route in it routing process. This hop count limits the size of network that RIP operate.
EIGRP is a Cisco-proprietary routing protocol that is based on IGRP. EIGRP supports CIDR and VLSM, allowing network designers to maximize address space. EIGRP is often described as a hybrid routing protocol that offers the best of distance vector and link-state algorithms. EIGRP is an advanced routing protocol that relies on features commonly associated with link-state protocols. This paper consist of comparisons of RIP and EIGRP, it includes the various trouble resolving techniques and traffic handling techniques during communication in simple as well in bulky networks[5].

Keywords: Routing Protocols RIP, IGRP, EIGRP.

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Authors: **Rameshwar T. Murade, Pavan M. Ingale, Rahul U. Kale, Sarfaraz S. Sayyad**

Paper Title: **Comparative analysis of IP, ATM and MPLS with their QoS**

Abstract: An ancient philosopher said" Humans are social animals." Peoples exchanges ideas and information about themselves and other and bout current and past events. People were curious to know what happen and this curiosity combined with inventiveness led them to build networks to facilitated information exchange. For this, networks plays vital role for enhancements of technology. Internet has raising popularity. For its network reliability, efficiency & QoS is required. This kind of real time traffic (i.e. voice and video) required extra care because of delay sensitive, QoS, limited bandwidth. For this we have three technologies IP, ATM and MPLS. IP is highly used in network core and also it support real time traffic. But IP offers random delay in transmission. All telecommunication operators which provides voice services as significant part their business. They choose ATM has backbone technology. ATM integrate voice and data to guaranty of good QoS & support for further development such video conferencing or ISDN but ATM is not best way to carry IP traffic for transmission of voice, because we cannot replace IP based network. Because of this IP over ATM increases overhead problem to traffic. ATM have not another way to carry IP traffic Solution to all this is MPLS, MPLS is label based technology. MPLS support characteristics of IP & ATM. It based on label switched path (LSP) in network means packet carry label in network . MPLS make super highway for all types of transmission. It supports all types of services.

Keywords: Communication protocol, IP, ATM & MPLS.

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Authors: **K. Bhaskar Reddy, P Ajay Kumar Reddy, K. Sai Venu Prathap**

Paper Title: **Design and Development of Anti-detaining Student Monitoring System**

Abstract: The Idea of Designing an Innovative Anti-detaining student monitoring system is born with the observation of student's behavior in real life. Most of the students will be bunking the classes, most of the time and due to attendance shortage finally gets detained. And he will be losing his career most of the times. The parents will

	not be aware until the student crosses the attendance dead line. The purpose of this project is to develop a student monitoring and guardian alert system maintain the attendance of students who are mostly irregular to classes. After observing the attendance of the students in the first month, students whose attendance is below the margin level, (approx. below 40 to 50%) are filtered out and those students should be registered in the system with their identity particulars, finger prints, mobile numbers of their guardians etc…every day the enrolled students has to put their attendance at periodical intervals of the day. If the student fails to put attendance, immediately a SMS message using GSM modem will be sent to the guardian and student mobiles. The main objective of the system is to reduce the students who are getting detained every year. **Keywords:** RFID, NFC, Biometric, GSM Modem, Attendance. **References:** 1. http://en.wikipedia.org/wiki/Fingerprint 2. "What is a GSM Modem?" http://www.nowsms.com/faq/what-isa- gsm-modem 3. "RFGSM Modem", http://www.electriccurrent.net/tag/playingcards/ 4. "Nitgen Hamster I - PC/Server Fingerprint Reader",http://www.nitgenltd.com/nitgen-hamster-1-entry-level-pcfingerprint-reader 5. "Advantages of .NET Framework", http://www.startvbdotnet.com/dotnet/frameworkadvantages.aspx	
26.	**Authors:**	**SureshBabu G, Raviteja Boyanapalli, Raja Sekhara Reddy Vanukuri, Prudhvi Gogineni, Janakinandan Nookala, Goutham Kumar Yarlagadda, VinayBabu Gada**	
	Paper Title:	**Identification of Critical Speeds of Turbine Blade Along with Stress Stiffing and Spin Softening Effects**	
	Abstract: Turbo machinery blades pass through several natural frequencies during start up and shut down operations. That will cause the resonance and cumulative damage to the turbine blades. Hence it is important to identify critical speeds. Critical speed is theoretical angular velocity which extends natural frequency of a rotating object, such as shaft, propeller, lead screw or gear. As of the speed of the rotation approaches the objects natural frequency, the object begins to resonate which dramatically increases systematic vibration. The resulting resonance occurs regardless of orientation. In this project the natural frequencies of turbine blade are identified using FINITE ELEMENT modal analysis at different speeds with spin softening and stress stiffening effects. Then the critical speeds are obtained by plotting Campbell diagram. **Keywords:** **References:** 1. ANSYS help 2. HYPERMESH help 3. www.wikipedia.com 4. www.altair-india.in 5. B.H.E.L. manual 6. A textbook of Fluid Mechanics, Thermodynamics of Turbo machinery by S.L. Dixon.		**122-126**
27.	**Authors:**	**A.Siva Kumar, K.Vijaya Kumar Reddy**	
	Paper Title:	**Experimental Investigations on LHR CI Diesel Engine with varied Operating Parameters and its Simulation**	
	Abstract: Fuel consumption and the performance are two important in the dependent parameter for any internal combustion engines. The present future generation is being looking towards the pollution free environment. Hence there is a need to search suitable automotive engines to meet low emission levels in their long run. The demand for diesel engines is growing rapidly; therefore it is necessary to increase the fuel efficiency. It is known that, the most of energy developed in any IC engines during combustion is rejected through cooling media. To minimize this heat loss to the coolant, a low heat rejection concept was developed. In LHR engines the effective utilization of heat takes place due to insulation coatings applied to cylinder and piston. At the same time problems associated with LHR engines were solved due to its high combustion temperatures. Heavy exhaust blow-down energy and high NOx emissions were identified, which leads to decrease in thermal efficiency and inability to achieve emission legislation levels. The blow down losses can be overcome by using a concept of extended expansion cycle, in which the expansion ratio is greater than that of the compression ratio. This higher expansion ratio can be achieved by late closing of intake valve. In view of this the compression ratios for both LHR and LHR (EEE) engines are varied and compared with the conventional engine. The cumulative work done and thermal efficiency are high for conventional engines at lower compression ratios. The thermal efficiency is increased as the compression ratios increases for LHR and LHR (EEE) engines. **Keywords:** LHR, LHR (EEE), Simulation, Crank angle, Compression ratios. **References:** 1. Thomas Morel, Rifat Keribar, Paul N. Blumberg, and Edward F. Fort, " Examination of Key Issues in Low Heat Rejection Engines", SAE 860316, 1986. 2. Rao V.K., Bardon M.F., & Gardiner D.P., "A New Concept That Aids In Operating I.C. Engines At Very Low Ambient Temperatures". 3. Stephen R.Turns, "An Introduction to Combustion", McGraw Hill Book Co., 2000. 4. Rowland S. Benson, White House N.D., "Internal Combustion Engines", Pergamon Press, Ltd. 1979. 5. Heywood J.B., "Internal Combustion Engine Fundamentals", McGraw Hill Book Co., 1988. 6. Ganesan V., "Computer Simulation of Compression-Ignition Engine Processes", University Press Ltd., 2000.		**127-131**
28.	**Authors:**	**K.Srinivasa Ravi, G.H.Varun, T.Vamsi, P.Pratyusha**	

	Paper Title:	**RFID Based Security System**	
	Abstract: Radio Frequency Identification (RFID) is one member in the family of Automatic Identification and Data Capture (AIDC) technologies and is a fast and reliable means of identifying any material object. The significant advantage of all types of RFID systems is the non-contact, non-line-of-sight nature of the technology. Tags can be read through a variety of substances such as snow, fog, ice, paint, crusted grime, and other visually and environmentally challenging conditions, where barcodes or other optically read technologies would be useless. This project can provide security for the industries, companies, etc. This security system gives information about the authorized and unauthorized persons. Primarily, the two main components involved in a Radio Frequency Identification system are the Transponder (tags that are attached to the object) and the Interrogator (RFID reader). In this project, when the card is brought near to the RFID module it reads the data in the card and displays on the LCD. The data in the card is compared with the data in the program memory and displays authorized or unauthorized message. The door opens for an authorized person, closes for an unauthorized person; it alerts the persons through a buzzer. The RFID module indicates a buzzer whenever it reads the data from the RFID card. **Keywords:** Authentication, RFID Reader, RFID Tag, Security. **References:** 1. Parvathy A, Venkat Rohit Raj "rfid based examination hall system", a paper on IEEE paper. 2. Kamran Ahasan, Paul Kingston IEEE paper on "rfid applications: an introductory and exploratory study". 3. Mingyan Li, Radha Poovendran, Rainer Falk paper on "multi-domain access control using asymmetric key based tag reader mutual authentication. 4. Wouter van Dullink, Pieter Westein university of Amsterdam, paper on remote relay attack on rfid access control system using NFC enabled devices. 5. Stephen a. Weis, Sanjay E.Sarma, Ronald.L.Rivest a paper on "Security and privacy aspects of low cost radio frequency identification systems". 6. Gynanendra K Verma, Pawan Tripathi, IIIT Allahabad a paper on "A digital security system with door lock system using rfid technology". 7. Bruno Crispo, Melanie R.Rieback, Andrew S Tanenbaum a paper on "The evolution of Rfid security.	**132-134**
29.	**Authors:**	**M.Vanitha, R.Raju**	
	Paper Title:	**Data Sharing: Efficient Distributed Accountability in Cloud Using Third Party Auditor**	
	Abstract: We propose a Third party auditor(TPA) between data owner and cloud service provider(CSP) which reduce the burden of data owner to audit the data in the cloud and it also make the data owner free from worrying about the data lose in cloud storage . To highlight the security purpose we introduce an novel highly decentralized information accountability framework and object-centered approach. we enclosed the data and set of policies for the user access which make the data to be secured from the malicious action made in the cloud. The JAR programmable capability which is used to create both dynamic and traveling object. When any access is made to the user's data will be trigger the authentication and automated logging control to JARs. A distributed auditing mechanism is used to control the users. **Keywords:** cloud service provider, Third party auditor, accountability, data sharing. **References:** 1. Flickr, http://www.flickr.com/, 2012. 2. Trusted Java Virtual Machine IBM, http://www.almaden.ibm.com/cs/projects/jvm/, 2012. 3. OASIS Security Services Technical Committee, "Security Assertion Markup Language (saml) 2.0," http://www.oasis-open.org/committees/tc home.php?wg abbrev=security, 2012. 4. G. Ateniese, R. Burns, R. Curtmola, J. Herring, L. Kissner, Z.Peterson, and D. Song, "Provable Data Possession at Untrusted Stores," Proc. ACM Conf. Computer and Comm. Security, pp. 598-609, 2007. 5. K. Ren, C. Wang, and Q. Wang, "Security Challenges for the Public Cloud," IEEE Internet Computing, vol. 16, no. 1, pp. 69-73, 2012. 6. B. Chun and A.C. Bavier, "Decentralized Trust Management and Accountability in Federated Systems," Proc. Ann. Hawaii Int'l Conf. System Sciences (HICSS), 2004. 7. Sun Microsystems, Inc., "Building Customer Trust in Cloud Computing with Transparent Security," https://www.sun.com/offers/details/sun_transparency.xml, Nov. 2009. 8. C. Wang, Q. Wang, K. Ren, and W. Lou, "Ensuring Data Storage Security in Cloud Computing," Proc. 17th Int'l Workshop Quality of Service (IWQoS '09), pp. 1-9, July 2009. 9. M.A. Shah, R. Swaminathan, and M. Baker, "Privacy-Preserving Audit and Extraction of Digital Contents," Cryptology ePrint Archive, Report 2008/186, http://eprint.iacr.org, 2008. 10. W. Lee, A. Cinzia Squicciarini, and E. Bertino, "The Design and Evaluation of Accountable Grid Computing System," Proc. 29th IEEE Int'l Conf. Distributed Computing Systems (ICDCS '09), pp. 145-154, 2009.	**135-138**
30.	**Authors:**	**Vinod Jain, Saurav Verma**	
	Paper Title:	**Design and Analysis of MEMS Piezoresistive Three layers Microcantilever-based Sensor for Biosensing Applications**	
	Abstract: The field of Microtechnology and Micro-Electro- Mechanical Systems (MEMS) has grown exponentially during the previous two decades .This work is dedicated to finite element (FE) 3Dstructural modeling of three layers micromechanical sensors in ANSYS 13.0 gives 3D model which are close to reality mathematical models. Material used in cantilever for different layers are silicon-dioxide, poly-silicon and nitride. . The emphasis of the analysis is put on tile effects of the angle of inclination of the concentrated force upon the deformed shape, the load-deflection relationship stresses and strain for further analysis with a greater degree of accuracy. The model we made is three layers microcantilever where the centre layer i.e. second layer, is piezoresistive layer that helps to calculate Characteristics i.e. deflection, deformation, stress and strain in the cantilever for the given applied force that can we used for future analysis for the detection of biomolecules in various biosensing application.	**139-142**

Keywords: Microcantilever, Piezoresistive, Young modulus and Elasticity.

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31.

Authors:	**Masoom Bi, Mallikarjuna M Dongre**
Paper Title:	**Energy-Aware with Mobility-Assisted Geographic Routing Protocol for Mobile Ad Hoc Networks**

Abstract: Most of the existing on-demand geographic routing protocol provides energy efficiency but lack due to the continuous motion of nodes. The topology changes frequently which mean tracking down of particular node become difficult. The nodes can easily come out of or into the radio range of various other nodes and the battery power is limited in all the devices, which does not allow infinitive operational time for the nodes. We propose an energy-aware with mobility-assisted geographic routing protocol for mobile ad hoc networks (EAGRP) that increases accuracy and reduces energy consumption in transmission of packets by considering local position information and residual energy levels of nodes to make routing decisions. Simulation results shows that proposed approach has a good energy conservation performance and also performs better in context of average end-to-end delay without much affecting the throughput.

Keywords: on-demand geographic routing, energy-aware geographic routing, simulation.

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32.

Authors:	**Monica Sood, Preetpal Kaur**
Paper Title:	**Identification of Influential Customers in Social Network based on BFO**

Abstract: In this paper we have proposed the implementation to identify the most influential customers in the social network. In Social network, different kind of people are communicate with each others and exchange their ideas, views about any products ,item or person. Any company or organization can increase the revenue of their product if the company identify such a customer in the social network that has the ability to influence to others in the social network . Influential customers whose connections, messages and opinion strongly influence to others in the specified social network .Such customers in the social network such as friendster, facebook can be identify by Swarm Intelligence algorithm-BFO. BFO has the strength to produce the optimal solution from the number of solution. We have followed the dataset from the social network site to find the most influential customers in the network. Bacterial Foraging Optimization(BFO) is the used to identify the optimal node in the social network .The evaluation based on the number of nodes with the highest simulation influence value to identify best nodes. Influence value based on number of friends, followers, number of messages reply, likes. The simulation influence point ratio is use to consider as the simulation influence value to identify the popular nodes in the social network with the help of optimized algorithm-BFO.

Keywords: BFO, Influential nodes, Optimized nodes, Swarm Intelligence

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33.

Authors: **Raj Nandini, Himadri Singh Raghav, B.P.Singh**

Paper Title: **Comparison of Phase Frequency Detectors by Different Logic Gates**

Abstract: The Phase Detectors determines the relative phase difference between the two incoming signals and outputs a signal that is proportional to this phase difference. Some phase detectors also detect the frequency error, they are called Phase Frequency Detectors (PFD). It is very important block for the Delay Locked Loop. This paper presents the different design schemes of the PFD and compares them with their output results. The circuits that have been considered are the PFD using AND Gate, PFD using NOR Gate and PFD using NAND Gate. The different PFD circuits are designed and layouts are also simulated on Tanner EDA Tool using 0.18µm CMOS process technology with supply voltage 1.8V.

Keywords: Dead Zone, Layouts, Maximum Operating Frequency, Phase Frequency Detector, Tanner Tool

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34.

Authors: **Lipsa Sadath**

Paper Title: **Data Mining: A Tool for Knowledge Management in Human Resource**

Abstract: Competitiveness is a company's ability to maintain gain and reputation in its respective market or industry. Human Resource Management (HRM) plays a lead role in determining this competitiveness and effectiveness for better survival. The HRM generally refers to the policies, practices and systems influencing employee behavior, attitude and performance. Companies consider HRM as "people practices". So it becomes the responsibility of the HRM to mine the best talents at the right time, train them, observe their performance, reward them and ultimately keep them happy in a company. It is simply because of the reason that every strategy of an organization is directly or indirectly related to the talents of the same. To gain and sustain a competitive advantage, knowledge management (developing, sharing and applying knowledge) within the organization becomes essential. But then how is HRM connected to Knowledge Management (KM) becomes a very relevant question. When employees are evaluated from their performance, different methods can be used for mining the best knowledge out of them. This paper is an attempt to study and understand the potential of Data Mining (DM) techniques for automated intelligent decisions from rich employee data base for predictions of employee performance implementing the finest KM strategies, thus achieving stable HR system and brilliant business.

Keywords: Data Mining, Knowledge Management, Human Resource Management, Talent Management, Classification, Prediction

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35.

Authors: **Pinky Chandwal, Naresh Kumar**

Paper Title: **Evaluation of Contribution and Ranking of Software Quality Attributes by using FAHP**

Abstract: Different authors propose different models and methods to define and estimate software quality. From these models and methods, we can conclude that quality of software depends upon number of attributes and their sub-attributes. But very little or less effort has been devoted to evaluate the contribution of these attributes to the quality of a software product. Therefore, this study proposes the implementation of ISO 9126 quality model along with Fuzzy Analytical Hierarchy Process (FAHP) to develop a framework for the ranking of different quality attributes in order to evaluate the contribution of these attribute of software to the quality of software product.

Keywords: Quality attributes, FAHP, Linguistic variables, Crisp Score, Fuzzy numbers.

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36.

Authors: **G.SureshBabu, S.D.V.S.Jagadeesh, U.B.Saicharan, P.R.S.Praneeth**

Paper Title: **Analysis of a Single Cylinder Combustion Engine Using CFD**

Abstract: If we consider the reasons for the Environmental Pollution from the last few decades, it is clear that most of the pollution is because of the hike in the usage of "Fossil fuels" in the transportation. Our attempts to build much energy efficient vehicles and demand for these vehicles are increasing accordingly.
From the practical observations we can clearly understand that the UN-burnt fuels in the combustion chamber of an automobile engine causes the pollution and this UN-burnt fuels (carbon particles) will come out through muffler present to the automobile, which causes the pollution in the environment by releasing them. Our project is to understand these effects in a much more meticulous way and suggest few developments that can be made in this particular field.
For this we would like to take up the case study of the single cylinder spark ignition engine of 4 stroke and their current efficiency level and the major drawbacks of them. Today, the use of software tools in the field of research and Industry has become inevitable because of the complexities that we are facing at present and the ease with which such problems can be solved using these tools. For an Engineer of this generation, it is a need to be proficient in using these tools. Hence, we would like to model the combustion system in ICEM-CFD and make the analysis of this in CFD.

Keywords: UN, ICEM-CFD, CFD.

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Authors: **Aziz Ahmad, Gourav Sharma, Sohan Lal**

Paper Title: **Optimization Technique of OFDM Used in SCADA System**

Abstract: SCADA is designed to automate various systems like process industry, power grid etc. SCADA consist of master station (MS) and a number of remote terminal units (RTU). RTUs are connected to Master Station via communication channels. Communication channel limits the speed of data acquisition and control. To send many data from RTUs to Master Station multiplexing technique like Orthogonal Frequency Division Multiplexing (OFDM) can be used. OFDM has been focused on high-data-rate wireless communication. But high Peak-to-average power is one of the main obstacles to limit wide applications. Here a technique of reducing PAPR is presented. This

technique is Selective Mapping (SLM) using standard array.

Keywords: SCADA, RTU, MS, OFDM, SLM.

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38.

Authors:	**Sandeep Kaur, K.J. Singh**
Paper Title:	**Comparative Study of Lead Borate and Lead Silicate Glass Systems Doped With Aluminum Oxide as Gamma-Ray Shielding Materials**

Abstract: Gamma ray shielding properties of PbO-Al2O3-B2O3and PbO-Al2O3-SiO2 glass systems have been evaluated in terms of mass attenuation coefficient, half value layer, mean free path and effective atomic number parameters. Structural information of both the glass systems has been obtained by using density, XRD, DSC and ultrasonic measurements. It has been inferred that addition of PbO improve the gamma ray shielding properties and simultaneously decrease the rigidity of the glass systems due to formation of non bridging oxygen. Gamma ray shielding properties of our glass systems have been compared with standard nuclear radiation shielding concretes.

Keywords: Attenuation coefficients, DSC studies, Glasses,Ultrasonic measurements.

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39.	**Authors:**	**S.M.Nandhagopal, S.N.Sivanandam**	
	Paper Title:	**Reliable Data Delivery in Mobile Adhoc Networks Using Light Weight Verification Algorithm with High Node Mobility**	

Abstract: This paper addresses data aggregation and data packets issues for highly dynamic mobile ad hoc networks and Wireless Sensor Networks thereby leading to a timely and reliable reduction in both communication and energy consumption. But there might be node failures in existing systems and an aggregation framework does not address issues of false sub-aggregate values due to compromised nodes leading to huge errors in base station computed aggregates when data is transferred through mobile sensor nodes. It cannot also transfer data after nodes fail at the intermediate level. This paper proposes a novel lightweight verification algorithm and Position-based Opportunistic Routing (POR) protocol which reduces node failure and data loss issues. Theoretical analysis and simulation prove that POR and the novel lightweight verification algorithm achieve excellent performance under high node mobility with acceptable overhead. Also the new void handling scheme performs efficiently.

Keywords: Geographic routing, opportunistic forwarding, reliable data delivery, void handling, mobile ad hoc network, Base station, data aggregation, hierarchical aggregation, in-network aggregation, sensor network security, synopsis diffusion.

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40.	**Authors:**	**Gurpreet Kaur, Kamaljeet Kaur**	
	Paper Title:	**Digital Watermarking and Other Data Hiding Techniques**	

Abstract: Digital watermarking is not a new name in the technology world but there are different techniques in data hiding which are similar to watermarking. In this paper we compare digital watermarking with other techniques of data hiding. Steganography, Fingerprinting, cryptography and Digital signature techniques are compared with watermarking. We need watermarking for digital data security .It provides ownership assertion, authentication and integrity verification, usage control and con-tent labelling.

Keywords: Cryptography, Digital signature, Fingerprinting, Steganography, Watermarking

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41.

Authors: **Saumya Tripathi, Abhinav Rastogi, Kapil Sachdeva, Mohit Sharma, Pankaj Sharma**

Paper Title: **PAPR Reduction in OFDM System using DWT with Non linear High Power Amplifier**

Abstract: High Peak to Average Power Ratio (PAPR) of the transmitted signal is a major problem in Orthogonal Frequency Division Multiplexing (OFDM) which induces the degradation of bit error rate (BER) leading to a significant loss in the transmission power efficiency. Simulation results of the proposed technique shows a prominent reduction of 1.63 dB in PAPR. In this paper, we have investigated the performance of DWT-OFDM against conventional FFT-OFDM in terms of PAPR and BER (Bit Error Rate) in the system.

Keywords: DWT, FFT, HPA, OFDM, PAPR.

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Authors: **Manjunath S S, Shreenidhi B S, Nagaraja J, Pradeep.B.S**

Paper Title: **Morphological Spot Detection and Analysis for Microarray Images**

Abstract: DNA microarray technology has promised a very accelerating research inclination in recent years. There are numerous applications of this technology, including clinical diagnosis and treatment, drug design and discovery, tumor detection, and in the environmental health research. Enhancement is the major pre-processing step in microarray image analysis. Microarray images when corrupted with noise may drastically affect the subsequent stages of image analysis and finally affects gene expression profile. Spot detection is the major preprocessing stage in microarray image segmentation. In this paper, morphological approach to detect spots in a subgrid. The proposed approach consists of two phases. First phase is morphological preprocessing, second phase includes spot detection model uses bottomhat transform. Experiments on Stanford, TBDB and UNC database illustrate robustness of the proposed approach in the presence of noise, artifacts and weakly expressed spots. Experimental results and analysis illustrates the performance of the proposed method with the contemporary methods discussed in the literature.

Keywords: morphology, dilation, erosion, bottomhat transform.

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43.

Authors: **Ch.L.Gayatri, Rama.Chakravarthy**

Paper Title: **Micro Propagation in Catharanthusroseus**

Abstract: The main objective of this study was the development of root (Rhizogenesis) and shoot (caulogenesis) development in Catharanthusroseus. The nodal segments are sterilized with distilled water and autoclaved distilled water. Then surface sterilized with mercuric chloride for 1min. later these explants were inoculated in MS medium containing tubes. After 7- 10days we observe the development of shoot in Catharanthusroseus. We observed the growth in medium which contains the combination of two growth hormones i.e IAA (Indoleacetic acid) + BA (Benzyl adinine). IAA is an auxin which promotes the development of roots in the medium where as BA is ancytokinin which promotes the development of shoot. We tried with different combinations of growth hormones at different quantities but finally got the result for the combination of IAA +BA.

Keywords: IAA+BA

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Authors: **Kritika Sood, Anuj K.Gupta**

Paper Title: **A Survey on Load Balanced Clustering Algorithms**

Abstract: The Ad Hoc network is defined by the mobile nature of the nodes and the removal of the requirement for an infrastructure based network i.e. the use of routers and gateways. Ad Hoc networks generally work in clusters i.e. the grouping of wireless mobile devices (computers or embedded devices which is based on efficient communication between all the nodes). Clusters are formed by clubbing together nodes along the wireless links. Cluster Heads are the nodes which communicate with the other nodes that it can cover under its communication range. Cluster Heads form a virtual backbone and may be used to route packets for nodes in their cluster. Nodes, being in an Ad Hoc network, are presumed to have a non-deterministic mobility pattern. Different heuristics employ different policies to elect Cluster Heads. Many of these policies are biased in favor of some nodes. As a result, these nodes shoulder greater responsibility which may deplete their energy faster due higher number of communication made, causing them to drop out of the network. Therefore, there is a need for load-balancing among Cluster Heads to allow all nodes the opportunity to serve as a Cluster Head. A Survey on various clustering algorithms for load balancing is presented in this paper.

Keywords: ad hoc, cluster, Communication, MANETs

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Authors:	**Pratik P. Singhai, Siddharth A. Ladhake**
Paper Title:	**Brain Tumor Detection Using Marker Based Watershed Segmentation from Digital MR Images**

Abstract: This paper presents a method for detection of brain tumor from Magnetic Resonance Image. Pre-processing the image makes it ready for applying the watershed segmentation. Pre-processing includes image resizing, conversion to gray. Gradient magnitude is to be computed before applying the segmentation and magnitude of these gradients is computed using the sobel mask. Watershed segmentation is used for detecting the tumor. The basic watershed algorithm is well recognized as an efficient morphological segmentation tool however, a major problem with the watershed transformation is that it produces a large number of segmented regions in the image around each local minima embedded in the image. A solution to this problem is to use marker based watershed segmentation. Connected component analysis extracts the regions which are not separated by boundary after region boundaries have been detected. Finally tumor area is calculated using connected component analysis.

Keywords: Connected Component Analysis (CCA), Magnetic Resonance Imaging (MRI), Sobel mask and Marker based Watershed segmentation.

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46.

Authors:	**Chris Nitin Adonis Petrus, M.S. Razou, M. Rajeev, M. Karthigesan**
Paper Title:	**Model-Based Test Case Minimization and Prioritization for Improved Early Fault Detection Capability**

Abstract: The primary purpose of software testing is to detect software failures so that defects may be discovered and corrected at earlier stages. Search-based software testing (SBST) is an interesting area of testing which offers a suite of adaptive automated and semi-automated solutions in most of the software engineering problems with multiple competing and conflicting objectives. Model-based testing aims to test the functionality of software according to the applicable requirements. Only limited research has been done on model-based testing. Depending on the size of test suite, the cost of testing varies. Test prioritization orders tests from the existing test suite, for “execution” based on some criteria such that faults can be detected as early as possible in the system. This project uses the Extended Finite State Machine (EFSM) model and the analysis of dynamic dependencies namely data dependence and control dependence along with their interaction patterns. The proposed technique named dynamic interaction-based prioritization modifies the existing approach in order to improve the early fault detection capability. Other criterion for optimization is to reduce the resource cost. The results are compared with the existing prioritization technique for few system models like ATM, Global Banking System, Windscreen Wiper, Automatic Door and Click-Response Event Simulation.

Keywords: Control Dependence, Data Dependence, Dynamic Dependencies, Extended Finite State Machine, Interaction Patterns.

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47.

Authors: **Sarika B. Kale, Gajanan P. Dhok**

Paper Title: **Design of Intelligent Ambulance and Traffic Control**

Abstract: This paper represents the unique feature which is very useful to ambulance drivers to take an alternate route in case of congestion. The various performance evaluation criteria are average waiting time, average distance traveled by vehicles, switching frequency of green light at a junction, efficient emergency mode operation and satisfactory operation of SMS using GSM Mobile. The performance of the Intelligent Traffic Light Controller is compared with the Fixed Mode Traffic Light Controller. It is observed that the proposed Intelligent Traffic Light Controller is more efficient than the conventional controller in respect of less waiting time, more distance traveled by average vehicles and efficient operation during emergency mode and GSM interface. Moreover, the designed system has simple architecture, fast response time, user friendliness and scope for further expansion.

Keywords: ARM, Embedded system, Emergency vehicle, Traffic light management

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48.

Authors: **R. Senthil Kumar, P. Kamalakkannan**

Paper Title: **A Novel Energy Based Routing Algorithm to Reduce Link Break in Mobile Ad Hoc Networks**

Abstract: Mobile ad hoc networks is a self organizing wireless networks for mobile devices. It does not require any fixed infrastructure due to no wired backbone. It is suitable to use in environment that have a need of on the fly set-up. Every host is a router and packet forwarder. Each node may be mobile, and topology changes frequently and unpredictably due to the arbitrary mobility of mobile nodes. This aspect leads to frequent path failure and route rebuilding. Routing protocol development depends on mobility management, efficient bandwidth and power usage which are critical in ad hoc networks. In this paper, first one is a novel energy based routing algorithm to reduce the link breaks in mobile ad hoc networks and second analysis of network performance under different traffic conditions. This present approach reduces packet loss and finds optimized route by taking into consideration of bandwidth, delay which results by improvement of quality of service. The performance analysis and simulation are carried out to evaluate network performance using network simulator NS-2 based on the quantitative basic parameters like throughput, delay and Packet Delivery Ration(PDR) in term of number of nodes and various mobility rates. A simulation result was during the comparison of AODV protocol with Modified- Reduce Link Break Algorithm Ad hoc On-demand Distance Vector protocol (RLBAAODV) the probability of link break has been decreases in RLBAAODV considering when various pause times and increases number of nodes.

Keywords: AODV, RLBAAODV, RSSA, PDR.

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Authors:	**Swapnil H. Kudke, A. D. Gawande**
Paper Title:	**Copy- Move Attack Forgery Detection by Using SIFT**

Abstract: Due to rapid advances and availabilities of powerful image processing software's, it is easy to manipulate and modify digital images. So it is very difficult for a viewer to judge the authenticity of a given image. Nowadays, it is possible to add or remove important features from an image without leaving any obvious traces of tampering. As digital cameras and video cameras replace their analog counterparts, the need for authenticating digital images, validating their content and detecting forgeries will only increase. For digital photographs to be used as evidence in law issues or to be circulated in mass media, it is necessary to check the authenticity of the image. So In this paper, describes an Image forgery detection method based on SIFT. In particular, we focus on detection of a special type of digital forgery – the copy-move attack, in a copy-move image forgery method; a part of an image is copied and then pasted on a different location within the same image. In this approach an improved algorithm based on scale invariant features transform (SIFT) is used to detect such cloning forgery, In this technique Transform is applied to the input image to yield a reduced dimensional representation, After that Apply key point detection and feature descriptor along with a matching over all the key points. Such a method allows us to both understand if a copy–move attack has occurred and, also furthermore gives output by applying clustering over matched points.

Keywords: tampering, Image forgery, copy-move attack, scale invariant features transform (SIFT), cloning forgery

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50.	**Authors:**	**Amol B. Dhumne, Hemant S. Farkade**	
	Paper Title:	**Heat Transfer Analysis of Cylindrical Perforated Fins in Staggered Arrangement**	
	Abstract: The present paper gives the experimental analysis of on heat transfer enhancement and the corresponding pressure drop over a flat surface equipped with cylindrical cross-sectional perforated pin fins in a rectangular channel. The channel had a cross-sectional area of 250-100 mm2. The experiments covered the following range: Reynolds number 13,500–42,000, the clearance ratio (C/H) 0, 0.33 and 1, the inter-fin spacing ratio (Sy/D) 1.208, 1.524, 1.944 and 3.417. Nusselt number and Reynolds number were considered as performance parameters. Correlation equations were developed for the heat transfer, friction factor and enhancement efficiency. The experimental implementation shows that the use of the cylindrical perforated pin fins leads to heat transfer enhancement than the solid cylindrical fins. Enhancement efficiencies vary depending on the clearance ratio and inter-fin spacing ratio. Both lower clearance ratio and lower inter-fin spacing ratio and comparatively lower Reynolds numbers are suggested for higher thermal performance. **Keywords:** Heat Transfer, Cylindrical perforated Fins, Staggered Arrangement **References:** 1. Bayram Sahin, AlparslanDemir Performance analysis of a heat exchanger having perforated square fins, ELSEVIER, Applied Thermal Engineering 28 (2008) 621–632 2. R. Karthikeyan* et al. / (IJAEST) International Journal of Advanced Engineering Science And Technology Vol No. 10, Issue No. 1, 125 – 138 3. Tzer-Ming Jeng,Sheng-Chungzeng, ELSEVIER, International Journal of Heat and Mass Transfer 50 (2007) 2364–2375 4. Giovanni Tanda,PERGAMON, International Journal of Heat and Mass Transfer 44 (2001) 3529-3541 5. G.J. Vanfossen and B.A. Brigham Length to diameter ratio and row number effects in short pin fin heat transfer, ASME J. Eng. Gas Turbines Power 106 (1984) 241–244. 6. D.E. Metzger, C.S. Fan, S.W. Haley, Effects of pin shape and array orientation on heat transfer and pressure loss in pin fin arrays, J. Eng. Gas Turbines Power 106 (1984) 252–257. 7. R.F. Babus'Haq, K. Akintunde, S.D. Probert, Thermal performance of a pin-fin assembly, Int. J. Heat Fluid Flow 16 (1995) 50–55. 8. O.N. Sara, T. Pekdemir, S. Yapici, M. Yılmaz, Heat- transfer enhancement in a channel flow with perforated rectangular blocks, Int. J. Heat Fluid Fl. 22, 509–518. 9. P. K. Nag, 2006, "Heat & Mass Transfer", 2nd Edition, Tata McGraw Hill Co. Pg. No. : 86-108 & 425-449 10. J. P. Holman, 2004, "Heat Transfer", 9thEdition, Tata McGraw Hill Co," Pg. No. 43-53& 315-350 11. Yunus A. Çengel, 2004, "Heat Transfer- A Practical Approach", SI units 2nd Edition, Tata McGraw Hill Co., Pg. No. : 156-168, 333-352& 459-500	**225-230**
51.	**Authors:**	**M. M. Abo Elazm, M. F. Shehadeh, A. Arabi**	
	Paper Title:	**Experimental Study for Fault Diagnostics on Refrigeration Systems Using the Acoustic Emission Technique**	
	Abstract: This paper investigates the utilization of Acoustic Emission "AE" systems for monitoring faults of fans in refrigeration system. In this paper the AE counts analysis technique was implemented. A relation between Amplitude and AE hits (density of emission) was obtained in order to determine the behavior of the fault. The results showed that the fault noises are directly proportional to the AE emission with respect to the time. The results also showed that the measured AE energy produced during the fault is lower than that at the ideal case. **Keywords:** Acoustic Emission, Experimental Study, Fault Diagnostics, Refrigeration **References:** 1. Electricity Association, Electricity industry review 3, Electricity Association, London, (2009) UK,. 2. M. Kim, S. H. Yoon, P. A. Domanski, W. V. Payne, "Design of a steady-state detector for fault detection and diagnosis of a residential air conditioner", International Journal of Refrigeration 31 (2008) 790–799. 3. Minsung Kim, Min Soo Kim, "Performance investigation of a variable speed vapor compression system for fault detection and diagnosis", International Journal of Refrigeration 28 (2005) 481-48. 4. S.A. Tassou*, I.N. Grace, "Fault diagnosis and refrigerant leak detection in vapor compression refrigeration systems", International Journal of Refrigeration 28 (2005) 680–688. 5. Pollock, A. A., Acoustic Emission Inspection, Physical Acoustics Corporation, Technical Report, TR-103-96-12/89, 2003. 6. Carlos, M. F., "Acoustic Emission Heeding the warning sounds from materials", ASTM standardization news, 2003. 7. Babak Eftekharnejad *, D. Mba , "Seeded fault detection on helical gears with acoustic emission", Applied Acoustics, 70 (2009) 547–555. 8. Saad Al-Dossary, R.I. Raja Hamzah, D. Mba, "Observations of changes in acoustic emission waveform for varying seeded defect sizes in a rolling element bearing", Applied Acoustics 70 (2009) 58–81.	**231-234**
52.	**Authors:**	**Mohammed El Amine LAZOUNI, Mostafa EL HABIB DAHO, Nesma SETTOUTI, Mohammed Amine CHIKH**	
	Paper Title:	**SVM Computer Aided Diagnosis for Anesthetic Doctors**	
	Abstract: The application of machine learning tools has shown its advantages in medical aided decisions. The purpose of this study is to construct a medical decision support system based on support vector machines (SVM) with 30 physical features for helping the Doctors Specialized in Anesthesia (DSA) in pre-anesthetic DSA examination or preoperative consultation. For that, in this work, a new dataset has been obtained with the help of the DSA. The 898 patients in this database were selected from different private clinics and hospitals of western Algeria. The medical records collected from patients suffering from a variety of diseases ensure the generalization of the performance of the decision system. In this paper, the proposed system is composed of four parts where each one gives a different output. The first step is devoted to the automatic detection of some typical features corresponding to the American Society of Anesthesiologists scores (ASA scores). These characteristic are widely used by all DSA in pre-anesthetic examinations. In the second step, a decision making process is applied in order to accept or refuse the patient for	**235-240**

surgery. The goal of the following step is to choose the best anesthetic technique for the patient, either general or local anesthesia. In the final step we examine if the patient's tracheal intubation is easy or hard.
Moreover, the robustness of the proposed system was examined using a 6-fold cross-validation method and the results show the SVM-based decision support system can achieve an average classification accuracy of 87.52% for the first module, 91.42% for the second module, 93.31% for the third module and finally 94.76 % for the fourth module.

Keywords: Doctors Specialized in Anesthesia, Support vector machines, American Society of Anesthesiologists scores, machine learning, pre-anesthetic examination.

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53.

Authors: **Sunny Dagar, Vinay Kumar, Yogendra Bagoriya**

Paper Title: **Image Steganography using Secret Key & Gray Codes**

Abstract: Steganography is an art of hiding some data into another data. Steganography is a very ancient technique which is used to send secret messages inside a simple message e.g. message written through invisible ink etc. Image steganography is a science of hiding secret data i.e. text, audio, video etc. inside an image. In this paper, an image steganography algorithm is proposed which uses secret key and gray codes to hide the secret file inside the cover image. This algorithm takes image of any format like .jpeg, .gif, .bmp etc. as a carrier and converts it into .bmp format. As .bmp image uses lossless compression techniques so compression of .bmp image doesn't lose any information. Although this paper will not emphasis on image compression. Then the secret data bits are encrypted using gray codes and then this encrypted file is hidden in the LSB of carrier image. The main aim is to prevent the identification of presence of secret data in the carrier image. But use of key increases the security of the secret data

Keywords: Steganography, Cryptography, Secret Key, LSB Coding, Gray Codes.

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54.

Authors: **Gyanendra Prakash Shukla, M.C.Bhatnagar**

Paper Title: **Effect of Substrate on the Morphology of SnO2 Nanowire**

Abstract: Substrate can play crucial rule in the growth of nanostructure for metal oxide (MOS), so variation in substrate can cause variety of nanostructure. In this study, SnO2 nanowire were grown on alumina, quartz and silicon substrates by thermal evaporation technique at atmospheric pressure. The effect of substrates on surface morphology and length to diameter ratio of tin oxide nanowire is presented in this work. The morphological and structural properties of nanowire have been investigated using scanning electron microscopy and x-ray diffraction.

Keywords: Tin oxide nanowire, Thermal evaporation Corresponding Author

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55.

Authors: **Mukta Ranjan Singha, Bichitra Kalita**

Paper Title: **Estimation of City Bus Travelers Using GSM Network**

Abstract: The mobile phone connectivity and its transition record can be used as useful information to estimate traffic users on urban roads. Mandatory use of a mobile phone dedicated to the city bus, can help in finding all other mobile phone users who are moving in the same city bus. Because, all the mobile phones will have same transition records with the mobile phone dedicated to the city bus. With this arrangement, at the background and Mobile Phone Network as a background data collection system, we have developed an algorithm to estimate the number city bus on an urban road and around a road junction at a particular time. The algorithm will also show the number of city bus users on urban road and around an urban road junction at a particular time. This estimate will help the urban traffic managers to optimize the city bus flow to minimize traffic congestion.

Keywords: City bus flow optimization, GSM, Mobile Phone network, Traffic estimation, Urban Traffic Management.

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56.

Authors: **Devendrasingh Thakore, Akhilesh R Upadhyay**

Paper Title: **A Framework to Analyze Object-Oriented Software and Quality Assurance**

Abstract: Software quality cannot be improved simply by following industry standards which require adaptive/upgrading of standards or models very frequently. Quality Assurance (QA) at the design phase, based on typical design artifacts, reduces the efforts to fix the vulnerabilities which affect the cost of product. Different design metrics are available, based on their results design artifacts can be modified. Modifying or making changes in artifacts is not an easy task as these artifacts are designed by rigorous study of requirements.

The purpose of this research work is to automatically find out software artifacts for the system from natural language requirement specification as forward engineering and from source code as reengineering, to generate formal models specification in exportable form that can be used by UML compliment tool to visually represent the model of system. This research work also assess these design models artifacts for quality assurance and suggest alternate designs options based on primary constraints given in requirement specification.

To analyze, extract and transform the hidden facts in natural language to some formal model has many challenges and obstacles. To overcome some of these obstacles in software analysis there should be some mean or a technique which aims to generate software artifacts to build the formal models such as UML class diagrams. Initially, the proposed technique converts the NL business requirements into a formal intermediate representation to increase the accuracy of the generated artifacts and models. Next, it focuses on identifying the various software artifacts to generate the analysis phase models. Finally it provides output in the format understood by model visualizing tool.

The re-engineering process to find out design level artifacts and model information about the previous version of software system from available source code with easy layout is a very difficult task. Performing this task manually has many problems as the ability of human brains to deal with the complexity and security of large software systems is limited.

To overcome this difficulty there is need of automated environment which will assess generated design artifacts from

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natural language as forward engineering and from source code as reengineering and finally suggest and validates alternate designs options for better quality assurance.

Keywords: actor, OOA, POS Tagging, quality metrics, software quality, UML, Use case, , XMI.

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57.

Authors: **V. Govindasamy, V. Akila, K.S.Raajesh, Muralidhar Moka, B.Augustin Raj**

Paper Title: **Data Quality Enhancement with Novel Search Technique to Avoid Repetition of Records**

Abstract: Data quality is the assessment of data's fitness to serve its purpose in a given context. Characteristics of data quality include: Accuracy, Completeness, Update status, Relevance, Reliability, Appropriate presentation, Accessibility. Data quality is the major problem experienced by many data entry operators. Our project reduces the possible errors more effectively by incorporating a novel search technique which will avoid repetition of data. During a survey, our system initially will create forms dynamically and the required questions can be entered. Then, the questions can be automatically re-ordered by setting necessary constraints to the questions. The default entry values can be entered for any question where the data needs to be constant. While entering data during the process of survey, the system will automatically re-ask the data-entry operators to enter the appropriate data. Then the search technique will search for the previous data and show whether the particular data is already in database or not.

Keywords: Data quality, Novel search technique, Re-asking, Default entry.

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58.

Authors: **S.Priya, A.Parameswari**

Paper Title: **Predictive Models for Vertical Total Electron Content in Ionosphere**

Abstract: The ionosphere is defined as a region of the earth's upper atmosphere where sufficient ionisation can exist to affect the propagation of radio waves. Prediction of ionosphere vertical total electron content (TEC) are crucial and remain as a challenge for GPS positioning and navigation system , space weather forecast, as well as many other Earth Observation System. TEC is an important descriptive quantity for the ionosphere of the Earth. TEC is strongly affected by solar activity. This ionospheric characteristic constitutes an important parameter in trans ionospheric links since it issued to derive the signal delay imposed by the ionosphere. This paper gives an overview of the various predictive models that can be used to predict Total electron content in ionosphere.

Keywords: K Nearest neighbor, Linear Predictive coding, Vertical Total Electron Content.

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Authors: **Pullar Vadivel, Cinnathambi Subramani Maheswari, Appaswami Lalitha**

Paper Title: **Synthesis of β-Amino Carbonyl Compounds via Mannich reaction using sulfated MCM-41**

Abstract: One-pot three-component reaction of anilines with ketone and aldehyde leads to the formation of β-amino carbonyl compounds in the presence of sulfated MCM-41 as a recyclable solid acid catalyst. This method has several advantages like simple and easy work-up procedures with shorter reaction time and high yields of Mannich products.

Keywords: β-amino carbonyl compounds, Sulfated MCM-41, solid acid catalyst, Mannich products.

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Authors: **Jyoti hooda, Sarita ola, Manisha Saini**

Paper Title: **Design and Analysis of a low Power CMOS Sense Amplifier for Memory Application**

Abstract: This paper we design a low power high speed sense amplifier for CMOS SRAM. It has to sense the lowest possible signal swing from the SRAM bit lines and its response time should be very fast while keeping the power consumption within a tolerable limit. in this presented sense amplifier will be based on latest architectures available in literature and we focus will be to improve the power consumption and response time of this sense amplifier. Typical memory that is available has read access time of 12 ns and power consumption of 160 mW and supply voltage ranges from 1.8 to 3.3V and rise time SAEN signal ranges from 100 to 400ps and offset voltages ranges from 45 to 80mv. In this paper we present to improve access time power consumption two parameters of sense amplifier. Presented Sense amplifier CMOS SRAM all schematic are design tanner EDA S-edit , Simulate T-spice and 0.18µm technology.

Keywords: Sense amplifier,offset in sense amplifier, Advanced current latched sense amplifier,Precharged circuit.

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61.

Authors: **Neha Mehndiratta, Manju, Harish Bedi**

Paper Title: **Energy Efficient Homogeneous vs Heterogeneous LEACH**

Abstract: In Wireless sensor Networks (WSNs), it is an important task to periodically collect data from an area of interest for time-sensitive applications. The Wireless sensor network (WSN) is a type of the wireless ad-hoc networks. It consists of a large number of sensors and those are effective for gathering data in a variety of environments. Clustered sensor networks can be classified into two broad types; homogeneous and heterogeneous sensor networks. In homogeneous networks all the sensor nodes are identical in terms of battery energy and hardware complexity. On the other hand, in a heterogeneous sensor network, two or more different types of nodes with different battery energy and functionality are used. There are two desirable characteristics of a sensor network, viz. lower hardware cost, and uniform energy drainage. While heterogeneous networks achieve the former, the homogeneous networks achieve the latter. However both features cannot be incorporated in the same network. In this paper based on classification of sensor networks we are briefing LEACH as the representative single hop homogeneous network, and a sensor network with two types of nodes as a representative single hop heterogeneous

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network.

Keywords: Clustering, energy efficiency, homogeneous, heterogeneous, LEACH protocol, wireless sensor networks.

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Authors:	**S. Dilli Babu, Madhu Kumar Patnala**
Paper Title:	**Design of a New Cryptography Algorithm using Reseeding-Mixing Pseudo Random Number Generator**

Abstract: In this paper, we propose the application of cryptography algorithm to ensure secure communication across the virtual networks. In cryptography, encryption is the process of encoding messages or information in such a way that hackers cannot read it. In an encryption scheme the message or information is encrypted using an encryption algorithm, turning it into an unreadable cipher text. This is usually done with the use of an encryption key. Any adversary that can see the cipher text should not know anything about the original message. To decode the cipher text using an algorithm that usually requires, a secret decryption key. An encryption scheme usually needs a key generating algorithm to randomly produce keys. Pseudo Random Number Generator (PRNG) is an algorithm for generating a sequence of numbers. Due to speed in number generation pseudorandom numbers are very important. The output sequence of RM-PRNG is used as a key to the encryption and decryption modules. The simulation results are obtained by using modelsim 6.3g_p1.

Keywords: PRNG, encryption, reseeding, decryption, mixing, RM-PRNG.

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Authors:	**Divya Sharma, Mayank Gupta**

	Paper Title:	**Controller Area Network for Automobile Application Using ASIC Based on PSoC and Analysing Through Vector CANoe**	
	Abstract: In the automotive industry, embedded control has grown from stand-alone systems to highly integrated and networked control systems. By networking electro-mechanical subsystems, it becomes possible to modularize functionalities and hardware, which facilitates reuse and adds capabilities. With the increasing number of distributed microcontrollers and intelligent peripherals used in today's electronic systems, such as vehicle controls, networking protocols between the units have become extremely important. A wide range of these applications are using CAN (Controller Area Network) for network communication. The CAN bus was developed by BOSCH as a multi-master, message broadcast system that specifies a maximum signaling rate of 1M bit per second (bps). Unlike a traditional network such as USB or Ethernet, CAN does not send large blocks of data point-to-point from node A to node B under the supervision of a central bus master. In a CAN network many short messages like temperature or RPM are broadcast to the entire network, which allows for data consistency in every node of the system [1]. **Keywords:** Controller Area Network, Cypress PSoC, CANoe, CANalyzer. **References:** 1. Lars-Berno Fredriksson, Controller Area Networks And The Protocol 2. CAN For Machine Control Systems. 3. Matthew John, University of Kentucky, Development And Evaluation Of A Controller Area Network Based Autonomous Vehicle. 4. Steve Corrigan, Introduction to the Controller Area Network, Application Report SLOA101 - August 2002. 5. Controller-Area-Network- CAN. Available: 6. http://www.esd-electronics-usa.com 7. What is CAN (controllerAreaNetwork). Available: 8. http://www.gendan.co.uk/article_9.html 9. Embedded_tutorials/can_tutorial.htm 10. Ranjhit M , PSoC 3 and PSoC 5LP –getting started with CAN, AN52701, Software Version :PSoC Creator 2.1 SPI. 11. CANoe 75 manual "Vector Informatik GmbH"	**287-292**
64.	**Authors:**	**Suvidha Patil, A.C. Attar**	
	Paper Title:	**Applications Civil Engineering for Socio Economic Amelioration of Below Poverty Line Families**	
	Abstract: The application of Civil Engineering For Socio Economic Amelioration of Below Poverty Line Families In Maharashtra State at Amboli village in Kolhapur district near Pethvadgaon during the period of 2010-2012 with main objective is reducing the poverty and socioeconomic development of community. For this purpose Civil Engineering based income generating activity is given to the people. This paper represents the appropriate use of available natural resources and improving the economical status of the people by using the civil engineering application. It is based renewable or non conventional energy source. For this implementation and training programme of compact mini biogas project is given to the people in this village. It reduce the cost of fuel consumption used in domestic appliances and it will be the income generating source by the installation of compact biogas plant. **Keywords:** Respondent, Income generating activities. **References:** 1. Annual Report (2009-2010), "Ministry of Rural Development Government of India, Pp.1-268. 2. TANGO International (2009). Sustainability of rural Development projects. Occasional Paper No. 8. May 2009. 3. Vivek P. Khambalkar (2008), "Assessment of Bioresources Potential of A Rural Village For Self Energy Generation," Agriculture university, Akola-444104 (India). Vol.3, Pp.566-575. 4. Dr. Jorge Tarchitzky (2007)," National Report Israel of Rural Development," Department of Soil and.	**293-295**
65.	**Authors:**	**L.Megala, B.Devanathan, R.Venkatraman, A.Vishnukumar**	
	Paper Title:	**Tunneling Field Effect Transistors for Low Power Digital Systems**	
	Abstract: MOSFET transistors are commonly used in high speed integrated circuits, yield smaller and faster more functions at lower cost. Various problems exist with scaling of MOSFET devices i.e., short channel effects, drain induced barrier lowering, velocity saturation which limits the performance of MOSFETs. Scaling limitations of MOSFET devices leads to lower ON to OFF current ratio limited by 60mV/dec sub threshold slope. A new type of device called "Tunnel FET" is used to overcome these difficulties. TFET can beat 60mV/dec sub-threshold swing of MOSFETs. In tunnel FET carriers are generated by band-to-band tunneling and OFF current are low. This makes ideal for ultra low power digital systems. Tunnel FET have energy barrier in OFF state, which avoids power-consuming leakages. In this paper sub-threshold swing and low OFF current is simulated and its power is analyzed. **Keywords:** Tunnel FET, Sub threshold swing, PIN Tunnel FET, PNPN Tunnel FET **References:** 1. W .Y. Choi, B. G. Park, J. D. Lee and T. J. King Liu, "Tunneling Field-Effect Transistors (TFETs) With Sub threshold Swing (SS) Less Than 60 mV/dec," IEEE Trans. On Electron De v i c e s L e t t e r s , V o l . 2 8, p p. 7 4 3 - 7 4 5, 2 0 0 7. 2. F. Mayer, C. Le Royer, J. F. Damlencourt, K. Romanjek, F. Andrieu, C. Tabone, B. Previtali and S. Deleonibus, "Impact of SOI, Si1-xGexOI and GeOI substrates on CMOS compatible Tunnel FET performance," IEDM, pp. 163-166, 2008. 3. A. Fert, J.-M. George, H. Jaffres, and R. Mattana, "Semiconductors between spin polarized sources and drains," Electron Devices, IEEE Transactions on, vol. 54, no. 5, pp. 921–932, May 2007. 4. T. Wagner, W. Krech, B. Frank, H. Muhlig, H.-J. Fuchs, and U. Hubner, "Fabrication and measurement of metallic single electron transistors," Applied Superconductivity, IEEE Transactions on, vol. 9, no. 2, pp. 4277–4280, Jun 1999. 5. A. Scott and D. Janes, "Design and characterization of metal-molecule-silicon devices," in Nanotechnology, 2005. 5th IEEE Conference on, July 2005, pp. 515–518 vol. 2.	**296-299**

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Authors: **A.Aruna Kumari, K.VijayaKumarReddy**

Paper Title: **Analysis of Emission Characteristics on CI Diesel Engine Using Safflower Methyl Ester**

Abstract: Unmatched supply of fossil fuels and its inflation of prices have promoted the interest and serious concern about the alternative sources for fossil fuels. In this work, investigations have been carried out to study the emission and combustion charecteristics of Safflower Methyl Ester (SME) as a fuel to diesel engine. For this experiments are conducted on a single cylinder, water cooled, and four stroke stationary engine of 5.2 KW. This engine is coupled with eddy current dynamometer as loading unit. The engine has run with safflower methyl ester using different pistons of combustion geometry by volume basis and readings are recorded. These tests are carried out over entire range of engine operations at varying conditions of load. The emissions obtained from these experiments are computed and compared for different pistons of geometry and presented in this paper.

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Authors: **Arunkumar. M, Gurugnanarn. B, Venkatraman. AT.V.R**

Paper Title: **Topographic Data Base For Landslides Assessment Using GIS In Between Mettupalayam-Udhagamandalam Highway, South India**

Abstract: Landslide is a common geo-hazard, can result in huge economic losses and enormous casualties in mountainous regions. Analysis of Landslide is a complex which involving multiples of factors and it need to be studied systematically in order to locate the prone zones for landslides. The topographic features play an important role in deciding the areas prone to landslides. In this study, an attempt has been made to derive the landslide cause behind topographic features such as Drainage, Slope and Geology of Mettupalayam- Udhagamandalam road sector lengths of 47 Kilometers. The Survey of India toposheets on 1: 50000 scales were used to extract contours in 20m intervals. The all mentioned parameters were analyzed in GIS by assigning weightages and ranks to prepare the landslide Vulnerability zone map for the study area. The landslide vulnerability map indicates the whole study area which has been divided into three zones as High, Moderate and Low Landslide Vulnerability Zone. Through the landslide hazard zonation map, it can finale that the low landslide zones are the prior for higher landslide vulnerability in the study area. This research would be a basis of landslide vulnerability and hazard assessment.

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Keywords: landslides, landslide vulnerable zone, GIS, hazard assessment

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Authors:	**M. Velan, R. Saravanane**
Paper Title:	**CO_2 Sequestration and Treatment of Municipal Sewage by Micro Algae**

Abstract: Treatment of wastewater by algae is receiving an ever increasing attention in the field of biofuel production, and carbon dioxide sequestration. In this study five genera's namely Anabaena, Diatoms, Spirogyra, Hyalophacus, Monoraphidium, were tested for its ability to reduce the organic and inorganic pollutants present in the wastewater, growth studies is carried out in a batch system with a working volume of 7- 10 litres. The growth of microalgae were analysed throughout the growth period for about 107 days and it is found that changes were taken place in certain parameters viz., biomass, Nitrogen and phosphate assimilations and CO_2 reduction

Keywords: CO_2 Sequestration, Micro algae, sewage, biomass .

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69.

Authors:	**Monica Sood, Gurline Kaur**
Paper Title:	**Speaker Recognition Based On Cuckoo Search Algorithm**

Abstract: Today's world sees a lot of changes being done. These are a result of some modification or some innovation. This research is being done in the field of Swarm Intelligence or SI. It deals with studying the behaviour

	of organisms or swarms. Swarms are individual entities which are working on their own, yet their combined or aggregate behaviour yields some great results. This begins by studying the behaviour of any organism as fish, ants, bees, cuckoo bird or something like water drops. When the behaviour is understood it is then converted in the form of an algorithm. It is this algorithm that is of utmost importance; it not only studies the behaviour of these organisms but also provides some principles which can help in providing solutions to real world applications. This research is based on an algorithm of Swarm Intelligence called Cuckoo Search. This is an algorithm which is aimed at understanding the breeding behaviour of the cuckoo bird. In this research, it is applied in the field of Biometrics. Biometrics is used to identify an individual as per their some special characteristics as finger print, voice, iris, handwriting, typing speed. In this Cuckoo Search has been applied on Speaker Recognition systems and voice. Thus by applying this algorithm, the process of Speaker Recognition is optimized by a fitness function by matching of voices being done on only the extracted optimized features produced by the Cuckoo Search algorithm. **Keywords:** Correlation, mean, Fitness Function, Swarm Intelligence. **References:** 1. R. G. Babukartik and P. Dhavachelvan (2012) "Hybrid Algorithm using the advantage of ACO and Cuckoo Search for Job Scheduling", International Journal of Information Technology Convergence and Services (IJITCS) Vol.2, No. 4, August 2012. 2. Vipinkumar Tiwari, "Face Recognition Based on Cuckoo Search Algorithm", Indian Journal of Computer Science and Engineering (IJCSE), June-July 2012. 3. Xin-She Yang and Suash Deb, "Cuckoo Search via Levy Flights", In: Proc. Of World Congress son Nature & Biologically Inspired Computing (NaBIC 2009), December 2009, India. IEEE Publications, USA, pp. 210-214(2009). 4. H.B. Kekre, Vaishali Kulkarni, Prashant Gaikar and Nishant Gupta, "Speaker Identification using Spectrograms of Varying Frame Sizes", International Journal of Computer Applications (0975-8887) Volume 50- No. 20, July 2012.	
70.	**Authors:**	**T. Gutu**
	Paper Title:	**A Study on the Mechanical Strength Properties of Bamboo to Enhance Its Diversification on Its Utilization**
	Abstract: The research is focused on the study of mechanical strength properties of bamboo to establish if bamboo would play a complementary role to wood in both furniture making and construction works as a sustainable material for the wood industries. The research also highlighted the dwindling supply of wood as a main source of material for furniture and construction works in Zimbabwe due to fire destruction of timber plantations. The study investigated on the mechanical properties of the bamboo in Zimbabwe aiming at assessing its suitability .The study showed that there is need for additional resources of material to complement wood. Experiments carried out on the strength properties to include tensile, compressive, bending, stiffness, elasticity, hardness and durability of bamboo to resist different forces or loads on structural members. Results showed that the strength properties of bamboo are higher than most of the soft and hard woods. The study also indicated that different species of solid bamboo is available in Zimbabwe. The research revealed out that solid and hollow bamboo can equally be utilized for both furniture products and construction works. The researcher used observations, interviews and experiments for collecting data .The paper concludes by encouraging schools, colleges , small to medium enterprises and wood industries on the utilization of bamboo as a complementary resource material for furniture and construction works in view of qualifying strength properties and resource sustainability , renewable and availability in Zimbabwe and bamboo plantations to start in all provinces . **Keywords:** **References:** 1. CBRC (2009) Cultivation of Bamboo Book 1 2. CBRC (2009) Cultivation of Bamboo Book 2 3. CBRC (2009) Utilization of Bamboo Book 1 4. CBRC(2009) Utilization of Bamboo Book 2 5. CBRC (2009) Socio –Economy 6. Amada et al (1998) 7. Grosser and Liese (1971) 8. Jassen (1998) 9. University of Southern Californial Los Angeles (CA90089-2551) 10. Indian Institute of Technology 11. H.E.Desch and JM Din Woolie (1968) 12. Forestry I.T .College 13. Mathew and Nair , Adrea Carrasco, Jojn , Frondaand Brain Macrae (2002) Mechanical properties of bamboo 14. Yosorf et al (1992) Chemical composition of bamboo 15. http://www.deboerarchitects.com/bamboo thoughts.html 16. http://www.bikebamboo.com/bamboo properties 17. http//: www. bamboo calibamboo.com/why bamboo 18. http//:www mechanical strength properties of bamboo	**314-319**
71.	**Authors:**	**S.Krishna, M.Sai Vineeth, Ch.Balaji, A.Rama Krishna**
	Paper Title:	**Synthetic Aperture Radar Imaging**
	Abstract: In this paper we introduce new synthetic aperture radar (SAR) imaging modality which can provide a high resolution map of the spatial distribution of targets and terrain using a significantly reduced number of needed transmitted and /or received electromagnetic waveforms. This new imaging scheme requires no new hardware components and allows the aperture to be compressed. It also presents many new applications and advantages which include strong resistance to counter measures and interception, imaging much wider swaths and reduced on-board storage requirements.	**320-322**

Keywords: SAR

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72.

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

Paper Title: **Web Usage Mining Based on Complex Structure of XML for Web IDS**

Abstract: In current trend, most of the businesses are running through online web applications such as banking, shopping, and several other e-commerce applications. Hence, securing the web sites is becomes must do task in order to secure sensitive information of end users as well as organizations. Web log files are generated for each user whenever he/she navigates through such e-commerce websites, users every click is recorded into such web log files. The analysis of such web log files now a day's done using concepts of data mining. Further results of this data mining techniques are used in many applications. Most important use of such mining of web logs is in web intrusion detection. To improve the efficiency of intrusion detection on web, we must have efficient web mining technique which will process web log files. In this project, our first aim is to present the efficient web mining technique, in which we will present how various web log files in different format will combined together in one XML format to further mine and detect web attacks. And because log files usually contain noisy and ambiguous data this project will show how data will be preprocessed before applying mining process in order to detect attacks. Hence mining process includes two parts, web log files preprocessing in order to remove the noise or ambiguous data mining process to detect the web attacks.

Keywords: log files, web mining, preprocessing, IDS, XML, CRM.

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73.

Authors: **Munqath H. Alattar S.P. Medhane**

Paper Title: **R-WASP: Real Time-Web Application SQL Injection Detector and Preventer**

Abstract: In the real time word, there are many online systems those are major part of software systems in order to make them publically available to perform the remote operations. These online systems are vulnerable to different types of web based attacks. Here in this project we are considering the one such web based attack and its prevention technique in real time web applications as well as presenting the ways to implement same approach for binary applications. Previously, the approach called WASP was proposed as efficient web application SQL injection preventer using the datasets. However, this tool was not evaluated over real time web applications; we did not get its accuracy for prevention of real time web application SQL injection attacks, even though it's having high accuracy during its tested results over datasets. Therefore, in this research work we are extending the WASP approach to real time environment in order to evaluate its effectiveness as well as to collect a valuable set of real legal accesses and, possibly, attacks. In addition to this, we are presenting the same approach for binary applications. This new approach or tool we called as R-WASP.

Keywords: WASP, SQL injection attack, Binary applications.

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Authors: **Arti J. Jari, Pankaj, P. Bhangale**

Paper Title: **To Study Critical Factors Necessary for a Successful Construction Project**

Abstract: The construction industry is dynamic in nature due to the increasing uncertainties in technology, budgets, and development processes. Nowadays, building projects are becoming much more complex and difficult. The project team is facing unprecedented changes. The study of project success and the critical success factors (CSFs) are considered to be a means to improve the effectiveness of project. The purpose of this study is to systematically investigate the causes of project failure and how these can be prevented, managed, or controlled. Constructions projects are frequently influenced by success factors' which can help project parties reach their intended goals with greater efficiency. The aim of this study was to investigate the critical factors leading to construction company success. Many critical success factors such as factors related to project manager's performance, factors related to organization, factors related to project, factors related to external environment became apparent from this study This study will helpful to identify which factor influence the project success.

Keywords: project success; project success factors; critical success factors (CSF); project success criteria

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Authors: **Raviteja Boyanapalli, Raja Sekhara Reddy Vanukuri, Prudhvi Gogineni, Janakinandan Nookala, Goutham Kumar Yarlagadda, VinayBabu Ga**

Paper Title: **Analysis of Composite De-Laval Nozzle Suitable for Rocket Applications**

Abstract: A nozzle is a device designed to control the direction or characteristics of a fluid flow (especially to increase velocity) as it exits (or enters) an enclosed chamber or pipe via an orifice.

A nozzle is often a pipe or tube of varying cross sectional area, and it can be used to direct or modify the flow of a fluid (liquid or gas). Nozzles are frequently used to control the rate of flow, speed, direction, mass, shape, and/or the pressure of the stream that emerges from them.

A nozzle is a relatively simple device, just a specially shaped tube through which hot gases flow. However, the mathematics, which describes the operation of the nozzle, takes some careful thought. Nozzles come in a variety of shapes and sizes. Simple turbojets, and turboprops, often have a fixed geometry convergent nozzle as shown on the left of the figure. Turbofan engines often employ a co-annular nozzle as shown at the top left. The core flow exits the centre nozzle while the fan flow exits the annular nozzle. Mixing of the two flows provides some thrust enhancement and these nozzles also tend to be quieter than convergent nozzles. Afterburning turbojets and turbofans require a variable geometry convergent-divergent - CD nozzle.

In this nozzle, the flow first converges down to the minimum area or throat, then is expanded through the divergent section to the exit at the right. The variable geometry causes these nozzles to be heavier than a fixed geometry nozzle, but variable geometry provides efficient engine operation over a wider airflow range than a simple fixed nozzle.

Rocket engines also use nozzles to accelerate hot exhaust to produce thrust. Rocket engines usually have a fixed geometry CD nozzle with a much larger divergent section than is required for a gas turbine.

All of the nozzles discussed thus far are round tubes. Recently, however, engineers have been experimenting with nozzles with rectangular exits. This allows the exhaust flow to be easily deflected, or vectored. Changing the direction of the thrust with the nozzle makes the aircraft much more manoeuvrable.

Because the nozzle conducts the hot exhaust back to the free stream, there can be serious interactions between the engine exhaust flow and the airflow around the aircraft. On fighter aircraft, in particular, large drag penalties can occur near the nozzle exits.

As with the inlet design, the external nozzle configuration is often designed by the airframer and subjected to wind tunnel testing to determine the performance effects on the airframe. The internal nozzle is usually the responsibility of the engine manufacturer.

Keywords:

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Paper Title: **A Sequential Probability Ratio Test in Assessing Software Quality Using LPETM**

Abstract: Rapid growth of software usage enforces us to assess the Software reliability, a critical task in the development of a software system. In this Paper a well known test procedure of statistical science called as Sequential Probability Ratio Test(SPRT) is adopted for Logarithmic Poisson Execution Time Model (LPETM) in assessing the reliability of a developed software. It requires considerably less number of observations when compared with the other existing testing procedures. The model is inspected by using live Data Sets.

Keywords: Software reliability, SPRT, Maximum Likelihood Estimation, Software testing, Mean value function.

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