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22, First Floor, ShivLoke Phase IV,
Khajuri Kala, BHEL-Piplani, Bhopal (M.P.)-462021, India
Website: www.blueeyesintelligence.org
Email: director@blueeyesintelligence.org, blueeyes@gmail.com
Cell #: +91-9669981618, **WhatsApp #:** +91-9669981618, **Viber #:** +91-9669981618
Skype #: beiesp, **Twitter #:** beiesp

Technical Advisory Board

1.

Authors: Oguejiofor O.S., Okorogu V.N., Adewale Abe, Osuesu B.O

Paper Title: Outdoor Localization System Using RSSI Measurement of Wireless Sensor Network

Abstract: This paper present a system that utilizes RSSI based trilateration approach to locate the position of blind nodes (nodes that are not aware of there positioning in the network) amongst other nodes in the network. The system automatically estimates the distance between sensor nodes by measuring the RSSI (received signal strength indicator) at an appropriate number of sensor nodes. Through experiments, we clarified the validity of our data collection and position estimation techniques. The results show that when the anchor nodes were increased from three to four, the localization error decreases from 0.74m to 0.56m.

Keywords: localization, nodes, Trilateration, RSSI

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2.

Authors: Trupti D. Shingare, R. T. Patil

Paper Title: SPI Implementation on FPGA

Abstract: The SPI is a full-duplex, synchronous, serial data link that enables communication between a host processor and peripherals. Based upon Motorola's SPI-bus specifications, version V03.06, release February 2003, the designs are general purpose solutions offering viable ways to controlling SPI-bus, and highly flexible to suit any particular needs. However, Field programmable gate array devices offer a quicker and more customizable solution. This paper provides a full description of an up to- date SPI Master/Slave FPGA implementations, In conformity with design-reuse methodology.

Keywords: Serial Peripheral Interface (SPI), Field Programmable Gate Array (FPGA), System on Chip (SOC).

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4. "Design and Test of General-Purpos SPI Master/Slave IPs on OPB Bus"A.K. Oudjida, M.L. Berrandjia, A. Liacha, R. Tiar, K. Tahraoui & Y.N. Alhoumays Microelectronics and Nanotechnology Division Centre de Développement Technologies Avancées, CDTA, 2010 7th international multi conference Systems,signal and devices .
5. "FPGA Implementation of I2C & SPI Protocols: a Comparative Study " A.K. Oudjida, M.L. Berrandjia, R. Tiar, A. Liacha, K. Tahraoui Microelectronics and Nanotechnology Division Centre de Développement des Technologies Avancées CDTA 978-1-4244-5091-6/09©2009 IEEE
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3.

Authors: Okorogu V.N, Nwalozie G.C, Okoli K.C, Okoye E.D

Paper Title: Design and Simulation of a Low Cost Digital Beamforming (DBF) Receiver for Wireless Communication

Abstract: Digital beam forming consists of the spatial filtering of a signal where the phase shifting, amplitude scaling and adding are implemented digitally. The idea is to use a computational and programmable environment which processes a signal in the digital domain to control the progressive phase shift between antenna elements in the array. Digital beamforming allows several attractive features in the performances of communication systems. The main advantage to be gained from digital beamforming is greatly added flexibility without any attendant degradation in signal-to-noise ratio (SNR).This research presents the design and simulation of a low cost Digital Beamforming (DBF) antenna. This DBF antenna can form part of the antenna structure in the receiver of the base station of a wireless communication system. The uniform amplitude weighting function is the beam pattern synthesis considered for the beam formation. The simulation is done in MATLAB.

Keywords: Beamforming, Antenna array, phased array

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4.

Authors: **B.Azhagusundari, Antony Selvadoss Thanamani**

Paper Title: **Feature Selection based on Information Gain**

Abstract: The attribute reduction is one of the key processes for knowledge acquisition. Some data set is multidimensional and larger in size. If that data set is used for classification it may end with wrong results and it may also occupy more resources especially in terms of time. Most of the features present are redundant and inconsistent and affect the classification. In order to improve the efficiency of classification these redundancy and inconsistency features must be eliminated. This paper discusses an algorithm based on discernibility matrix and Information gain to reduce attributes.

Keywords: Attribute Reduction, Discernibility matrix, Information Gain

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5.

Authors: **Shabnam S.Mahat, K.M. Nalawade**

Paper Title: **Teachers awareness about SAKSHAT: a 'One Stop Education Portal'**

Abstract: The ICT in education was launched few years before, The use of Information and Communications Technologies (ICT) in education is taken very seriously by governments and education systems around the world. The Ministry of HRD, under a Centrally Sponsored Plan Scheme, namely, National Mission on Education through Information and Communication Technology (NME-ICT) plans to leverage the potential of ICT to provide high quality, personalized and interactive knowledge modules over the internet/intranet for all the learners in Higher Education Institutions in an any time any where mode.

Technology is developed to solve problems associated with human and technical need. Although standalone computers have been in most schools and colleges for more than two decades now, networked ICT is comparatively new for many schools and colleges as they continue to tackle with how to use ICT to boost teaching and learning environments. Moderately college teachers in sangli city have become very uneducated through attending courses and developing their personal interests in ICT. The current study focus on teacher's awareness and literacy about Sakshat portal lunched by MHRD for lifelong education.

Keywords: ICT, SAKSHAT a 'One Stop Education Portal, 'Aakash', Virtual Class

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6.

Authors: **A. Anitha, M. Anoop, S. SherinLiba**

	Paper Title:	**Determination of Positional Accuracy and Error Modeling for moving Objects Tracking**	
	Abstract: Position refers to the spatial location of an entity. That is the determination of the site or place of any process localization. A positioning system is a mechanism for determining the location of an object in space. Technologies for this task exist ranging from worldwide coverage with meter accuracy to workspace coverage with sub-millimeter accuracy. The statistical positional accuracy of a moving object being tracked any2D positioning system. This paper describes the measurement technique based on determining 1D cross-track errors from a nominal path, and then using this data set to determine the overall 2D positional error statistics. This method evaluates vehicle tracking in a city and people tracking in a city using Radio triangulation principle. Rayleigh-Gamma model is proposed to describe the radial positional errors used to perform error modeling. It is shown that this model has a good match with outdoor field measurements. **Keywords:** cross-track, radio triangulation, positioning system. **References:** 1. Y. Qi, H. Kobayashi, and H. Suda, (Sept. 2006)"On Time-of-Arrival Positioning in a Multipath Environment," IEEE Trans. Vehicular Technology, vol. 55, pp. 1516-1526(http://www.ece.ucsb.edu). 2. N. Patwari, A.O. Hero III, M. Perkins, N.S. Correal, and R.J.O'Dea,(Aug. 2003) "Relative Location Estimation in Wireless Sensor Networks," IEEE Trans. Signal Processing, vol. 51, no. 8, pp. 2137-2148 (http://web.eecs.umich.edu). 3. X. Meng, L. Yang, J. Aponte, C. Hill, T. Moore, and A.H. Dodson, (Oct. 2008)"Development of Satellite Based Positioning and Navigation Facilities for Precise ITS Applications," Proc. IEEE 11th Int'l Conf. Intelligent Transportation Systems (ITSC), pp. 962-967 (http://www.nottingham.ac.uk). 4. I. Sharp, K. Yu, and Y.J. Guo,(Sept. 2009) "GDOP Analysis for Positioning System Design," IEEE Trans. Vehicular Technology, vol. 58, no. 7, pp. 3371-3382 (http://www.m-hikari.com). 5. M. Modsching, R. Kramer, and K.T. Hagen, (2006)"Field Trial on GPSAccuracy in a Medium Size City: The Influence of Built-Up," Proc.Workshop Positioning, Navigation and Communication (WPNC),pp. 209-218 (http://www.wpnc.net). 6. T. Sathyan, D. Humphrey, and M. Hedley,(Mar. 2011) "WASP—A System and Algorithms for Accurate Localization Using Low-Cost Hardware," IEEE Trans. Systems, Man and Cybernetics, vol. 41, no. 2, pp. 211-222 (http://link.springer.com). 7. R. Schubert, E. Richter, and G. Wanielik,(2008) "Comparison andEvaluation of Advanced Motion Models for Vehicle Tracking,"Proc. 11th Int'l Conf. Information Fusion, pp. 1-6 (http://www.isif.org). 8. G.H. Elkaim, M. Lizarraga, and L. Pedersen,(2008) "Comparison of Low-Cost GPS/INS Sensors for Autonomous Vehicle Applications," Proc. IEEE/ION Position, Location, and Navigation Symp.,pp. 1133-1144 (http://users.soe.ucsc.edu). 9. A. El-Rabbany,(2002) Introduction to GPS: The Global Positioning System. Artech House (http://www.cs.mnsu.edu). 10. K. Yu, I. Sharp, and Y.J. Guo,(2009) Ground-Based Wireless Positioning. Wiley-IEEE Press (http://www.scis.ulster.ac.uk).	**25-29**
7.	**Authors:**	**R.Uday Kumar**	
	Paper Title:	**Analysis of Fukui's Conical Cup Test**	
	Abstract: Fukui's conical cup test is the one of the formability characteristics evaluation for various sheet metals. The formability characteristics such as diametrical ratio, maximum drawing load, depth of cup up to fracture are to be evaluated. This test is related to drawing test. This test can be performed by using parameters such as friction, process parameters and without blank holder. In fukui's conical cup drawing test a single specimen with dimensions drawn into conical cup until the fracture is occurred at the bottom of cup by help of flat cylindrical punch and without using the blank holder. The base diameter of fracture conical cup is used to determination of diametrical Ratio. The diametrical ratio is the ratio between base diameter of fracture of conical cup with respect to outer edges of cup to original blank diameter. This indicates formability of sheet metals through this test. So formability can be represented as formability index. Hence the formability index expressed as diametrical ratio.The smaller the value of diametrical ratio the better is the formability of sheet metal as per fukui's test. In this test the formability characteristics of sheet metals such as alloys of aluminum alloy, mild steel alloy and cartridge brass are studied through finite element analysis. **Keywords:** formability, drawing, diametrical ratio, maximum drawing load. **References:** 1. Formability testing of sheet metals. Trans. Indian Institute of MetalsVol.no.49. No.5 Oct '96 - Narsimhan K. And Nandedkar.V.M. 2. Under standing sheet metal formability, Vol.2 – S.P. Keeler 3. K. Lange, Handbook of Metal Forming, McGraw-Hill, New York, 1995, pp. 40 -80. 4. M.J. Hillier, The mechanics of some new processes of cup drawing, J. Appl. Mech. 36 (1969) 108-120. 5. J. TIROSH and E. KOVHAVl, on suppression of plastic buckling in deep drawing processes. Int. J.Mech. Sci. 26, 389-402 (1984). 6. M.G. EI-Sebaie, Plastic instability conditions when deep-drawing into a high pressure medium, Int. J. Mech. Sci. 15 (1973) 605–615. 7. S. Yossifon, K. Sweeney, T. Altan, on the acceptable blank holder force range in the deep drawing process, J. Mater. Process.Technol. 67 (2000) 175–194. 8. J. TmOSH, Rupture instability in deep drawing process. Int. J. Mech. Sci. 27-35 [1997] 9. D.Y. Yang, J.B. Kim, D.W. Lee, Investigation into manufacturing of very long cups by deep drawing and ironing, Ann. CIRP 57 (1999) 346–354. 10. I. F. COLLXNS, The upper bound theorem for rigid plastic solids generalized to include Coulomb friction.J. Mech. Phys. Solids 17, 323-338 (1969).	**30-31**
8.	**Authors:**	**A.S.N.Saiteja, C.H.Pavan Kumar**	
	Paper Title:	**Determining Hysteresis Damping in a Steam Turbine Blade using a Finite Element Tool**	
	Abstract: Damping is a phenomenon by which mechanical energy is dissipated, usually converted as a thermal energy in dynamic systems. The damping caused by friction between the internal planes that slip or slide as the material deforms is called hysteresis damping or material damping. This paper deals with determining hysteresis damping of a typical turbine blade. The damping is quantified as a function of strain amplitude. ANSYS and Hyper Mesh are adopted for necessary calculations. First the natural frequencies and orthonormal mode shapes are obtained at the desired speed. Lazan's damping law is used to determine the specific damping energy in each element of the	**32-35**

	blade. Total damping energy and strain energy are calculated by integrating them over the entire volume. With the help of these the loss factor is obtained. From the loss factor, the equivalent viscous damping ratio is determined. Procedure for one mode shape is shown. **Keywords:** Damping, Hysteresis, Lazan's Law, Mode Shapes. **References:** 1. Rao.J.S "Turbomachine Blade Damping".USA, 2001. 2. Mechanical Vibrations by S.S.Rao. 3. ANSYS13, Ansys Inc... 4. Hyper Mesh 11 Help. 5. Harris, C.M. and Crede, C.E. "Shock and Vibration Handbook", McGraw Hill, New York, 1976. 6. Rowet, F.E., "Elastic Hysteresis in Steel", Proc.Roy.Soc., vol.89, 1914.	
9.	**Authors:**	**Kulwant Singh, Atul Kumar, Nitin Sharma**
	Paper Title:	**The Mathematical Aspects in Art to Create Decorative Effect in Design Patterns**
	Abstract: Mathematics is not just about formulas and logic; instead it can be used to express beauty and shapes through patterns, symmetry and arrangements. With the assistance of mathematics, artists can achieve new heights in the field of designing. The linkage between design art and Mathematics provides the background to this work. The work involves the art and style shaped in the handicraft sector, in which the designs are originated in the geometric aesthetic. This work pivots on how the mathematics, algorithms and technology have been applied to produce traditional design patterns in the sense of artist. **Keywords:** Art, Motif, Pattern, Symmetry. **References:** 1. van der Zee, B. de Vries, "Design by Computation" GA2008, 11th Generative Art Conference, pp 35-52 2. Chee Kai Chua, Robert Gay and Wolfgang Hoheisel , "A Method of Generating Motifs Aligned Along a Circular Arc", Computer & Graphics, Vol. 18, No. 3, pp. 353-362, 1994. 3. Kaplan C. S. "Computer Graphics and Geometric Ornamental Design", Ph.D., University of Washington, Seattle, 2002. 4. Wang, C. -S., Chang, T. -R., Hsiao, C. -Y. and Teng, C. -K.'Product development for Chinese calligraphy using reverse engineering and rapid prototyping', Virtual and Physical Prototyping, Vol. 1, No. 4, 259 — 269 5. Ronald Strebelow, Mirco Tribastoney, Christian Prehofer "Performance Modeling of Design Patterns for Distributed Computation" 6. Vishal Gulati, Puneet Tandon, Hari Singh, "A CAD Paradigm to Produce Zillij Style of Geometrical Patterns for Wooden Carvings", International Journal of Computer Applications Vol. No.3, 2010. 7. Trivedi S., Tiwari A., Chatterjee A., Pathak V., Dhande S. G. and Chauhan D. S., "Application of CAD, Rapid Prototyping and Reverse Engineering in Handicrafts Sector – A Success Story", 9th International Conference on Engineering Education, July 2006. 8. Michael T. Wong, Douglas E. Zongker and David H. Salesin, "Computer-Generated Floral Ornament", University of Washington. 9. Kedar S. P.," Geometric Modeling of Patterns", Master's thesis, Department of Computer Science and Engineering, Indian Institute of Technology, Kanpur, India, 2009. 10. Dustin Robert Anderson, "Two-dimensional Computer-generated Ornamentation Using a User-driven global planning strategy", Master of Science in Computer Science, Thesis, California Polytechnic State University, San Luis Obispo, 2007 11. Vishal Gulati and Puneet Katyal," A Hierarchic Representation Scheme For Generating Decorative Pattern"s, International Journal of Current Research Vol. 3, Issue, 11, pp.186-189, October, 2011	**36-39**
10.	**Authors:**	**P. Ajith, M.S.S.Sai, B. Tejaswi**
	Paper Title:	**Evaluation of Student Performance: An Outlier Detection Perspective**
	Abstract: Educational data mining is current growing research area and the main essence of data mining concepts are used in the educational field for extracting useful information of the students based on their behavior in the learning process. Prior approaches used decision tree classifications optimized with ID3 algorithms to obtain such patterns but discovering the implicative tendencies is valuable information for the decision-maker which is absent in tree based classifications. So we propose to use outlier detection for mining and evaluating educational data of students. In this paper, outlier detection mechanisms are used for identifying outliers which improve the quality of decision making. We used outlier analysis to detect outliers in the student data. In proposed system, clustering mechanism along with univariant analysis is implemented. Clustering is finding groups of objects such that the objects in one group will be similar to one another and different from the objects in another group. While clustering, the large data set is divide into clusters which consists of outliers. After Clustering, the data points which are present outside the clusters are identified and treated as outliers. Identification is done by using univariate analysis which is the simplest form of quantitative (statistical) analysis. A basic way of presenting univariate data is to create a frequency distribution of the individual cases Here, we analyze the performance of UG students of our college and present the results using outlier detection mechanism. The analyzed results are represented using histograms which are based on univariate analysis. **Keywords:** Outlier, Clustering, Univariate analysis, and Histograms. **References:** 1. Al-Radaideh, Q., Al-Shawakfa, E. and Al-Najjar, M. (2006) 'Mining Student Data Using Decision Trees', The 2006 International Arab Conference on Information Technology (ACIT'2006) – Conference Proceedings. 2. Ayesha, S. , Mustafa, T. , Sattar, A. and Khan, I. (2010) 'Data Mining Model for Higher Education System', European Journal of Scientific Research, vol. 43, no. 1, pp. 24-29. 3. Baradwaj, B. and Pal, S. (2011) 'Mining Educational Data to Analyze Student s' Performance', International Journal of Advanced Computer Science and Applications, vol. 2, no. 6, pp. 63-69. 4. Chandra, E. and Nandhini, K. (2010) 'Knowledge Mining from Student Data', European Journal of Scientific Research, vol. 47, no. 1, pp. 156-163.	**40-44**

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11.

Authors: **Sonal Dubey, R.K. Pandey, S.S. Gautam**

Paper Title: **Web Based Multimedia Bilingual Expert System for Chickpea Cultivation**

Abstract: Expert Systems are widely used in various areas of agriculture. This paper describes the possibility of the production of chickpea with the use of expert systems. Among the Rabi crops, chickpea is a very important. The expert system is divided into two parts the information system and the other the diagnostic block. The first one is the information system which gives information about all the aspects of chickpea cultivation like varieties, sowing, land preparation, pest and disease management, nutritional disorder, post harvest technology .The second part i.e the diagnostic block in which the expert system asks the user to answer few questions and accordingly decides the insect or disease attacking the plant and suggests control and remedial measures. The main feature of this expert system is that it is bilingual i.e. in English and hindi language (which can be easily understood by the Indian farmers).

Keywords: multimedia, expert system, hindi language, chickpea cultivation technology.

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12.

Authors: **Kamlesh Kumar Singh, Geetika Srivastava, Ravi Shankar Mishra, Deepak Tiwari**

Paper Title: **Current Conveyor: A Novel Active Building Block Prevailing Op-Amp Limitations**

Abstract: There has been significant development in the circuit implementation of current conveyors as a key element because of its low voltage low power characteristics and wide dynamic operating range.The current conveyor agreements numerous benefits over the conventional Op-Amp. Unambiguously the current conveyor circuit can arrange for a higher voltage gain over a larger signal bandwidth under small or large signal conditions. In contemporaneous consequence current conveyors are substituting the conformist Op-amp in numerous applications such as analog signal processing, active filters, and converters.

Keywords: Current Conveyor (CC I), Differential voltage current conveyor, Current Mirror (CM), Operational Amplifiers (OA).

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13.

Authors: **Nikhil Kumar Jain, V Aravind, Eranki V S Krishna Prasad, Y Kalyan Chakravarthy**

Paper Title: **Virtual Prototype of Mechanical Hand Crank Mobile Charger**

Abstract: Mobile phone is our means to remain connected. While the phones have progressively got more powerful processors and large touch screen interfaces, their power requirement has increased correspondingly. Unfortunately, battery technology has not been growing at a comparable pace. Hence, there is a need to frequently charge the batteries. While travelling, people face a common problem of charging electronic appliances. Our solution to this problem is Mechanical Hand Crank Mobile Charger. Mechanical hand crank mobile charger is a device that

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	utilizes mechanical energy, converts it into electrical energy and charges the mobile. It doesn't require any electrical source. Also by going for this alternative source of energy we can reduce the human footprint on Earth as we are using human effort instead of conventional electricity. We have used a compound gear train and 6 intermediate gears for transformation of mechanical energy from hand crank to generator. Pro-engineer software for designing the gear train, NI Multisim software for simulation of the circuit and Reverse engineering technique to achieve this solution for the problem. **Keywords:** Compound gear train, NI Multisim, Reverse engineering, Simulation. **References:** 1. Amitabha Ghosh and Ashok Kumar Malik, Theory of Mechanisms and Machines. ch. 9 2. J. S. Brar and Dr. R. K. Bansal, Theory of Machines. ch. 10 pg. 450 - 460 3. Thomas Bevan, Theory of Machines ch. 10, 11 4. William Hayt, Jack Kemmerly, and Steven Durbin, Engineering Circuit Analysis. 5. Ben Zeines, Electric Circuit Analysis. 6. QU Bao-zhon, ZHANG Ji-tao, LIU Yi-zhu; "Simulation analysis and design of circuits based on Multisim"; Journal Of Henan Polytechnic University; Vol. 28 No. 2, Apr. 2009 pp221 – 225. 7. Li Linqiang; "A manual mobile phone charger"; International Conference on Electrical and Control Engineering; Jun. 25-27, 2010 pp79-82. 8. http://www.engineersedge.com/gear_menu.shtml. 9. http://www.circuitconnections.com/ 10. http://www.apexgarage.com/tech/gear_ratios.shtml	
14.	**Authors:** **D.Nagarjuna, Junaid Mohammed Farooq, A.S.N.Saiteja, P.Siddhartha Sri Teja** **Paper Title:** **Optimization of Chassis of an All Terrain Vehicle** **Abstract:** In the case of vehicles, the term chassis means the frame plus the running gear like engine, transmission, driveshaft, differential, and suspension. An all-terrain vehicle (ATV), also known as a quad, quad bike, three-wheeler, or four-wheeler, is defined by the American National Standards Institute (ANSI) as a vehicle that travels on low pressure tires, with a seat that is straddled by the operator, along with handlebars for steering control. As the name implies, it is designed to handle a wider variety of terrain than most other vehicles. This paper deals with design of chassis frame for an All Terrain Vehicle and its Optimization. Various loading tests like Front Impact, Rear Impact, Side Impact, Roll over test etc have been conducted on the chassis and the design has been optimized by reducing the weight of the chassis. **Keywords:** Differential, Driveshaft, ATV, Transmission, Quad Bike. **References:** 1. SAE Rule Book, 2011. 2. Auto Expo Magazine, 2010. 3. "Consolidated Rules for Mini Baja East, Midwest and Mini Baja 100", Society of Automotive Engineers, September 2004. 4. http://www.saeindia.org// 5. http://www.wikipedia.org// 6. ANSYS 11 Help.	**55-57**
15.	**Authors:** **K.RaviRaju, B.MadhavaVarma, N.Ravi Kumar** **Paper Title:** **Condition Based Maintenance (CBM) Through Vibration Spectrum Analysis for Improving the Reliability of B-1 Conveyor (DIVE542) Diagnosis of Fault through Vibration Spectrum Analysis Technique** **Abstract:** The success of a company often depends on the continued, safe and productive operation of rotating machinery. An effective maintenance program is vital to this kind of success. The quality of company's maintenance program determines how long the machines will run, how safe they are for the people working around them, and how productive the machine will be. Berar these things in mind while you consider the following benefits of a CBM program in greater detail. The operation and maintenance of high valuable machines is very important in increasingly stiff global market and requires that it provides maximum return on investment with minimum maintenance costs. Improving plant efficiency by implementation of latest techniques in maintenance can lead to significant savings with improvement in overall operating efficiency of plants. This project brings outs the importance of vibration analyzing in maintaining the machines. The vibration analysis can be simplified and make time saving by analyzing the FFT (Fast Fourier transform) or amplitude vs. frequency spectrum. By analyzing the spectrum we can estimate the cause of vibrations in the machine. **Keywords:** Fault diagnosis, CBM, FFT, vibration amplitude, Spectrum analysis, phase, and coast down **References:** 1. R. B. Randall 1987 Frequency Analysis. Copenhagen: Bruel & Kjaer. 2. Braun, S, J.1986, mechanical signature analysis. Academic press, London. 3. Collacot R., A. 1979, vibration monitoring and diagnostic. Wiley, New York. 4. Mitchell, j., S. 1981, Machinery Analysis and monitoring. Penn well books, Tulsa. 5. Natke, H. G., Campel, C. 1977, Model-aided diagnosis of mechanical systems: fundamental detection, Localization, Assessment. Springer Verlag, Berlin. 6. Dalpiaz, G., Rivola A., Rubin, R. 2000. Effectiveness and sensitivity of vibration processing Techniques for local fault detection in gears. Mechanical systems and signal processing 14(3) 387-412. 7. Rubbini, R., Meneghetti, U. 2001. Application of the envelope a Wavelet transforms analyses for the diagnosis of incipient faults in ball bearings. Mechanical systems and signal processing, 15(2), 287-302. 8. Requiang, Y., Robert G. 2007.Approximately Entropy as a diagnostic tool for machine health monitoring. Mechanical system and signal processing,, 21, 824-894.	**58-62**

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16.	**Authors:**	**Balachandra Pattanaik, S.Chandrasekaran**
	Paper Title:	**Safety Reliability Enhancement in Fault tolerant Automotive Embedded System**

Abstract: Reliability is control and prevention of failures to reduce failure and improve operations by enhancing performance with system-level analysis and modelling are needed not only for predictability and comparability when partitioning end-to-end functions at design time levels of reliability. Reliability numbers by themselves will not motivate improvements, performance of two fault tolerant mechanisms dealing with repairable and non-repairable components that have failed. The improvement in the reliability and safety of a system with repairable components with respect to the fault tolerant systems under study correspond to a flexible arrangement of fault tolerant units (FTU's). SFAS (Safety Fault tolerant Automotive Systems) and ECU are being compared to achieve effective results. Reliability principles are discussed which assist system improvement for reducing the high unreliability. CAN Controllers are used in automotive for fault tolerant embedded system. The existing reliability enhancement models are emphasizing various redundancy techniques both in hardware and software without focusing a formal way of recovery time minimization from the affected or degraded states in the automotive systems.

Keywords: Automotive Embedded Systems, SFAS, FT CAN

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17.	**Authors:**	**Devajit Mahanta, Majidul Ahmed, Utpal Jyoti Bora**
	Paper Title:	**A study of Bandwidth Management in Computer Networks**

Abstract: Bandwidth management is one of the most widely misunderstood subjects in modern networking. Bandwidth Management is a lot like economics, because the complexities of how it works are beyond simple logic. Internet "bandwidth" is not a spectrum; traffic streams are one bit at a time. Bandwidth on the internet can only be conceptualized over time, and the amount of time that you talk about can greatly change the user experience. For reliable data transmission within computer network and internet forms the basis for management and control of bandwidth. Without bandwidth management, an user will not be able to handle all available bandwidth on the networks. It will be impossible to differentiate between various network traffics, and it will also be difficult to control which user or application has priority on the network. Applications which require specific quantity and quality of service may not be predicted in terms of available bandwidth, thus making some applications run poorly due to improper bandwidth allocation. This work focus on the development of an application to combat the challenges facing easy flow of data transmission problems in network design as organization network evolves. Here PHP Script, Apache Server and MySQL are the development tools used.

Keywords: Bandwidth management, internet, data transmission, computer networks

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18.

Authors: **Nitish Puri, Brijesh Kumar, Himanshu Tyagi**

Paper Title: **Utilization of Recycled Wastes as Ingredients in Concrete Mix**

Abstract: Laboratory experimentation was carried out to analyze the performance of M25 concrete made by partially replacing aggregates with waste materials like construction debris, PVC scrap and leather waste. The resultant concrete was tested for parameters like weight, compressive strength, slump and workability and compared with conventional plain cement concrete. It has been observed that the use of waste materials results in the formation of light weight concrete. There is a considerable increase in the compressive strength of concrete when the coarse aggregates are fully or partially replaced with construction debris. However a minor reduction in workability of the concrete mix was observed. When the coarse aggregates were replaced with PVC scrap in small percentage by weight, the resultant concrete shows fair value of compressive strength and the workability. But with the partial introduction of leather waste in place of sand in concrete, the concrete passed workability test but it failed completely in compressive strength test and gave almost zero strength. Hence, except leather waste other materials like construction debris and PVC scrap performed well as full or partial replacement for concrete aggregates and can find suitable application in construction industry as alternative to conventional materials. Uses of such waste materials will not only cut down the cost of construction, but will also contribute in safe disposal of waste materials. Apart from the environmental benefits, the addition of such wastes, also improves certain properties of resultant concrete.

Keywords: M25 Concrete, compressive strength, flexural strength and workability.

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19.

Authors: **K.S. Prasanna Kumar**

Paper Title: **Algorithm to Identify Kannada Vowels using Minimum Features Extraction method**

Abstract: This paper introduces a novel way of feature extraction for Optical Character Recognition (OCR) customized for Kannada characters. The algorithm described here relies on breaking the character into four equal parts and using one of the quarters for extraction. The algorithm is deliberately kept away from all the complexities and the number of features to be extracted is also minimized so as to increase the efficiency and speed of recognition. The algorithm also describes a conflict resolution technique helpful in effectively utilizing the algorithm.

Keywords: Kannada OCR, Minimal Feature Extraction, Character recognition Algorithm, Conflict resolution.

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20.

Authors:	**Nitin Adhav, Shilpa Agarwal**
Paper Title:	**Comparison and Implementation of Different PWM Schemes of Inverter in Wind Turbine**

Abstract: As the conventional sources are limited, world has to move towards new sources of energy and they are renewable sources like wind, solar etc. Wind technology has been started many years ago, as it is clean and free energy source worldwide. In this paper the variable wind turbine, how they interface with power electronics and with interface and different control techniques of wind able to reduce fluctuations in variable speed wind turbine, sinusoidal electrical energy to be penetrated in to the load/grid. This paper discuss the most emerging renewable energy source, wind energy, which by means of power electronics is changing from being a minor energy source to be acting as an important power source in the energy system. By that wind power is also getting an added value in the power system operation [2].

Keywords: Wind Generator, SPWM, HCC, SVPWM Power Quality, PSIM

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21.

Authors: **Neel Kamal, D.K.P. Singh**

Paper Title: **Hybrid Photovoltaic-Thermo Electrical Power Generation for Water Pumps**

Abstract: Water is a basic need of human beings along with food and air. There is a large escalation of demand for fresh water because of the rapid industrial growth and explosion of population all over the world. Thus, it has become pertinent to do further research in this field to improve the sea water desalination process. The separation of salts from seawater requires significant amounts of energy. When the energy is produced from fossil fuels, this approach can harm the environment, and as desalination requires significant energy, this in turn is costly. Therefore, there is a need to employ environmentally-friendly and affordable energy sources, specifically renewable energy, in order to desalinate seawater. Renewable energy comes from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are naturally replenished. Renewable energy can be used for seawater desalination.
Photovoltaic water pumping applications are one of the most common uses of PV power throughout the world, with thousands of solar-powered water pumps installed both in industrialized and developing nations. Hybridization of PV with Thermoelectric modules can increase the overall efficiency of the solar energy conversion system by keeping the temperature constant within limits. For enhanced control of water pumps vector control of motor/pump is used which can work satisfactorily with non-constant power output of Photovoltaic-TE Hybrids with super capacitors or energy storage support. This paper is an attempt to explore the efficient mean of water pumping through augmentation of thermoelectric conversion to increase overall efficiency of PV array for pump operation of sea water desalination. The study of thermoelectric is done to illustrate its usefulness in hybrid model of PV and thermoelectric modules. Model of hybrid combination of Thermoelectric – PV array have been developed and simulation results are also presented in this paper.

Keywords: Hybridization, PV array, TE Generator, Sea water desalination.

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22. **Authors:** **Poonam Sengar, Bhagyshri Lachhwani, Mehul Barot**

	Paper Title:	**Discovering Frequent Patterns Mining Procedures**	
	Abstract: Efficient algorithm to discover frequent pattern are crucial in data mining research. Finding frequent itemsets is computationally the most expensive step in association rule discovery .To address these issues we discuss popular techniques for finding frequent itemsets in efficient way. In this paper we provide the survey list of existing frequent itemsets mining techniques and its analysis. **Keywords:** Association rules, data mining, frequent itemsets, FPM, minimum support. **References:** 1. Agrawal, R. Imielinski, T. and Swami. Mining Association Rules between Sets of Items in Large Databases, Proc. of ACM SIGMOD, Washington DC, 22:207-216, ACM Press 2. Agrawal, R. and Srikant, R. Fast Algorithms for Mining Association Rules in Large Databases, Proc. 20th Intl Conf. Very Large Data Bases, pp. 478-499, Sept. 1944. 3. Park, J.S. Chan, M. and Yu, P.S. An Effective Hash-based Algorithm for Mining Association Rules, In Proc. of ACM SIGMOD, pp. 175-186. ACM, May 1995. 4. Brin, S. Motwani, R. Ullman, J. and Tsur, S. Dynamic itemset counting and implication rules for market basket data, In Proc. of ACM SIGMO, pp.225-264, 1997. 5. Han, J. Pei, J. and Yin, Y. Mining Frequent Patterns without Candidate Generation, Proc. of ACM SIGMOD Conf., Dallas, TX, 2000 6. C.Borgelt; , "Efficient Implementations of Apriori and Eclat," In Proc. 1st IEEE ICDM Workshop on Frequent Item Set Mining Implementations, CEUR Workshop Proceedings 90, Aachen, Germany, 2003 7. Kumar, A.V.S.; Wahidabanu, R.S.D.; , "A Frequent Item Graph Approach for Discovering Frequent Itemsets," Advanced Computer Theory and Engineering, 2008. ICACTE '08. International Conference on , vol., no., pp.952-956, 20-22 Dec. 2008 8. Hai – Tao He; Hai - Yan Cao; Rui-Xia Yao; Jia-Dong Ren; Chang-Zhen Hu; , "Mining frequent itemsets based on projection array," Machine Learning and Cybernetics (ICMLC), 2010 International Conference on , vol.1, no., pp.454-459, 6-14 July 2010	**97-100**
23.	**Authors:**	**P.Samundiswary, Ravi Ranjan Prasad**	
	Paper Title:	**Performance Analysis of MIMO-Mobile WiMAX System using Space Time Block Codes under Different Channels**	
	Abstract: The mobile Worldwide Interoperability for Microwave Access (WiMAX) is based on IEEE 802.16e standard used for wireless Metropolitan Area Network (MAN). The IEEE 802.16e standard supports high data rate and high capacity in mobile Broadband Wireless Access (BWA). The inclusion of Multiple Input Multiple Output (MIMO) in mobile WiMAX system provides a robust platform for space, time and frequency selective fading conditions and increases both data rate and system performance. In this paper, the MIMO-mobile WiMAX using Space Time Block Codes (STBC) technique is developed for both adaptive modulation and constant modulation schemes (BPSK,QPSK,QAM) with the consideration of 1/2, 3/4 code rate to determine and analyse Bit Error Rate (BER) performance under AWGN, Rayleigh and Rician channels. The simulation of MIMO-mobile WiMAX model is done by using MATLAB. **Keywords:** BER, MIMO, STBC, WiMAX Systems. **References:** 1. IEEE Std 802.16TM-2004, "Part 16: Air interface for fixed broadband wireless access systems", October 2004 2. J. El-Najjar, B. Jaumard, C. Assi, "Minimizing Interference in WiMax/802.16 based Mesh Networks with Centralized Scheduling," Global Telecommunications Conference, NewOrleans, LA, USA, pp.1-6, 30 Nov. – 4 Dec., 2008. 3. Pravin Kumar Barmashe and Rof.Rajesh Nema, "Performance Evaluation of V-Blast MIMO System using BPSK", International Journal of Computer Technology and Electronics Engineering, Vol. 1,No.3, pp.64-67, 2011. 4. D.W. Bliss, K.W. Forsythe and A.M. Chan, "MIMO Wireless Communication," Lincoln Laboratory Journal, Vol. 15, No. 1, pp. 97–126, 2005. 5. Mai Tran, Dravid Halls, Andrew Nix, Angela Doufexi and Mark Beach, "Mobile WiMAX: Downlink Performance Analysis with Adaptive MIMO Switching", Proceedings of IEEE Mobile WiMAX Symposium, California ,USA, pp. 147-151, 2009. 6. G. J. Foschini and M. J. Gans, "On limits of wireless communications in a fading environment when using multiple antennas," Wireless Personal Communications, vol. 6, no. 3, pp.311–335, 1998. 7. K. Lee and D. Williams, "A space-time coded transmitter diversity technique for frequency selective fading channels," Proceedings of IEEE Sensor Array and Multichannel Signal Processing Workshop, Cambridge, USA, pp.149–152, March 2000. 8. S. Alamouti, "A Simple Transmit Diversity Technique for Wireless Communications," IEEE Journal on Selected Areas in Communication, Vol. 16, pp. 1451–1458, Oct. 1998. 9. Muhammad Sana Ullah, Mohammed Jashim Uddin, " Performance Analysis of Wireless MIMO System by Using Alamouti's Scheme and Maximum Ratio Combining Technique" , International Journal of Advanced Engineering Sciences and Technologies, Vol. 8, No. 1,pp. 019 – 024, 2011. 10. E. Biglieri, R. Calderbank, T. Constantinides, A. Goldsmith, A. Paulraj, and H. V. Poor, "MIMO Wireless Communications", Cambridge University Press, 2006. 11. E. Telatar, "Capacity of multi-antenna Gaussian channels", European Transactions on Telecommunications, Vol. 10, No. 6, pp.585–595, 1999. 12. D. Shiu, G. Foschini, M. Gans, and J. Kahn, "Fading correlation and its effect on the capacity of multielement antenna systems," IEEE Transactions on Communications, volume 48, pp. 502–513, March. 2000. 13. J. B. Andersen, "Array gain and capacity for known random channels with multiple element arrays at both ends", IEEE Journal on Selected Areas in communications, Vol. 18, No. 11, pp. 2172-2178, Nov. 2000.	**101-104**
24.	**Authors:**	**V. Padmavathi, M. Madhavi, N. Nagalakshmi**	
	Paper Title:	**An Approach to Secure Authentication Protocol with Group Signature based Quantum Cryptography**	
	Abstract: This paper proposes a secure authentication protocol in a new direction with group signature based Quantum cryptography for a networked organization. The group signature setting has a group with copious members and one manager. The proposed protocol uses a trusted centre TC generates a large heap of public/private key pairs. Every member of the group has a different list of unique private keys which is distributed by TC to sign a document. The keys are immunable using quantum key distribution protocol which acquires the properties of quantum mechanics.		**105-107**

Keywords: Group signature, public/private key, quantum cryptography, quantum key distribution protocol QKDP, Trusted Center TC.

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25.

Authors:	**Utpal Bhattacharjeeand Pranab Das**
Paper Title:	**Performance Evaluation of Wiener Filter and Kalman Filter Combined with Spectral Subtraction in Speaker Verification System**

Abstract: This paper investigates the performance of speaker verification system in mobile environment and the techniques used to improve the robustness of the verification system. The paper demonstrates by corrupting the speech signal with additive white Gaussian noise in simulated environment. A comparative study of the three front-end noise reduction techniques namely spectral subtraction, Wiener filter and Kalman filter have been made independently as well as combining spectral subtraction with other two methods alternatively and their performances have been evaluated for the clean speech as well as contaminated speech with different level of white Gaussian noise. It has been observed that spectral subtraction plays an important role in reduction low power Gaussian noise whereas Kalman filter is efficient in reduction noise when noise power is high. Wiener filter improves the performance at all level of noise. No considerable performance improvement has been observed when spectral subtraction is combined with other two methods.

Keywords: Wiener filter, Kalman filter, Spectral Subtraction, Speaker Verification.

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26.

Authors:	**Charulata Ingle**
Paper Title:	**Performance Analysis of Embedded Linux in Embedded System**

Abstract: Nowadays, embedded systems with Linux OS are commonly applied in automotive industry. This paper represents two features of embedded system namely multithreading and semaphore in embedded linux. The flow charts are used to represent the program written in 'C', run on linux operating system .In multithreading the same string is printed continuously till you print 'stop' while by using semaphore the string will print only once and asking for another one. By using this we can build our own embedded system using linux as the kernel and freely available open source.

Keywords:

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27.

Authors: **Mayank Patel**

Paper Title: **Online Java Compiler Using Cloud Computing**

Abstract: As it is a competitive world and very fast world, everything in the universes is to be internet. In this internet world all the things are on-line. So we created software called On-line java compiler. The main aim of this project we can easily to write a java program and compile it and debug in on-line. The client machine doesn't having java development kit.The paper aims todescribe an online compiler which helps to reduce the problems of portability and storage space by making use of the concept of cloud computing. The ability to use different compilers allows a programmer to pick up the fastest or the most convenient tool to compile the code and remove the errors. Moreover, a web-based application can be used remotely throughout any network connection and it is platform independent. The errors/outputs of the code are stored in a more convenient way. Also, the trouble of installing the compiler on each computer is avoided.

Keywords: Cloud Computing, Compiler, Online Compiler.

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3. Shufen Zhang Shuai Zhang Xuebin Chen Shangzhuo , ―Analysis and Research of Cloud Computing System Instance‖, Future Networks, 2010.ICFN '10. Second Internation execute the program and its instructions.Fig 1 - Cloud Computing logical diagram al Conference.
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28.

Authors: **Pooja Dewangan, S. D. Bharti**

Paper Title: **Grid Connected Doubly Fed Induction Generator Wind Energy Conversion System Using Fuzzy Controller**

Abstract: This paper presents the simulation and control of a grid connected doubly-fed induction generator driven by a variable speed wind turbine. Fuzzy logic control strategy is applied to doubly fed induction generator (DFIG). The Matlab/Simulink/SimPowerSystems software is used to Simulate all the components of grid connected doubly fed induction generator (DFIG)-based wind power conversion system (WPCS). DFIG consists of a common wound rotor induction generator with slip ring and a back to back voltage source convertor. Fuzzy logic controller is applied to both grid side convertor (GSC) for dc link voltage control and rotor side convertor (RSC) for active and reactive power control. Coordinated control of the grid- and rotor side converters (GSC and RSC, respectively) is presented in the positive synchronous reference. Use of DFIG in wind turbine is widely spreading due to its control over DC voltage and active and reactive power. Conventional dq axis current control using voltage source converters for both the grid side and the rotor side of the DFIG are analyzed and simulated. Simulation results prove the excellent performance of fuzzy control unit as improving power quality and stability of wind turbine.

Keywords: Doubly Fed Induction Generator (DFIG), Fuzzy Logic Controller (FLC), Wind Energy Conversion System (WECS)

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29.

Authors: **Dibin Chandran, M Lydia**

	Paper Title:	**Vector Control of Wind Turbine Generating System Using PI and Model Predictive Controller**	
	Abstract: Doubly fed induction generators (DFIG) are widely used in wind turbine generating systems (WTGS). The control of the active and reactive power is done with a rotor current controller. The problem in using a PI controller is the tuning of gain and cross-coupling on DFIG parameters in the whole operating range. A model predictive controller (MPC) is used for power control of DFIG. By using MPC peak over shoot and settling time have been reduced when compared with PI controller. This paper includes simulation of WTGS vector control using PI and MBPC and the performance evaluation of these two systems. And a model of PI controller based WTGS vector control has also been simulated using MATLB Simulink. Simulation results are presented to validate the proposed controllers. **Keywords:** WTGS, DFIG, Vector control, MPC. **References:** 1. M. G. Simões and F. A. Farret, Renewable Energy Systems with Induction Generators. Boca Raton, FL: CRC Press, 2004. 2. R. Datta and V. T. Rangathan, "Variable-speed wind power generation using doubly fed wound rotor induction machine—A comparison with alternative schemes," IEEE Trans. Energy Convers., vol. 17, no. 3, pp. 414–421, Sep. 2002. 3. B. H. Chowdhury and S. Chellapilla, "Double-fed induction generation control for variable speed wind power generation," Electric Power Syst. Res., no. 76, pp. 786–800, 2006. 4. B. Hopfensperger, D. J. Atkinson, and R. Lakin, "Stator-f lux-oriented control of a doubly-fed induction machine with and without position encoder," Proc. Inst. Elect. Eng., Electr. Power Applications, vol. 147, no. 4, pp. 241–250, Apr. 2000. 5. I. Takahashi and T. Noguchi, "A new quick-response and high-efficiency control strategy of an induction motor," IEEE Trans. Ind. Appl., vol. IA-22, no. 5, pp. 820–827, Sep./Oct. 1986. 6. H. Abu-Rub, J. Guzinski, Z. Krzeminski, and H. A. Toliyat, "Predictive current control of voltage-source inverters," IEEE Trans. Ind. Electron., vol. 51, no. 3, pp. 585–593, Jun. 2004. 7. E. S. de Santana, E. Bim, and W. C. do Amaral, "A predictive algorithm for controlling speed and rotor flux of induction motor," IEEE Trans. Ind. Electron., vol. 55, no. 12, pp. 4398–4407, Dec. 2008. 8. Srinath Vanukuru & Sateesh Sukhavasi "Active & Reactive Power Control Of A Doubly Fed Induction Generator Driven By A Wind Turbine" International Journal of Power System Operation and Energy Management, ISSN (PRINT): 2231–4407, Volume-1, Issue-2, 2011, pp. 83-90 9. Andrew Kusiak, Wenyan Li, Zhe Song "Dynamic control of wind turbines" A. Kusiak et al. / Renewable Energy ,2009,Elsevier ,pp. 1-8 10. M. G. Simões and F. A. Farret, Renewable Energy Systems with Induction Generators. Boca Raton, FL: CRC Press, 2004		**123-127**
30.	**Authors:**	**Arun Varughese, Prawin Angel Michael**	
	Paper Title:	**Electrical Characteristics of Micro-Hydro Power Plant Proposed in Valara Waterfall**	
	Abstract: The most important problem faced by a country like India is that of rural electrification. This paper proposes a permanent magnet synchronous generator (PMSG) based micro power plant, which is used for a standalone micro hydro power generation. The prime mover of the system is the hydraulic turbine, essentially a pelton wheel turbine in this proposed scheme. The power produced can be directly given to the load Centre, which is within 200 m radius of the generation site. In this paper we are considering a constant output power from the turbine system which drives the alternator. The detailed economic assessment of the power produced is also analyzed in this paper. **Keywords:** Hydro power, Permanent magnet synchronous generator, standalone power generation, water turbine. **References:** 1. Renata Archetti,"Micro hydroelectric power:feasibiity of a domestic plant", Universityof Bologna, Italy, Procedia engineering 21 pp 8-15,Jan 2011 2. Okonkwo G.N and Ezeonu S.O," Design and installation of a mini hydro eletric power plant", Federal polytechnic,Bida, Scholarly Journal Of Engineering Research vol.1(1),pp.19-24,April 2012. 3. Oliver Paish," Small hydro power: technology and current status", IT power UK, Renewable and sustainable energy reviews 6, pp 537-556.feb. 2012 4. T.Sakurai,H.Funato,S.Ogasawara, "Fundamental characteristics of test facility for micro hydroelectric power generation system", Utsunomiya University, Tochigi, Japan, IPEMC.Mar. 2009 5. M.A.Wazed and Shansuddin Ahmed, "Micro hydro energy Resources in Bangladesh: a review",University of Malaya,Kula Lumpur, Malaysia, Australian Journal of Basic and Applied Sciences 2(4),pp 1209-1222.Aug. 2008 6. Centre for water resourcesdevelopment and management," Micro hydel power scheme at Kakkadampoil" , study report.Apr.1992 7. H.Weber and FF.Prillwitz,"Simulation mmodels of the hydro power plants in Macedoina and Yugoslavia", Bologna, Italy, IEEE Bologa power tech conference.may.2003		**128-131**
31.	**Authors:**	**Davison Zimwara, Lameck Mugwagwa, Daniel Maringa, Albert Mnkandla, Lindleen Mugwagwa, Tendai Talent Ngwarati**	
	Paper Title:	**Cost of Quality as a Driver for Continuous Improvement - Case Study – Company X**	
	Abstract: In the manufacturing, metal casting industry is one of the oldest basic principal and most important industries. The casting process is hindered by the occurrence of various defects. High casting reject levels and customer returns have a considerable adverse effect on productivity, delivery performance, customer satisfaction and employee morale. In addition excessive rejection reduces yield, wastes valuable raw materials and involves management time in problem solving. All foundry processes generate a certain level of rejection that is closely related to the type of casting, the processes used and the equipment available. This paper seeks to establish the extent to which cost of quality can impact on continuous improvement of the products and the relationship with the customers of the organization. To determine the cost of quality (COQ) at casting company X, the researchers used existing company records, publications and historical evidence of the company. The researchers utilized techniques such as, bar charts and tables in presenting and interpreting data. The above techniques have the ability to provide methods for collecting, presenting, and analysis and meaningfully interpret data. The research findings estimated the COQ to be 6.6% of sales revenue.		**132-139**

Keywords: Cost of quality; casting; continuous improvement

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Authors: **Okezie C.C, Uzoh F.I, Onubogu J.O, Azubogu A.C.O**

Paper Title: **Performance Evaluation of OSPF-Based Data Network**

Abstract: The implementation of the Open Shortest Path First (OSPF) Routing Protocol for data network has became imperative as the size of the internet growing at an alarming rate and data network needs to employ Routing Protocol to route data faster so as to prevent network congestion and high IP drop across a data network. The Open-Shortest Path First (OSPF) protocol, due to its use of route cost as its metric provides better scalability than rival protocols and a reasonable convergence time. We investigate the performance of OSPF routing protocol in a WLAN. This is done with the help of OPNET IT GURU 9.1, in which six scenarios were simulated for the throughput, delay and IP Traffic dropped for both OSPF and RIP. The result showed that network performance was enhanced by a 50-150% range when the OSPF routing protocol was used instead of Routing Information Protocol (RIP).

Keywords: Wireless LAN, OSPF, Throughput, Delay, IP Traffic Dropped, RIP

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