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Authors: D. Kotaiah Swamy, G. Rajesh, M. Jaya Krishna Pooja, A. Rama Krishna		
Paper Title: Microcontroller Based Drip Irrigation System		
Abstract: In the field of agriculture, use of proper method of irrigation is important and it is well known that irrigation by drip is very economical and efficient. In the conventional drip irrigation system, the farmer has to keep watch on irrigation timetable, which is different for different crops. The project makes the irrigation automated. With the use of low cost sensors and the simple circuitry makes this project a low cost product, which can be bought even by a poor farmer. This project is best suited for places where water is scares and has to be used in limited quantity. Also, third world countries can afford this simple and low cost solution for irrigation and obtain good yield on Crops. UART controller that will be used in this project. A 16×2 LCD is connected to the microcontroller, which displays the humidity level and ambient temperature. Three pushbuttons are provided to set the limits of humidity for switching the individual solenoid valves controlling the water flow to the field. The humidity and temperature levels are transmitted at regular time interval to the PC through the RS232 serial port for data logging and analysis. The humidity sensors are constructed using aluminium sheets and housed in easily available materials. The aim is to use the readily available material to construct low cost sensors. Five relays are controlled by the microcontroller through the high current driver IC, ULN2003. Four relays are provided for controlling four solenoid valves, which controls the flow of water to four different parts of the field. One relay is used to shut-off the main motor which is used to pump the water to the field.		
<ul> <li>Keywords: UART, IC, ULN2003, 16×2 LCD.</li> <li>References: <ol> <li>Clemmens, A.J. 1990.Feedback Control for Surface Irrigation Management in: Visions of the Future. ASAE Publication 04-90. American Society of Agricultural Engineers, St. Joseph, Michigan, pp. 255-260.</li> <li>Fangmeier, D.D., Garrot, D.J., Mancino, F. and S.H. Husman. 1990. Automated Irrigation Systems Using Plant and Soil Sensors. In: Visions of the Future. ASAE Publication 04-90. American Society of Agricultural Engineers, St. Joseph, Michigan, pp. 533-537.</li> <li>Gonzalez, R.A., Struve, D.K. and L.C. Brown. 1992. A computer-controlled drip Irrigation system for container plant production. HortTechnology. 2(3):402-407.</li> </ol> </li> </ul>		
Authors:	T. L. N. Tiruvadi, S. Venkatesh, K. V. Suneel, A. Rama Krishna	
Paper Title:	(PV) Rural Home Power Inverter Using FPGA Technology	
Abstract: With the increasing concern about global environmental protection and energy demand due to rapid growth of population in developing countries and the diminishing trend of resources of conventional grid supply, the need to produce freely available pollution free natural energy such as solar/wind energy has been drawing increasing interest in every corner of the world. In an effort to utilize these energies effectively through Power converter, a great deal of research is being carried out by different researchers / scientist and engineers at different places in the world to meet the increasing demand of load. The study presents methodology to integrate solar (PV) energy (which is freely available in every corner of the world) with grid source and supplement the existing grid power in rural houses during its cut off or restricted supply period. In order to get consistency in supply a DG is also added as a standby source in the proposed integration of network. The software using novel Direct PWM modulation strategy and its soft control features extend the flexibility to control converter (inverter) parameters like voltage, frequency, number of samples of PWM pulses constituting sine-wave without changing any hardware configuration in the circuit. The system simulation of PWM Pulse generation has been done on a XILINX based FPGA Spartan 3E board using VHDL code. The test on simulation of PWM generation program after synthesis and compilation were recorded and verified on a prototype sample.		5-9
<ul> <li>Keywords: (PV), DG, PWM, XILINX, FPGA, VHDL.</li> <li>References: <ol> <li>G.J. Vander Metwe et al, "150W Inverter – an optimal design for use in solar home system", International Symposium on Industrial Electronics Proceedings of ISIE, 1998, Vol. 1, page 57-62.</li> <li>C. Alonso, M-F Shraif et al, Design of Optimized Photovoltaic Conversion Chains, 16th Photovoltaic Solar Energy source inverter" First WCPEC, Dec 5-9, 1994, Hawwail.</li> <li>B. Lindgrin, "A 110W inverter for photovoltaic application", Published in International Journal of Renewable Energy Engineering, April 2002.</li> <li>http://solstice.org Conference (PVSEC 2000) Glasgow (Scotland) May 2000, page 2422-2425.</li> <li>M.N.Md Isa et al "FPGA Based SPWM Bridge Inverter Published in American journal of Applied Sciences, page 584-586,2007</li> </ol> </li> </ul>		
	Authors:  Paper Title:  Abstract: In the irrigation by drip keep watch on in automated. With to can be bought ever in limited quantity obtain good yield microcontroller, with the limits of hum humidity and temp data logging and available material controlled by the controlling four sourced to shut-off the Keywords: UAR'  References:  1. Clemmens, A.J. American Socie 2. Fangmeier, D.E. Visions of the F. 3. Gonzalez, R.A. HortTechnology.  Authors:  Paper Title:  Abstract: With the growth of populate the need to produincreasing interest converter, a great places in the worken energy (which is a power in rural horalso added as a semodulation strategistic voltage, frequence to miguration in the FPGA Spartan 3F and compilation with the fill of the power in the power in the power in the worken and compilation with the power in the worken and compilation with the power in	Authors: D. Kotaiah Swamy, G. Rajesh, M. Jaya Krishna Pooja, A. Rama Krishna  Paper Title: Microcontroller Based Drip Irrigation System  Abstract: In the field of agriculture, use of proper method of irrigation is important and it is well known that irrigation by drip is very economical and efficient. In the conventional drip irrigation system, the farmer has to keep watch on irrigation timetable, which is different for different crops. The project makes the irrigation automated. With the use of low cost sensors and the simple circuitry makes this project a low cost product, which can be bought even by a poor farmer. This project is best suited for places where water is scares and has to be used in limited quantity. Also, third world countries can afford this simple and low cost solution for irrigation and obtain good yield on Crops. UART controller that will be used in this project. A 16×2 LCD is connected to the microcontroller, which displays the humidity level and ambient temperature. Three pushbuttons are provided to set the limits of humidity for switching the individual solenoid valves controlling the water flow to the field. The humidity and temperature levels are transmitted at regular time interval to the PC through the RS232 serial port for data logging and analysis. The humidity sensors are constructed using aluminium sheets and housed in easily available materials. The aim is to use the readily available material to construct low cost sensors. Five relays are controlled by the microcontroller through the high current driver IC, UNX2003. Four relays are provided for controlling four solenoid valves, which controls the flow of water to four different parts of the field. One relay is used to shut-off the main motor which is used to pump the water to the field.  Keywords: UART, IC, ULN2003, 16×2 LCD.  References:  1. Clemmens, AJ. 1990 Feedback. Control for Surface Irrigation Management in: Visions of the Future. ASAE Publication 04-90. American Society of Agricultural Engineers, St. Joseph, Michigan,

**Abstract:** This paper presents switched model and its performance of a single phase DC/AC ideal half-bridge two-level inverter. The principle of operation of this inverter is described and the main theoretical waveforms are presented, as well as the simulation results. The main expressions for the design of the inverter are also presented. This inverter presents the following advantages of lossless inverter; the THD at the load is also preferably very less. The load current is divided amongst the switches, therefore reducing the conduction losses. In light of its

Switched Modeling, Simulation and Analysis of DC/AC Ideal Half Bridge Two Level Voltage Source

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Paper Title:

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Converter

characteristics, we believe that it is appropriate for industrial applications.

Keywords: Switched Model, Ideal Half-Bridge, VSC, HVDC.

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#### Authors: A. Sivasoundari, S. Kalaimani, M. Balamurugan

#### Paper Title: Wireless Surveillance Robot with Motion Detection and Live Video Transmission

**Abstract:** Automatic motion detection features are able to enhance surveillance efficiency and quality. The aim of this paper is to recognize and detect motion automatically around a robot's environment in order to equip a mobile robot for a surveillance task. The robot design has been partitioned into sensor, control, and planning subsystems. A robotic system has a drive chassis having a drive motor and a drive element to control both the robot movements and the rotation of wireless camera. Microcontroller PIC16F877 is designed to ensure that robot is always oriented towards desired position. The required information is based on the input obtained from a Charge Coupled Device (CCD) with battery of 12v. As the first step toward achieving the goal, it is necessary to have a mobile robot for the detection of motion of any-thing, any gas leakages and the presence of heat in that particular unstructured environment. REMOTEC is now commercializing the SURBOT technology on wheeled mobile robot for used in places such as nuclear power plants, atomic power plants and other hazardous environments.

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**Keywords:** Sensors, PIC Microcontroller, stepper motor, CCTV.

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- . FUNDAMENTALS OF ROBOTICS Analysis and Control Robert J Schilling

Authors: L. MEGALA, B. Devanathan

#### Paper Title: High Performance SiGe Power HBTs for Portable Microwave Applications

**Abstract:** SiGe bipolar technology has matured to provide a less expensive alternative to III-V, while at the same time ensuring superior performance compared to silicon. SiGe bipolar transistors, due to the lower band gap of SiGe (compared to Silicon), combine high-drift velocities with lower recombination in the base to provide higher forward current gain. This material system is very much perfect for high-power RF applications. SiGe HBTs offer important potential advantages over HFETs in terms of high transconductance, controlled linearity, freedom from surface trapping effects and controllable tradeoff of between unity current gain cut-off frequency (ft) and breakdown voltage. For high power applications, higher breakdown voltage and ft is necessary. Thus SiGe material system will have superior performance over other material systems. In this paper, we analyze the performance of SiGe HBTs for analog/RF applications. Improvements in terms of early voltage, intrinsic gain and junction breakdown voltage are noticed. Moreover ft and fmax for these devices show significant improvement making these devices an able candidate for future RF applications. SiGe HBT has been developed and verified by means of TCAD simulation.

**Keywords:** SiGe HBTs, HFETs, cut-off frequency, breakdown voltage, transconductance.

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## Authors: Dushyant R. Bhimani, Jayeshkumar Pitroda, Jaydev J. Bhavsar Paper Title: Innovative Ideas for Manufacturing of the Green Concrete by Utilizing the Used Foundry Sand and Pozzocrete

Abstract: Eco-efficient and low cost concrete can be produced by blending various ratios of fine aggregate and cement with used foundry sand and Pozzocrete. As a partial replacement of cement in concrete by Pozzocrete P60, which is a processed quality assured fly ash introduces many benefits from economy, technical and environment point of view. Metal casting process generate several kinds of waste, used foundry sand is the main waste. Used foundry sand is major problem for Indian Small and medium scale Foundry. Since used foundry sand make intensive use of sand as primary direct material, the regeneration of this sand can be considered as main factor in environmental performance to achieve sustainable development. This paper presents the results obtained of the concrete having mix proportion 1:1.48:3.21 in which cement is partially replaced by Pozzocrete P60 as 30% by weight of cement; and fine aggregate is partially replaced by used foundry sand obtained from ferrous and nonferrous metal casting industries as 10%, 30% and 50% by weight of fine aggregate. For this study, five sets of mixture proportions were made. First (A0) were the standard mix containing no Pozzocrete and no used foundry sand, with regional fine aggregate and coarse aggregate. Second mix (C0) contained 30% Pozzocrete P60 as a replacement of cement. Other mixes (C1, C2 and C3) contained Pozzocrete P60 (30%) plus used foundry sand (10%, 30% and 50%) respectively. The compressive strength of each sample is carried out at 7, 14 and 28 days. The water absorption test is also carried out at 28 days. This research was performed to achieve technical, ecological and economic benefits by utilizing the huge amounts of used foundry sand and Pozzocrete, produced every year, in India and elsewhere.

**Keywords:** Pozzocrete P60, used Foundry Sand, Partial replacement, Concrete, Compressive strength, Fine aggregate, Cost.

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## Authors: Bhagia Nidhi, Manmohan Sharma

#### Paper Title: Enhancing the Security in Ad-hoc On-Demand Distance Vector

**Abstract:** MANET is a collection of wireless nodes connected by wireless links without any fixed infrastructure. For communication, a temporary path is established between the nodes. As nodes are mobile, the structure of network changes dynamically. Due to dynamic topology and no centralized monitoring makes it difficult to provide a secure network. So it is vulnerable to attack and one of attack is called black hole attack. In this paper, we will enhance the security. The proposed mechanism will identify the behavior of malicious node in a MANET.

Keywords: AODV, Black Hole Attack, Malicious Node, MANET.

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Authors: Roohi Sharma

Paper Title: Need for an Intrusion Detection System: A Systematic Review

**Abstract:** The continuous increase within network size and its complexity, securing computer systems from attacks becomes important and a challenge. Because of dramatically increase in number of attacks, intrusion detection on internet becomes important and heated research field in computer science. The goal of intrusion detection is to identify or try to detects intrusion attempts like unauthorized use, misuse, abuse of computer systems by either internal or external penetrators, so that action may be taken to repair the damage later. This paper provides the review of existing techniques in intrusion detection to detect attacks.

**Keywords:** Attacks, intrusion detection system, intrusion prevention system, network security, worms.

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Authors: Sunil Patel, Deepak Kulhare, Arif Khan

Paper Title: Secure Software Development a Survey

**Abstract:** Technology and its applications are raises day by day fashion, in our daily life we are various times interacted with different kinds of computer and its application that shows effects of technology in our daily life. To design and deploy an application that helps us on different utilities are made possible using the software engineering and its approaches. In this paper we provide the different aspects and issues on the traditional software development methodology, and discuss the proposed solution in the direction of optimize the approach to find better solutions with less effort and time. Additionally we focus mainly on the vulnerabilities in software engineering at the time of development and their solution. After all we propose a new way for scan and trace the vulnerabilities in software application development.

D. Moore, V. Paxson, S. Savage, C. Shannon, S. Staniford, N. Weaver, "Inside the Slammer Worm," IEEE, 2003, pp. 33-39.

**Keywords:** Vulnerabilities, software development, security, processes.

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 Software Vulnerabilities, Banking Threats, Botnets and Malware Self-Protection Technologies, IJCSI International Journal of Computer Science Issues, Vol. 8, Issue 1, January 2011 ISSN (Online): 1694-0814 www.IJCSI.org

 Design and Development of Software for Launcher Control System, Department of Computer Engineering and Information Technology College of Engineering, Pune - 411005. June 2012

Authors: Khushboo B. Trivedi, V. T. Gaikwad

Paper Title: New Approach for Face Recognition Across Variable Illuminations

**Abstract:** In this paper, a face recognition method based on simultaneous sparse approximations under varying illumination is used. This method consists of two main stages. In the first stage, a dictionary is learned for each face class based on given training examples which minimizes the representation error with a sparseness constraint. In the second stage, a novel image is projected onto the span of the atoms in each learned dictionary. The resulting residual vectors are then used for classification. Furthermore to handle variations in lighting conditions an image relighting technique based on a non-stationary stochastic filter is used to generate multiple frontal images of the same person with variable lighting. As a result, given algorithm has the ability to recognize human faces with good accuracy even when only a single or a very few images are provided for training.

**Keywords:** Albedo, relighting, simultaneous sparse signal representation.

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- M. Deriche, "A simple face recognition algorithm using eigeneyes and a class-dependent pca implementation," International Journal of Soft Computing, vol. 3, pp. 438–442, 2008.

#### **Authors:**

#### Pradeep Gurunathan, N. Ishwarya, V. Sridevi, C. Nandhini, S. Deepalakshmi

#### Paper Title:

#### High-Dimensional Confidential Data Mash up using Service- Oriented Architecture

**Abstract:** Mash up is integrating different service providers to expertise and to deliver highly customizable services to their customers. Simply joining multiple private data sets together would reveal the sensitive information to the other data providers. The integrated (mash up) data could potentially sharpen the identification of persons and therefore, expose their person-specific sensitive information that was not available before the mash up. The mash up data from multiple sources often contains many data attributes. When enforcing a established privacy model such as K-anonymity, the high-dimensional data would assist from the problem known as the curse of high dimensionality, resulting in ineffective data for further data analysis. In this paper, we introduced a new algorithm called Modified privacy preserving high dimensional confidential (MPHDC) mash up algorithm to provide the high dimensional security to the user from the data provider.

Keywords: Confidential mash up, High dimensionality, Mash up service, etc.

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**Authors:** 

#### Vemuri Saranya, Ch. V. Phani Krishna

#### Paper Title:

#### A Study on Encoding and Security in the Databases

**Abstract:** Security has become one of the important challenges in today's worlds that people are facing all over the world in every aspect of their lives likewise security in electronic world has a great significance. In this paper we study the security and encoding in the database. This is an area of firm interest in database because we know that, the use of database is becoming very important in today's enterprise. Databases contain lot of information that is major enterprise asset. This study will exhibit the issues and threats in database security, requirements of database security and how encoding (encryption) is used at different levels to provide the security in the databases.

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Keywords: Databases, Security, Encryption, Access Controls.

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#### Authors: R. Sudha, Femina Sarbudeen, Sharmila Hussain

#### Paper Title: Electric Field Effects on Biological Issues- A Case Study

**Abstract:** Due to the population explosion of the world, towns are expanding, many building construct high voltage overhead power transmission lines. Because of power demand we need huge amount of power for over long distances. Large transmission lines configurations with high voltage and current level generates large value of electric and magnetic fields stresses which affect the human being and the nearby objects located at ground surfaces. But medical studies have shown that a low frequency EM field accelerates the healing of bone fractures. The non ionizing radiation causes the health effects in human which is low frequency electromagnetic fields which is produced by the electricity systems. This is not affect only the human ,it will affect the animals, plants, vehicles, fences, pipelines etc.

13. Keywords: Extra High Voltage Line (EHV), Electro Magnetic Field (EMF), Ultra High Voltage Line (UHV).

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### Authors: G. Murugaboopathi, G. Sankar, T. Praveen

#### Paper Title: Impact of Mobile Phones on Human Life Cycle

**Abstract:** Nowadays, Mobile phones turn out to be a major part of our life due to its advanced features. It has been a boon and as well as a curse of owning the handset. Mobile phones are the backbone of communication systems and have experienced enormous growth. In this paper we are discussed as one of the million subscribers of this technology some beneficial aspects and consequence of the mobile phone.

**Keywords:** Handset, Benefits, Consequence, Impact, Entertainment.

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### Authors: Mada Yaswanth Manikanta, Bandarupalli Pavan Kumar, P. E. S. K. Sharan, M. V. D. Prasad

#### Paper Title: Optimum Zigbee based Wireless Control of Industrial Automation Processes

**Abstract:** Society in its daily endeavours has become so dependent on automation that it is difficult to imagine life without automation engineering. In addition to the industrial production with which it is popularly associated, it now covers a number of unexpected areas. Trade, environmental protection engineering, traffic engineering, agriculture, building engineering, and medical engineering are some of the areas where automation is playing a prominent role. Automation engineering is a cross sectional discipline that requires proportional knowledge in hardware and software development and their applications. This paper describes the Wireless Control and monitoring of automation processes using a Microcontroller and Zigbee Wireless Protocol.

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**Keywords:** PLC, Ladder Logic, Automation, Microcontroller, Wireless Control.

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#### **Authors:** Parul Mohindru, Vikshant Khanna, Rajdeep Singh

#### Paper Title: Forest Fire Detection: Various Approaches

Abstract: Forest fire has been a severe risk to the forest capital and individual life from a long time. The threat could effectively be mitigated by timely and precise detection. In past there were many methods used for detection of fires among them were cameras, satellite images method, human observation. Wireless sensor network was introduced to remove the drawbacks of existing techniques. In this paper we will review different papers and will try to find out the advantages and disadvantages of existing techniques.

Keywords: Artificial neural network, Fuzzy logic, Image processing, Intelligent system, Satellite, Wireless sensor networks.

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**Authors:** Hemant Singh Mittal, Harpreet Kaur

#### **Paper Title:** Face Recognition Using PCA & Neural Network

Abstract: The Face Recognition Scheme Based on Neural Network and PCA technique for the detection of the persons. I have used the PCA technique which involves a mathematical method that transforms a number of possibly correlated variables into a smaller number of uncorrelated variables called principal components. Preprocessing stage -In this stage the images are made zero-mean and unit- variance. Dimensionality Reduction stage: (PCA) - Input data is reduced to a lower dimension to facilitate classification. In this stage dimension are reduced. Classification stage - The reduced vectors output from PCA are applied to the BPNN classifier for the training of the data and used to obtain the recognized image. I got good results from this proposed algorithm, MATLAB platform is used on various images to detect.

**Keywords:** Program Component Analysis, Face detection, Eigen values, Back Propagation neural networks.

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#### Naresh Kumar, Pinky Chandwal **Authors:**

#### Paper Title: Comparison of SDLC-2013 Model with Other SDLC Models by Using COCOMO

Abstract: There exist a large number of Models to develop software. Each model has its own characteristics, limitations and working environment. According to the requirements, software industry people use different models to develop different software. Waterfall model is generally used for development of software that is small with clear and stable requirements. While prototype model is used for the development of that software whose requirements are unclear and unstable, Incremental model is similar to the waterfall model but the software is developed in increments. Due to different architecture of SDLC models, each of them leads to different LOC provided that the same software is being developed. Simply we can put this discussion as different SDLC if used for developing same software then the amount of LOC that would be coded will be different. In this study we compare software build by different SDLC models in terms of cost schedule and effort estimated by using COCOMO.

**Keywords:** SDLC, Software Development, SDLC Phases, LOC, COCOMO Model.

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- www.en.wikipedia.org/wiki/COCOMOMODEL
- www.en.wikipedia.org/wiki/COCOMO Different Models

#### **Authors:** Vikshant Khanna, Parul Mohindru Paper Title: Performance Analysis of Low Energy Adaptive Clustering Hierarchy (LEACH) Protocol

Abstract: Based on the research of LEACH protocol, a low energy-consumption routing protocol LEACH-E is proposed in this paper. The new protocol is characterized by each node will send information about its current location and energy level to the cluster head. The simulated algorithm will determine the clusters for that round. Finally, the experimental results show that LEACH-E performs better than LEACH protocol. It not only extends the lifetime of the network, but also improves the energy efficiency. Therefore LEACH-E protocol is an attempt to overcome the most common issue present in wireless sensor network energy efficiency. It is a popular energy efficient adaptive clustering algorithm that forms node clusters based on the received signal strength and uses these local cluster heads as routers to the base station.

**Keywords:** Cluster, Energy efficiency, LEACH protocol, Network lifetime, Wireless sensor networks. 19.

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  M.Shankar, Dr.M.Sridar, Dr.M.Rajani, "Performance Evaluation of LEACH Protocol in Wireless Network", International Journal of Scientific & Engineering Research, Volume 3, Issue 1, January-2012 1 ISSN 2229-5518.

**Authors:** Ankita Dhankar, Satyajit Anand

8-Bit Radix-4 Booth Multiplier Using GDI Technique

Abstract: An 8-bit radix-4 Booth Multiplier is implemented that demand high speed and low energy operation. It is a good approach if we implement the multiplier as a hybrid architecture of the radix-4/-8 because the radix-8 mode has low power consumption capability, occupying less area and number of partial products obtained in this

mode are less(N/3). But the detection of the 3B term while computing the partial products is very difficult and it is difficult to implement it on the FPGA board. So by comparing the performances of the two multipliers we suggest to go with the radix-4 multiplier. Compared to a conventional CMOS Multiplier, the proposed multiplier's power delay product is 10% less with the use of only 1656 transistors in comparison to conventional CMOS circuit, which uses 2782 transistors.

20.

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**Keywords:** Encoder, multiplier, gate-diffusion input (GDI), power consumption, PPG.

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Authors:	R. Uday Kumar	
Paper Title:	Distribution of Radial Stresses In Deep Drawing Process	

Abstract: Deep drawing is one of the sheet metal forming processes; it is widely used in industry for making seamless shells, cups and boxes of various shapes. The Fluids are introduced in this area of deep drawing process is get higher in forming limits. In this the viscosity is maintained the major role in the hydro forming-deep drawing process. The Hydraulic pressure can enhance the capabilities of the basic deep drawing process for making metal cups and this hydraulic pressure contributes positively in several ways to the deep drawing process. In hydro assisted deep drawing process, applying the hydraulic pressure in radial direction on the periphery of the blank is obtained through the punch movement with in the fluid chamber. The fluid is taking place in the die cavity and punch chamber and these are connected with the bypass path provided in the die. The pressure is generated in fluid due to punch movement with in the fluid chamber and directed through the bypass path to blank periphery and is to reduce tensile stresses acting on the wall of the semi drawn blank. This fluid creates the fluid film on the upper and lower surfaces of the blank and subsequently reduces frictional resistance. During the process, the blank is taking at centre place in between blank holder and die surface with supporting of pressurized viscous fluid. In this process the radial stresses are produced in the blank due to punch force applied on it, the shear stresses acted by viscous fluid on the both sides of blank, so apply viscosity phenomenon to this analysis. The blank holder pressure is controlled by the radial pressure of fluid and these are equal for uniform deformation of blank to obtain required shape and also elimination of failure of blank in deformation. In this paper, the radial stresses are evaluated through caster oil medium for magnesium alloy using FEA and also the radial stress distribution of magnesium alloys and fluid pressure were studied.

21. **Keywords:** Deep Drawing Process, viscosity, radial Stress and fluid pressure.

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Paper Title: Petroleum Hydrocarbons Adsorption from Aqueous Solution by Raw Sugarcane Bagasse

**Abstract:** One of the major sources of water pollution is oil spills or oily waste waters and removing this pollution is a global concern. Oil spills may be due to the release of crude oil or its products from pipes, tankers, ships, offshore platforms. In general wherever oil is produced, transported, stored and used there will be the risk of a spillage. Nowadays natural sorbents are applied as single solution for oil spills since this technique is effective, rapid and cost saving for cleaning these pollutions and reduce environmental effects. In this paper, raw sugarcane bagasse in different particle sizes was used for the sorption of layer of crude oil from surface of sea water. FTIR analysis of raw bagasse was performed. Effect of time and particle size for dry system and crude oil layer system was evaluated. The results showed that maximum adsorption capacity of raw sugarcane bagasse for dry system and crude oil layer system was about 8 g and 6.6 g crude oil per g sorbent, respectively.

**Keywords:** Oil spills, natural sorbents, sugarcane bagasse, adsorption.

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Paper Title:

Effect of Wind Speed, Slip and Field Excitation on Dynamic Behavior of Multi-Machine Power Systems with Doubly Fed Induction Generator

**Abstract:** This paper work presents a study on the effect of wind speed, slip and field excitation on dynamic behaviour of multi-machine power systems installed with Doubly Fed Induction Generator (DFIG) based Wind Energy Conversion System (WECS). A method to construct linear model of DFIG, a framework for interfacing DFIG with multi-machine power systems, formation of system matrix and eigen-value analysis for the investigation of small signal stability are presented in this paper. A MATLAB program is developed and effectiveness of developed program is tested in a test system interfaced with DFIG. The impact of varying wind speed, slip and field excitation on the small signal stability analysis of multi-machine power system interfaced with DFIG is studied and the results are presented.

**Keywords:** Doubly Fed Induction Generator, Wind Energy Conversion System, Multi-Machine System, Small Signal Stability Analysis, Eigen-value Analysis.

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#### Paper Title:

#### A Novel Approach for Displaying Data on LCD Directly From PC Using FPGA

Abstract: In traditional microcontroller or micro processor based approach, every LCD display is associated with a static input. This input is static and cannot be changed by user easily as and when needed. Thus restricting the flexibility to user can have in updating the data. In this paper, we propose to design a prototype where we interface UART with LCD display through FPGA board so as to provide flexibility of data which is being displayed directly to LCD. The primary goal is to provide serial communication of keyboard character using USART hyper terminal and display it on HD44780 based LCD controller. This prototype can be further enhanced into single chip which is significance to SOC as ASIC. Thus, this design based Device can prove beneficial for future Consumer Electronics Market. In this design, for serial communication, multi UART with configurable baud rate is implemented. The multi UART and LCD driver are implemented with VHDL language and can be integrated into the FPGA to achieve compact, stable and reliable data transmission. The design has been simulated on ModelSim and implemented using Quartus II on Altera DE1 FPGA board.

**Keywords:** UART; Asynchronous serial communication; VHDL; Quartus II; ModelSim, Altera DE1 Cyclone II FPGA board.

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