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<td></td>
<td><strong>Developing Software Based Key logger and a Method to Protect from Unknown Key loggers</strong></td>
<td>Sivarajeshwaran S, Ramya G, Priya G</td>
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<td><strong>Abstract:</strong> Key loggers are hardware or software used to harvest confidential information. Keystroke logging also known as keylogging or keyboard capturing, that record the keys struck on the keyboard. The main aim of this project is to develop userspace software keylogger and a method to detect and close the unknown keylogger running in stealth mode. Software based keylogger is a set of computer program implanted on a machine to capture the user activity by logging keystrokes and delivering them to a third party through their email account and also save them as a file in a specified folder without knowing to the owner of the computer. Keyloggers are also used for legitimate purposes such as surveillance in company and parental monitoring infrastructures. Software based Anti keylogger are used to detect and close software in which keylogger running in stealth mode. It will be done by comparing the executable files of the running software.</td>
<td><strong>Keywords:</strong> Keylogger, software, Keystroke, running, project.</td>
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<td>8. S.Ortolani, C.Giuffrida and B.Crispo, &quot;Klimax: Profiling Memory Write Patterns to Detect Keystrokes&quot;</td>
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<td><strong>Abstract:</strong> Steganography is the art of coveting data through which the sensitive information can be secured by covering it through a compatible media. Steganography focuses on the existence of the cover media through which the data can't be accessed illegitimately. The paper provides a spectral view on the basic implementation and the various steganographic techniques. Here we profoundly deal with transmission techniques of tender data so as to make the system more reliable and robust.</td>
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<td><strong>Keywords:</strong> Steganography, LSB, DCT, DWT, CNF, GNF, PSNR, Pseudorandom sequence.</td>
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<td>Soumyendu Das Information Consultant,&quot;Steganography and steganographic analysis:Different approach*</td>
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<td>11.</td>
<td><strong>Comparative Analysis of Trans-Z-Source Inverter and Cascaded Multicell Trans-Z-Source Inverter</strong></td>
<td>Kavitha H, H. S. Sridhar</td>
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<td><strong>Abstract:</strong> The three phase inverters produce three phase waveform always less than the input DC voltage. To get more output from the inverter, Z-source that is combination of inductor and capacitors are used in the input side, but the boost operation is not so effective and also inverters with high-output voltage gain usually face the problem of high-input current flowing through its components. The problem might further be exaggerated if the inverters</td>
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use high-frequency magnetic devices like transformers or coupled inductors. Leakage inductances of these devices must strictly be small to prevent over voltages caused by switching of their winding currents. To avoid these related problems, cascaded trans-Z-source inverters are proposed. They use multiple magnetic cells in an alternately cascading pattern rather than a single magnetic cell with large turn’s ratio. In this paper comparison of cascaded multilevel Trans-Z-source inverter and normal trans-Z-source inverter is made for increasing the boost ratio. Analysis of these inverters is made using SIMULINK software and its performance has been analyzed.

3.

**Keywords:** Cascaded inverters transformers, Z-source inverters, Trans-Z-source inverters.

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**Authors:** Daniel C. Emeniru, Okechukwu D. Onukwuli, Pere-ere Douye Wodu, Livinus A. Obasi

**Paper Title:** Optimizing The Adsorption of Methylene Blue Dye onto Raw and Modified Ekowe Clay using RSM

**Abstract:** This study explicates the optimum condition for effective and efficient uptake of cationic dye onto raw and modified (acid activated and calcined) Ekowe clay. The clay modification spanned 750°C calcination of RS to produced RCS and 0.5MH2SO4 activation of RS then 750°C calcination to produce ACS. The pH, acidity, CEC, PZC, surface area and filtration rate opened the adsorptive characteristics of the clay samples. Factors’ combinations of the RSM-CCRD (Central composite rotatable design of Response Surface Methodology) were applied in the batch adsorption experiments for statistical evaluation and Optimization of the Methylene Blue (MB) uptake. Calculation incurred structural and morphological change enhancing porosity and total surface area of the clay. The RSM showed; the correlation of MB uptake and studied variables fitted quadratic model, showing uptake variation with time, pH, dye concentration, clay amount and temperature. The analysis of variance exposed that all main factors influenced MB uptake. The effective and material economic optimum result: 66.92%, 62.79% and 53.53% MB uptake for ACS, RCS and RS respectively at conditions of 47min, solution pH-3, 20mg/L dye concentration, 0.35g clay and 250C showed that calcination of raw and activated Ekowe clay enhances its optimum adsorptive capacity for MB dye uptake.

**Keywords:** Activation, Calculation, Adsorption factors, RSM, Quadratic model, Statistical Analisis, ANOVA, Optimization.

**References:**
Paper Title: Finite Element Analysis and Optimization of Pressure Line Filter of 250bar

Abstract: This paper deals with the FEA implementation for analysis and optimization of pressure line filter for 250bar. The main aim is to reduce the cost of the products without compromising on the quality of the output. Using the optimum resources possible in designing the hydraulic products can effect this reduction in the cost of the hydraulic product. One way of doing it will be the optimizing the volume of material utilized for building the structure. An attempt has been made in this direction to reduce the volume of material. So here we consider an industrial application project consisting of mass minimization of a pressure line filter. This filter has to compensate the forces acting on the body and has to fulfill certain critical constraints. ANSYS has been used for this analysis which uses finite element method for solution. The methodology followed in this work is comparison of stresses induced in the filter body used for construction of body of the pressure line filter. These stresses are compared to yield stress and considering minimum factor of safety in range of 2 to 3.

Keywords: ANSYS, FEA, optimization, design, filter.

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Authors: Shashank Karne, S. M. Bapat

Paper Title: Using Spatio-Temporal Role Based Access Control for Physical Access Control Specification: Towards Effective Cyber-Physical Systems

Abstract: Spatio-Temporal Role-based access control (STRBAC) has been acknowledged as an effective mechanism for specifying access control policies for cyber systems. However, it is not yet clear how a STR-BAC model can be used for specifying access control policies for physical systems. In this paper, we propose a Spatio-Temporal Role Based Access Control (STRBAC) system for modeling the physical access control specification. However, any comprehensive access control model such as STRBAC requires verification mechanisms to ensure the consistency of access control specification. As a result, this paper makes use of Alloy to perform the analysis of the STRBAC specification. To achieve this, the paper makes the use of AC2Alloy to automate the transformation between STRBAC specification and Alloy. With the help of an example, this paper shows how the STRBAC model is transformed into Alloy using our AC2Alloy, and then the produced Alloy model will be analyzed using Alloy Analyzer to detect inconsistencies in the STRBAC specification.

Keywords: Spatio-temporal role based access control, alloy, ac2alloy, physical system.
References:

Authors: M. Anbarasu, R. Padmavijayan

Paper Title: Numerical Investigation on the Interaction of Local and Global Buckling in Cold Formed Steel Lipped Channel Columns

Abstract: This paper reports a numerical investigation concerning the post-buckling behaviour of cold-formed steel lipped channel columns under axial compression affected by the interaction of local and global buckling. Three types of lipped channel cross section profile have been chosen for the study, using CUFSM software by trial and error method to obtain local/global interaction. A non-linear finite element model is developed and verified against the experimental data available in literature on cold-formed steel lipped channel columns. Geometric and material non-linearities are included in the finite element model. Static buckling analysis is carried out and buckling modes such as local and distortional are extracted to incorporate the initial imperfections. After the verification of the finite element model extensive parametric study have been carried out by varying the length and thickness. The finite Element Software ABAQUS is used for the study. The column strengths predicted by the finite element analysis are compared with the design column strengths predicted by DSM - AS100:2007, AS/NZ: 4600-2005. Based on this study the influence of local/global interaction on ultimate strength are discussed and presented.

Keywords: Columns, Buckling, Local/Global Interaction, Axial compression member etc.

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Authors: Babita Doda, Priya Dingria, Rohini Temkar

Paper Title: Automated Kiosk for Vending Tickets and Refreshments at Multiplexes
Abstract: In this research paper the proposed concept is to replace the manual work in traditional Ticket issuing system and serpentine queues at food counters into an Automated Vending Machine. A ticket machine, also known as a Ticket Vending Machine (TVM), is a vending machine that produces tickets for multiplexers. The typical transaction consists of a user using the display interface to select the type and quantity of tickets and refreshments which include snacks and beverages, and then choosing a payment method which can be cash, credit/debit card. The ticket/tickets are printed and dispensed to the user and refreshments will be dispensed at the outlet conveyor. In order to reduce serpentine queues and mesh at ticket counters, automated Ticket Vending Machine can be used which provides ease and convenience for the customers. Customers with lack of technical knowledge need not worry while using vending machines because the GUI is user friendly and more over the customer can choose language of their choice for ease.

Keywords: Ticket Vending Machine, outlet conveyor, Automated Kiosk, ecard.

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Authors: Yasen S. Kalinin, Edy K. Velikov, Valentina I. Markova

Paper Title: Design of Indoor Environment Monitoring System Using Arduino

Abstract: This paper presents the development of a flexible environmental monitoring system that allows the monitoring of parameters in the workplace, required for optimal performance. Several sensors and three modules, with different functionalities, are used to complete the system.

Keywords: Arduino, air quality, indoor monitoring.

References:

Authors: Vivek Kumar Malik, Amit Kumar Garg

Paper Title: Simulation Analysis of Four Wave Mixing Effect in WDM Optical System

Abstract: The nonlinear effect degrades the system performance. Because nonlinear effects tend to manifest themselves when optical power is very high, they become important in WDM. Four-wave mixing (FWM) is one of the dominating degradation effects in wavelength division multiplexing (WDM) systems with dense channel spacing and low chromatic dispersion on the fiber. Four wave mixing (FWM) is a parametric process in which different frequencies interact and by frequency mixing generate new spectral components. FWM can have important deleterious effects in optical fiber communications, particularly in the context of wavelength division multiplexing where it can cause cross-talk between different wavelength channels, and/or an imbalance of channel powers. The paper presents the design and performance analysis of four-wave mixing effect on the basis of output spectra, eye diagrams, BER, eye opening and Q-factor for different values of channel spacing.

Keywords: Channel spacing, Eye diagram, FWM, nonlinear effects, WDM.

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