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1.

Authors: Ahmad Parvaresh, Seyed Mohammad Ali Mohammadi, Ali Parvaresh

Paper Title: A new mathematical dynamic model for HVAC system components based on Matlab/Simulink

Abstract: In this paper, a new and complete mathematical dynamic model of HVAC (Heating, Ventilating, and Air Conditioning) components such as heating/cooling coil, humidifier, mixing box, ducts and sensors is described. All of these components are proposed and simulated in Matlab/Simulink platform. The proposed model is presented in terms of energy mass balance equations for each HVAC component. We have considered two control loop for this model, namely, temperature control loop and humidity ratio control loop. The proposed model is a full dynamic model of HVAC system that includes least approximations and assumes.

Keywords: HVAC system, HVAC components, Matlab/Simulink, HVAC model

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2.

Authors: Sachin Kumar, Sandhya Sharma, Naveen Hemrajani

Paper Title: Optical Time Division Multiplexing System Performance and Analysis Using MZI Switching

Abstract: First a simple all-optical logic device, called Mach Zhender Inferometer is composed by using a Semiconductor Optical Amplifier (SOA) and an optical coupler. This device is used for generating the logical functions (AND, XOR) and a multiplexer and an Encoder are obtained using this device in Optical Tree Architecture. A fiber communication system is employed using Giga Ethernet Passive Optical Network (GE-PON) architecture. In this architecture an optical fiber is employed directly from a central office to the home. 1: 8 splitters are used as a PON element which establishes communication between central offices to different users. In this chapter GEPON architecture has investigated for different lengths from a central office to the PON in the terms of BER. For 10 Gbit/s systems the plots between the BER and transmission distance is plotted and it is seen that as the distance increases beyond the 15 Km the BER is increased very sharply.

Keywords: All optical switch, Mach-Zehnder interferometer (MZI), Semiconductor optical amplifiers (SOA), Switching schemes, Spectrum analysis.

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3.

Authors: **Hassan Rangriz, Khosro Manteghi, Ashkan Hamedi, Mohammadreza Goli**

Paper Title: **Impact of Decision Support Systems on Evaluating and Selecting Information System Projects (Case Study: National Iranian Gas Company)**

Abstract: The purpose of this research was to define and examine the various variables that affect Decision Support Systems (DSS) usage in evaluating and selecting information system (IS) projects and defined the most severe problems that could face decision-makers when they use DSS. The unit of analysis for this research was the senior experts, head of offices, deputies, and top, middle and lower level managers in National Iranian Gas Company headquarter staff. Questionnaire developed to generate a representative sample of items and achieve content validity. After the internal consistency examined, a multiple regression analysis undertook to examine the relationship between DSS usage in evaluating or selecting the IS projects as a dependent variable and affecting variables in DSS usage as independent variables. Results showed that the variables together explained 32.8 percent of DSS usage in evaluating and selecting of IS projects and just variable “Ease of use” having a significant impact on DSS usage.

Keywords: Decision support systems, Information systems, IS projects evaluation, IS projects selection

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4.

Authors:	**Deepa.R, K. John Peter**
Paper Title:	**Discovering Application Level Semantics for Data Compression Using HCT**

Abstract: Natural phenomena show that many creatures form large social groups and move in regular patterns. However, previous works focus on finding the movement patterns of each single object or all objects. I propose an efficient distributed mining algorithm to jointly identify a group of moving objects and discover their movement patterns in wireless sensor networks. This algorithm consists of the local mining phase and the cluster ensembling phase. The local mining phase adopts the VMM model together with Probabilistic Suffix Tree to find the moving patterns, as well as Highly Connected Component to partition the moving objects. The cluster ensembling phase utilizes Jaccard Similarity Coefficient and Normalized Mutual Information to combine and improve the local grouping results. The distributed mining algorithm achieves good grouping quality and robustness.
In this paper, I extend it further, and propose a technique called hybrid compression technique based on the location information of nodes in the sensor network. A hybrid compression technique problem is formulated to reduce the amount of energy consumption and increases the lifetime of network. The experimental result shows that the technique have good ability of approximation to manage the sensor network and have high data compression efficiency and leverages the group movement patterns to reduce the amount of delivered data effectively and efficiently.

Keywords: clustering, hybrid, patterns, similarity

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5.

Authors: **M.Anandhavalli**

Paper Title: **Strategies for using e-Tools in Teaching, Learning and Supporting of e-Learning Courses: A Selective Study**

Abstract: e-Learning, of late, has been witnessing an unprecedented expansion as an opportunity for higher education. This expanding alternative mode calls for ensuring and imparting a sound and qualitative education. It is not sufficient to use online learning and teaching technologies (lecture notes, printed material, PowerPoint, websites, animation) simply for the delivery of content to students in e-learning courses. The present study made an attempt to provide the strategies for using the new set of e-tools such as Blogs, Podcasting, Wikis and YouTube, in teaching, learning and supporting of e-learning courses within the education. The findings of the study further demonstrate that if the concept of using new set of tools in e-learning is imparted with a better approach and perspective, the reach will be phenomenal. This study reiterates the relevance of imparting new tools for qualitative education through e-learning.

Keywords: e-learning, e-tools, Blogs, Podcasting, Wiki, YouTube

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6.

Authors: **J Samanta, A Patra, D Mishra, R Rashmi, I Kundu, R Koley**

Paper Title: **Performance Analysis of Different Topologies of 1-Bit Full Adder in UDSM Technology**

Abstract: Adders are key components in digital design, performing not only addition operations, but also many other functions such as subtraction, multiplication and division. Adders of various bit widths are frequently required in Very Large-Scale Integrated circuits (VLSI) from processors to Application Specific Integrated Circuits (ASICs). In this work, we have compared the performance of recently proposed topologies of 1-bit full adders in 150nm technology. We have compared ten different full adder topologies like Standard CMOS, CPL, Leap, LP, Mirror, TGdrivecap, 16Transistor, Conventional, Transmission Gate and 14Transistor full adder. The investigation has been carried out with EDA Tanner SPICE simulation tool. Performance has been also compared for variation of different supply voltage. The analysis has been done on the basis of propagation delay, power consumption and power delay product. The design guidelines have been derived to select the most suitable topology for the design features required.

Keywords: CMOS full adder, Propagation delay, PDP, Topology, UDSM

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7.

Authors: **Isha Garg, Mohd. Ilyas**

Paper Title: **Study of Two Area Load Frequency Control in Deregulated Power System**

Abstract: In power system, any sudden load perturbations cause the deviation of tie- line exchanges and the frequency fluctuations. So, load frequency control (LFC) or automatic generation control (AGC) is a very important issue in power system operation and control for supplying sufficient and reliable electric power with good quality. In this paper, automatic generation control scheme is adopted in multi area deregulated power system.

Keywords: Automatic generation control, deregulated power system, load frequency control, multi area control.

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8.

Authors: **S.Subha, N.Kumaresan**

Paper Title: **Energy-Aware Fault Tolerance in Hard Real-Time Embedded Systems**

Abstract: Energy consumption of electronic devices has become a serious concern in recent years. Energy efficiency is necessary to lengthen the battery lifetime in portable systems, as well as to reduce the operational costs and the environmental impact of stationary systems. Dynamic power management (DPM) algorithms aim to reduce the energy consumption at the system level by selectively placing components into low-power states. Dynamic voltage scaling (DVS) algorithms reduce energy consumption by changing processor speed and voltage at run-time depending on the needs of the applications running. The proposed method is extended by integrating the DPM model DVS algorithm, thus enabling larger energy savings. The proposed methods are i) Postponement method and ii) Hybrid method. fault tolerance are also achieved by increasing transistor density and decreasing supply voltage.

Keywords: Energy efficient; Real-time systems, DVS, DPM, Reliability.

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9.

Authors: **Sathiya Bharathi K, Kumaresan N**

Paper Title: **Performance Evaluation of SDS Algorithm with Fault Tolerance for Distributed System**

Abstract: In the recent past, Security-sensitive applications, such as electronic transaction processing systems,

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stock quote update systems, which require high quality of security to guarantee authentication, integrity, and confidentiality of information, have adopted Heterogeneous Distributed System (HDS) as their platforms.We systematically design a security-driven scheduling architecture that can dynamically measure the trust level of each node in the system by using differential equations and introduce SRank to estimate security overhead of critical tasks using SDS algorithm.Furthermore,we can achieve high quality of security for applications by using security-driven scheduling algorithm for DAGs in terms of minimizing the makespan, risk probability, and speedup. In addition to that the fault tolerant is included using Security Driven Fault Tolerant Scheduling Algorithm (SDFT) to tolerate N processors failure at one time, and it introduced a new global scheduler to improve efficiency of scheduling process.Moreover, the SDFT supported flexible security policy applied on real time tasks according to its security requirement and considered the effect of security overhead during scheduling. We also observe that the improvement obtained by our algorithm increases as the security-sensitive data of applications increases.

Keywords: Directed acyclic graphs, scheduling algorithm, security overheads, heterogeneous distributed systems, security-driven, fault tolerance, precedence-constrained tasks.

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10.

Authors:	**Rajendra Prasad P, B. Abdul Rahim**
Paper Title:	**Fast Self Switching type Frequency Agile RADAR Processing unit Implemented on Xilinx FPGA**

Abstract: RADARs with fixed carrier frequency profile are vulnerable to jamming. Changing the carrier frequency of the RADAR by sensing the channel condition dynamically. Frequency agility is one of the best techniques used for anti jamming. Self adaptive frequency agility analyze jamming spectrum real time so that to control the radar transmission frequency. Frequency agility refers to the radar's ability to rapidly change its operating frequency in a pseudo-random fashion to maintain a narrow instantaneous bandwidth over a wide operating bandwidth. The total architecture was implemented on FPGA board with hardware description language and the results are seen in Chip Scope pro analyzer.

Keywords: RADAR, frequency agility, Self adaptive frequency, bandwidth, FPGA,

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11.

Authors:	**Anshul Singh, Devesh Narayan**
Paper Title:	**Augmentation of Travelling Salesman Problem using Bee Colony Optimization**

Abstract: Animals with social behaviors often uncover optimal solutions to a range of problems when compared to other techniques. This advantage is extensively used nowadays for a variety of applications. The bee colony optimization (BCO) is inspired by bees foraging behavior that includes colonies of artificial bees capable of solving combinatorial optimization problems e.g. Travelling Salesman Problem. K-opt local search for the value of k as 3 repeatedly reconnects random three edges of the graph after disconnecting so as to obtain refined path. In this article BCO and k-opt local search, the two heuristic techniques for optimization, are combined together to acquire sophisticated results. Comparisons of the proposed method with nearest neighborhood approach is performed and shown with presented system proved to be superior to the rest.

Keywords: Bee Colony optimization, k-opt local search, waggle dance, Travelling Salesman Problem.

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12.

Authors: **Sonika Chaudhary, Deepak Sharma, Rakhi Tanwar, Rayma Singh**

Paper Title: **Involvement of Mobile Adhoc Network (MANET) Technology in Pervasive Computing**

Abstract: In future a pervasive computing environment can be expected based on the recent progresses and advances in computing and communication technologies. Next generation of mobile communications will include both prestigious infrastructured wireless networks and novel infrastructureless mobile ad hoc networks (MANETs). A MANET is a collection of wireless nodes that can dynamically set up anywhere and anytime to exchange information without using any pre-existing fixed network infrastructure. This paper describes the fundamental problems of ad hoc networking by giving its related research background including the concept, characterstics, existence, and applications of MANET. Some of the technical challenges MANET poses are also presented, based on which the paper points out some of the key research issues for ad hoc networking technology that are expected to promote the development and accelerate the commercial applications of the MANET technology. Special attention is paid on network layer routing strategy of MANET and key research issues include new X-cast routing algorithms, security & reliability schemes, QoS model, and mechanisms for interworking with outside IP networks.

Keywords: Mobile Communications, Wireless Networks, Ad hoc Networking, Pervasive Computing, Routing Algorithm.

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	Authors:	**Gundeep Singh, Dr. R.M. Belokar**
	Paper Title:	**Lean Manufacturing Implementation in the Assembly shop of Tractor Manufacturing Company**

Abstract: Lean manufacturing has received a great deal of attention in its application to manufacturing companies. It is a set of tools and methodologies that aims for increased productivity; cycle time reduction and continuous elimination of all waste in the production process. The Lean manufacturing technique - Kaizen is internationally acknowledged as a method of continuous improvement, through small steps, of the economical results of companies. In this paper a case study is presented in which bottlenecks are identified in the assembly shop of the tractor manufacturing automobile company due to which the productivity was low. Thus, the implementation of lean manufacturing kaizen technique results in the removal of bottlenecks by reducing cycle time, increasing the productivity and eliminating all kinds of waste.

Keywords: Bottleneck, cycle time, gear box, lean manufacturing, productivity, waste.

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	Authors:	**Annapurna D, K B Raja, Venugopal K R, L M Patnaik**
	Paper Title:	**Analysis of On Demand and Table Driven Routing Protocol for Fire Fighter Application**

Abstract: In an Ad hoc communication, the nodes are randomly distributed in a region are moving arbitrarily. We propose Analysis of On demand and Table driven routing protocols for Fire Fighter Applications (AOTFF) in this paper. The performance analysis on reactive protocols viz., AODV and AOMDV as well as proactive protocol DSDV are compared with Packet Delivery Fraction (PDF) and Simulation time. The model of fire fighter is developed using routing protocol to cover maximum area by knowing the path that is already been used . It is observed that the performance of reactive protocols are better than compared to proactive protocols..

Keywords: AODV, AOMDV, DSDV, Firefighter, Lifeline, Routing Protocol

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15.

Authors: **D.C.Vinod Rathna Kumar, K.Ramudu**

Paper Title: **Improvement of call level loss performance using speed-sensitive CAC in hierarchical heterogeneous wireless networks**

Abstract: Call Admission Control (CAC) prevents oversubscription of VoIP networks. It is used in the call set-up phase and applies to real-time media traffic as opposed to data traffic. The basic idea is the blocked calls from fast-speed users are redirected to high-tier large Cells, and the slow speed users are redirected to low-tier cells. A hierarchical overlay structure is an alternative solution that integrates existing and future heterogeneous wireless networks to provide subscribers with better mobile broadband services. Traffic loss performance in such integrated heterogeneous networks is necessary for an operator's network dimensioning and planning. This paper investigates the computationally efficient loss performance modeling for multiservice in hierarchical heterogeneous wireless networks. An approximation model with guaranteed accuracy and low computational complexity is presented for the loss performance of multiservice traffic.

Keywords: Call Admission Control (CAC), Hierarchical overlay wireless network , Long Term Evaluation (LTE), performance evaluation, Quality of Service(QOS),

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Authors: **D. Mohammed Elias, P. Lakshmi Devi**

Paper Title: **Image Segmentation in the Presence of Intensity in Homogeneities by Using Level Set Method with MRI and Satellite Images**

Abstract: This paper proposes a novel region-based method for image segmentation, which is able to deal with intensity inhomogeneities in the segmentation. Intensity inhomogeneity often occurs in real-world images, which presents a considerable challenge in image segmentation. Here we can take both mri images and also satellite images. First, based on the model of images with intensity inhomogeneities, we derive a local intensity clustering property of the image intensities, and define a local clustering criterion function for the image intensities in a neighborhood of each point. This local clustering criterion function is then integrated with respect to the neighborhood center to give a global criterion of image segmentation. Our method has been validated on synthetic images and real images of various modalities, with desirable performance in the presence of intensity inhomogeneities. Experiments show that our method is more robust to initialization, faster and more accurate than the well-known piecewise smooth model. As an application, our method has been used for segmentation and bias correction of magnetic resonance (MR) images with promising results.

Keywords: Bias correction, image segmentation, intensity inhomogeneity,level set, MRI,satellite image.

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17.	**Authors:**	**Kishore M, Ashwini V.R. Holla, H .M. Guruprasad**	
	Paper Title:	**Simulation of Reduced Complexity Beamforming Algorithms for Mobile Communication**	
	Abstract: Interference reduction is vital for being able to effectively communicate with mobile users. In order to provide line of sight communications and continual coverage to the remote users. one approach to increasing capacity and coverage zones for the servicing wireless station is to use smart antennas. Sophisticated adaptive beam forming techniques can be applied to point the array's beam in the desired look direction while simultaneously nulling out the interfering signal. This paper explains the approaches for beam formation that reduce the computational complexity of conventional Least Mean Square algorithm. **Keywords:** Smartantenna, Beam Forming, Interference, Least Mean Square Algorithm **References:** 1. L. C. Godara, "Application of antenna arrays to mobile communication. II. Beam-forming and direction-of-arrival considerations", Proceedings of IEEE, August 1997, Vol-85, Issue 8, pp 1195- 1245. 2.].M. Mouhamadou and P. Vaudon, "Smart Antenna Array Patterns Synthesis: Null Steering and multi-user Beamforming", Progress in Electromagnetic research, June 2006, PIER-60, pp 95-106. 3. J.M. Samhan, R.M. Shubair and M.A.Al-qutayriz , "Design and implementation of an adaptive smart antenna array system", Innovations in information technology, November 2006, pp 1-4. 4. C.S. Nemai, C. Karmakar, "Direction of Arrival Estimation based on a Single-Port Smart Antenna using MUSIC Algorithm with periodic signals", International Journal of Signal Processing, March 2005, Vol-1, No 2, pp153-162. 5. C.S. Nemai, C. Karmakar, "Direction of Arrival Estimation with a Novel single port smart antenna", EURASIP Journal on applied Signal Processing, Sept 2004, Vol-2004, pp 1364-1375. 6. T. K. Sarkar, S. Park, J. Koh, R.A. Schneible, "A Deterministic Least Squares Approach to Adaptive Antennas", Digital Signal Processing, A Review Journal-6, March 1996, Vol- 49 , pp 185-194. 7. S. Choi, H. M. Son, T. K. Sarkar, "Implementation of a Smart Antenna System on a General-Purpose Digital Signal Processor Utilizing a Linearized CGM", Digital Signal Processing Journal-7, March 1997,Vol- 7, Issue-8,pp 105-119.		**88-91**
18.	**Authors:**	**Lohith Raj S N, Shanthi M B, Jitendranath Mungara**	
	Paper Title:	**Layered Approach of Intrusion Detection System with Efficient Alert Aggregation for Heterogeneous Networks**	
	Abstract: Protecting data from the intruders on internet or on the host systems is a very tedious task. The Intrusion Detection System is a technology for detecting suspicious actions or malicious behavior in a system from the unauthorized users or so called intruders. Alerts are produced during the intrusion activity, but when more number of alerts is produced then handling of these alerts becomes difficult on IDS. In this paper, we propose a layered approach for IDS where the alert information is represented dynamically in the form of layers and we propose an alert aggregation algorithm where an attack instance is created for similar type of alerts produced and this is clustered to form a meta-alert which can reduce the number of alerts produced without losing any information. This technique has approaches like generative modeling, in this case the beginning as well as the completion of attack properties and details can be detected and it is a data stream approach, where duplicate or the alerts which are observed many number of times are processed only a few times. By applying these techniques and alert aggregation we can reduce the number of false alert rate and number of alerts. The goal of the project is to generate meta-alerts from the proposed alert aggregation algorithm and represent all the alert information or the intruder activity on a dynamically representing model. The alert produced and the details of the alert and the action taken are represented in the form of layers on a distinctive layered model. The details of the alert are represented using these layers and further to form a meta-alert. Meta-alerts contain all the relevant information but the amount of data can be reduced progressively. Using the data sets, it is possible to reduce the number of alerts produced while number of missing meta-alerts is extremely low and represent all the alert information in the form of layers on a model. **Keywords:** Network Security, Intrusion Detection, Alert Aggregation, Data-Stream Approach. **References:** 1. Alexander Hofmann, Bernhard Sick "Online Intrusion alert aggregation with generative Data Modeling" IEEE transactions on dependable and secure computing, VOL.8, No.2 March- April 2011 2. Agent Based Efficient Anomaly Intrusion Detection System in Adhoc networks. R. Nakkeeran, T. Aruldoss Albert and R.Ezumalai. 3. Intrusion and Detection of Homogenous and Heterogeneous Wireless Sensor Networks. Yun Wang, Student Member, IEEE, Xiaodong Wang, Member, IEEE. 4. S. Axelsson, "Intrusion detection systems: A survey and taxonomy," Chalmers University of Technology, Department of Computer Engineering, Tech. Rep. 99-15, 2000. 5. M. R. Endsley, "Theoretical underpinnings of situation awareness: A critical review," in Situation Awareness Analysis and Measurement, M. R. Endsley and D. J. Garland, Eds. Mahwah, NJ: Lawrence Erlbaum Associates, 2000, ch. 1, pp. 3–32. 6. C. M. Bishop, Pattern Recognition and Machine Learning. New York, NY: Springer, 2006. 7. M. R. Henzinger, P. Raghavan, and S. Rajagopalan, Computing on data streams. Boston, MA: American Mathematical Society, 1999. 8. A. Allen, "Intrusion detection systems: Perspective," Gartner Inc., London, UK, Tech. Rep. DPRO-95367, 2003. 9. F. Valeur, G. Vigna, C. Kr¨ ugel, and R. A. Kemmerer, "A comprehensive approach to intrusion detection alert correlation," in IEEE Transactions on Dependable and Secure Computing, vol. 1, no. 3, 2004, pp. 146–169. 10. H. Debar and A. Wespi, "Aggregation and correlation of intrusion-detection alerts," in Recent Advances in Intrusion Detection, ser. LNCS, W. Lee, L. Me, and A. Wespi, Eds., vol. 2212. Berlin, Germany: Springer, 2001, pp. 85–103. 11. D. Li, Z. Li, and J. Ma, "Processing intrusion detection alerts in large-scale network," in International Symposium on Electronic Commerce and Security.		**92-96**
19.	**Authors:**	**Mohammed Mujeeb, Sudhakar K N, Jitendranath Mungara**	
	Paper Title:	**Reputation-Based Security Protocol for MANETs**	
	Abstract: Mobile Ad-hoc Network is huge area for research with practical applications. It is a infrastructureless		**97-101**

and self-organized network, vulnerable because of its characteristics such as open medium, distributed cooperation and it is difficult to predict the topology. In general, Routing security in MANETs appears to be a challenging task. In this article we study the routing security issues of MANETs, and analyze in detail — the "Blackhole" attack. We come with distributed reputation mechanism that improves security in MANETS. Some optimization to the current reputation scheme used in MANETs are one is Selective Deviation tests and second is Adaptive expiration timer that aims to deal with congestion and quick reputation convergence. Cryptographic mechanisms such as Digital signature and hashing technique are used for the authentication of the packets in network. We design and build our proposed protocol over existing AODV and test in Network Simulator-2 in the presence of variable active Black hole attack. By using proposed Secure AODV (RSAODV) protocol we achieve increased throughput by decreasing packet delivery delay and packet drop.

Keywords: MANET, RSAODV, Black hole, Routing, Digital Signature, Hashing

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20.

Authors: **Ravi J, K B Raja**

Paper Title: **Concatenation of Spatial and Transformation Features for Off-Line signature Identification**

Abstract: Off- Line signature is a behavioral biometric trait and is widely accepted for personal and document authentication. In this paper we propose Concatenation of Spatial and Transformation Features for Off-Line signature Identification (CSTSI) method to distinguish genuine signature form skilled forgery signatures. The Discrete Wavelet Transform (DWT) is applied on signature to derive transform domain features from all the four sub bands. The signature is preprocessed and global features are extracted leads to spatial domain features. The transform domain and spatial domain features are concatenated to obtain final set of features. The test signature features are compared with data base signature features vector using correlation technique. It is observed that the values of FAR and EER are low in the case of proposed algorithm compare to existing algorithm. As FAR value is less, that indicates skilled forgery is successfully rejects.

Keywords: Signature. Global Features, DWT, Correlation, Fusion

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21.

Authors: **Rupali Sawant, Mukeshkumar Baghel**

Paper Title: **A routing metric for wireless mesh networks with optimal cost and optimal power**

Abstract: As while transmitting packets or data in the network, multiple number of traversal can occur because of the number of links in the data transfer route of source and destination and also the links in the relative position of the link are not accurate. But with some previous efforts it is able to calculate the optimal cost with required number of links in layer transmission but again there occurs the problem of power conjunction means it is more and more difficult to compute the optimal cost along with optimal power. To overcome this problem this paper synthesizes on existing methodology related to optimal path selection through which it exactly finds out the number of links layer which are essential for source to destination packet delivery and highlight towards how to compute the path with optimal cost along with optimal power.

Keywords: Wireless ad-hoc network, Routing metric, Throughput.

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Authors: **Gaurav Sharma, Shefali Pruthi**

Paper Title: **A Review on Various Identity Management Systems**

Abstract: In this era there is a significant growth in identity management solution because of their potential importance as what and how properly they handle the sensitive data. The paper present the review on digital identities which is to be handled by various Identity Management System (IDMs). The paper first provide the definition of Digital Identities and their management. Then these digital identities are embedded in a particular model which is called conceptual model of identity management. Then there is a brief review on various Identity Management system and their advantages and disadvantages as proposed by different authors but our focus is on emerging technology i.e. Microsoft Cardspace and the solution for improving its security vulnerabilities.

Keywords: Digital Identities, Identity Management System, Microsoft Cardspace, Sensitive Data.

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23.

Authors: **Vyankatesh B.Emche , M. D. Pasarkar**

Paper Title: **Tool Design for Oval Punching**

Abstract: As method for punching in oval shapes is not readily available, press tool for punching in oval shapes is required in various industries according to their applications.
There are press tools for punching in circular shape, but when shapes other than circular shape are desired, they have to design according to dimensions required by industry.
As application for oval shape punching differs from industry to industry because dimensions required by industries differ from each other. As some industries require more than one oval shaped holes that is to be done in single stroke for reducing the time required for production, there is need to design such press tool which can perform such operation.
Hence to have fast production of required oval size holes, there is need to develop a press tool assembly which can

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make accurate oval holes on metal sheets. For designing such assembly, it is very necessary to study every aspect of existing design of press tool so that changes required can be easily define. Comparison of existing design with the proposed enables us to find correct way of design.

Keywords: Punching Tool, Oval Punching, sheet metal, sheet metal manufacturing, sheet metal features, selection of material.

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24.

Authors:	**H S Manjunatha Reddy, K B Raja**
Paper Title:	**Wavelet based Secure Steganography with Scrambled Payload**

Abstract: The Steganography is used for secure communication of information by embedding information in a cover object. In this paper we propose Wavelet based Secure Steganography with Scrambled Payload (WSSSP). The Daubechies Lifting Wavelet Transform (LWT) is applied on cover image. The XD band is decomposed into upper and lower bands for payload embedding. The payload is segmented into four equal blocks. The Harr LWT is applied on alternate blocks of payload to generate F1 and F2 wavelet transform bands. The remaining blocks of payload are retained in spatial domain say S1 and S2. The bit reversal is applied on each coefficient of payload blocks to scramble payload. The cube root is applied on scrambled values to scale down the number of coefficient bits. The payload the embedded into XD band of cover image to generate step object. The decision Factor Based Manipulation (DFBM) is used to scrambled stego object. The Daubechies ILWT2 is applied on stego object to obtain stego image in spatial domain. It is observed that PSNR and capacity of the proposed algorithm is better compared to existing algorithm.

Keywords: Steganography, wavelets, Stego image, Payload, Cover Image.

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25.

Authors:	**Kavitha.M , S.Radha Krishna Reddy, S. Md. Mazhar-Ul-Haq, JBV Subrahmanyam, R.V Amarnath**
Paper Title:	**A Novel Concept of Simultaneous Voltage Sag/Swell and Load Reactive Power Compensations Utilizing Series Inverter of UPQC**

Abstract: This paper introduces a new concept of optimal uti- lization of a unified power quality conditioner (UPQC). The series inverter of UPQC is controlled to perform simultaneous 1) volt- age sag/swell compensation and

2) load reactive power sharing with the shunt inverter. The active power control approach is used to compensate voltage sag/swell and is integrated with theory of power angle control (PAC) of UPQC to coordinate the load re-active power between the two inverters. Since the series inverter simultaneously delivers active and reactive powers, this concept is named as UPQC-S (S for complex power). A detailed mathemati- cal analysis, to extend the PAC approach for UPQC-S, is presented in this paper. MATLAB/SIMULINK-based simulation results are discussed to support the developed concept. Finally, the proposed concept is validated with a digital signal processor-based experi- mental study.

Keywords: Active power filter (APF), power angle control (PAC), power quality, reactive power compensation, unified power quality conditioner (UPQC), voltage sag and swell compensation.

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26.

Authors: **K.Gowthami, N.Kumaresan**

Paper Title: **Runtime Scheduling Of Dynamic Task Graphs Communication with Embedded Multiprocessors**

Abstract: Multiprocessor mapping and scheduling algorithms have been extensively studied over the past few decades and havebeen tackled from different perspectives.Task scheduling is an essential aspect of parallel programming. Most heuristics for this NP-hard problem are based on asimple system model that assumes fully connected processors and concurrent interprocessor communication. Hence, contention for communication resources is not considered in task scheduling, yet it has a strong influence on the execution time of a parallel program. This paper investigates the incorporation of contention awareness into task scheduling. The proposed methodology is runtime scheduling which is designed to reduce the wastage of time during static scheduling. We have assumed heterogeneous processors with broadcast and point-to-point communication models and have presented online algorithms for them. Experimental results shows that dynamic scheduling provides better performance than static scheduling.

Keywords: Static, dynamic, edge scheduling, Heterogeneous processors, Communication between tasks

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27.

Authors: **Rashmi Jagade, Sridevi.K.N, Jitendranath Mungara**

Paper Title: **Distributed Computing Solution forHardware-In-LoopSimulation of Indian Satellites**

Abstract: The purpose of Hardware-In-Loop-Simulation (HILS) is to verify the hardware interface of On-Board-Computer (OBC) with flight sensors and actuators and to validate the closed loop performance of attitude and control elements (AOCE) for various control modes in real-time. This document presents distributed computingconfiguration of computing elements that interact mutually to achieve the real-time performance of hardware-in-loop simulation. The system architecture proposed is used successfully toaccomplish the real time closed loop performance for HILS. By distribution of resources, we can achieve thecomplex computationrequirements of spacecraft dynamics

simulation, telemetry (TM), telecommand (TC) and star simulation with optimized delay.

Keywords: HILS;AOCE;Real-time; Computing elements

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28.

Authors:	**Sonu Rana, Rakesh Gill**
Paper Title:	**FPGA based Remote Monitoring System for Food Preservation**

Abstract: Food security is the assured access to adequate food that is nutritious, of good quality, safe and meets cultural needs. In food production industries, performing visits for 24 hours evaluation is a difficult and time consuming process. In order to improve monitoring level for food industries, an intelligent system has been designed. Eight analog parameters Temperature, PH, humidity, water activity, redox potential, pressure, concentration and CO2 are monitored. The data acquisition is done through eight analog potentiometers and the parameters are monitored using FPGA. The developed system has been tested with RTD temperature sensors and information is transmitted through wireless communication to user mobile at remote place if any failures occur in the system. Thus for good food quality, FPGA and GSM based remote monitoring is performed to improve the status of production. The work represents the idea of real time monitoring and control of multi sensors food security application. The system is low cost, flexible, fast and reconfigurable.

Keywords: Remote monitoring, wireless, multi sensors

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29.

Authors:	**R.M. Belokar, Vikas Kumar, Sandeep Singh Kharb**
Paper Title:	**An Application of Value Stream Mapping In Automotive Industry: A Case Study**

Abstract: Studies on applications of lean in a continuous process industry are limited. There is lot of opportunities for improvement in the process industries like automobile industry if lean tools are utilized. This paper addresses the application of Value Stream Mapping as one of the Lean tools to eliminate waste, and improved operational procedures and productivity. Current state map is prepared and analyzed and suggested to improve the operational process. Accordingly the future state map is drawn. The study reveals that there is an improvement in the takt time by implementing the proposed changes if incorporated in the future state map.

Keywords: Current state map, future state map, takt time, Value Stream Mapping (VSM)

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30.

Authors: **J.Suganthi, N.Kumaresan, K.Anbarasi**

Paper Title: **Design of Power Efficient divide by 2/3 Counter using E-TSPC based Flip Flops**

Abstract: High speed and low power are two major challenges for modern communication circuit designs. A frequency divider is a good example that requires balance between the two sides. An extended true-single-phase-clock (E-TSPC) based divide-by-2/3 counter design is proposed in this paper which can be used for low supply voltage and low power consumption applications. By using a wired OR scheme only one transistor is needed to implement both the counting logic and the mode selection control. This can enhance the working frequency of the counter due to a reduced critical path between the E-TSPC flip flops.

Keywords: D flip-flop (DFF), frequency divider, frequency synthesizer, Extended TSPC

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31.

Authors: **Ramachandra A C, K B Raja, Venugopal K R, L M Patnaik**

Paper Title: **Non Minitia Fingerprint Recognition based on Segmentation**

Abstract: The biometric identification of a person has an advantage over traditional technique. Widely used biometric is Fingerprint to identify and authenticate a person. In this paper we propose Non Minutia Fingerprint Recognition based on Segmentation (NMFRS) algorithm. The variance of each block is determined by segmenting the finger print into 8*8 blocks. Area of Interest (AOI) is obtained by removing the blocks with minimum variance. Features of Finger Print is obtained by applying Discrete Cosine Transform (DCT) on AOI and converted to major and minor non-overlapping blocks to determine variance. The percentage recognition rate is better in the proposed algorithm compared to the existing algorithms.

Keywords: Biometrics, DCT, Fingerprint, Percentage Recognition Rate, Ridge Spatial Frequency.

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Authors: **G.R. Rameshkumar, B.V.A. Rao, K.P. Ramachandran**

Paper Title: **Use of Radial Basis Function Neural Networks for Analysis of Unbalance in Rotating Machinery**

Abstract: Rotor unbalance is the most common cause of vibration in any rotating machinery. The Coast Down Time is used as a condition monitoring parameter to monitor the rotating machinery. The CDT is the total time taken by the system to dissipate the momentum acquired during sustained operation, which is an indicator of mechanical faults. Experiments were carried out on Forward Curved Centrifugal Blower to record the CDTs at selected blower shaft cut-off speeds of 1000 rpm, 1500 rpm, 2000 rpm and 2500 rpm respectively for various unbalance conditions. These experimental CDT data were used to train the neural network. The paper also discusses the successful incorporation of radial basis function neural network (RBF-NN) for the CDTs prediction for unbalance fault conditions. The results showed that the RBFNN predicted CDT values are very close to the experimental CDT values.

Keywords: Coast down time, Radial basis function neural network, Rotating machinery, Unbalance.

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33.

Authors: **C. Bhargava, Imran, P.S.R. Murty**

Paper Title: **Reliability cost Assessment for upgrading feeder by using customer surveys**

Abstract: Reliability cost/worth analysis involves an assessment of the costs of providing reliable service and a separate quantification of the worth of having that service. Uninterrupted electric power supply is a desire of a customer, although it is not realistic. For interruption costs assessments to be specific, they should obtain information that is customer specific. The customer survey approach is based on the assumption that the customer is in the best position to estimate the losses resulting from a power interruption. This customer survey approach presents a method to quantify the loss of the customers into monetary terms, due to electric power interruption. the major contribution of this paper, using survey method it is not only possible to obtain absolute power interruption costs for different customers but also shows the variation in interruption costs with the variation in interruption duration for each type of customer. Hence, these cost calculations can be further be used for the evaluation of other cost worth indices which will be useful for the future/reinforcement options for the reliability worth.

Keywords: reliability worth assessment, customer surveys, interruption cost assessments

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Authors:	**Prashanth C R, K B Raja, Venugopal K R, L M Patnaik**	
Paper Title:	**Intra-modal Score level Fusion for Off-line Signature Verification**	

Abstract: Signature is widely used as a means of personal verification which emphasizes the need for a signature verification system. Often the single signature feature may produce unacceptable error rates. In this paper, Intra-modal Score level Fusion for Off-line Signature Verification (ISFOSV) is proposed. The scanned signature image is skeletonized and exact signature area is obtained by preprocessing. In the first stage 60 centers of signature are extracted by horizontal and vertical splitting. In the second stage the 168 features are extracted in two phases. The phase one consists of dividing the signature into 128 blocks using the center of signature by counting the number of black pixels and the angular feature in each block is determined to generate 128 angular features. In the second phase the signature is divided into 40 blocks from each of the four corners of the signature to generate 40 angular features. Totally 168 angular features are extracted from phase one and two to verify the signature. The centers of signature are compared using correlation and the distance between the angular features of the genuine and test signatures is computed. The correlation matching score and distance matching score of the signature are fused to verify the authenticity. A mathematical model is proposed to further optimize the results. It is observed that the proposed model has better FAR, FRR and EER values compared to the existing algorithms.

Keywords: Biometrics, Off-line Signature Verification, Image Splitting, Center of Signature, Angular Features, Correlation.

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35.

Authors: Konda Vijayasree , Siva S Yellampalli

Paper Title: Design & Implementation of E1 to STM-1 Frame and Deframe

Abstract: This paper describes the design and implementation of E1 frame and generating STM-1 frame multiplexing 64 E1 Frames, as well as degenerating E1 frame from STM-1 frame. The design of Formatter & Analyzer is implemented in Verilog HDL, functionally validated by simulation, carried out by RTL to GDSII tool and synthesized to get resource utilization and implemented on an FPGA for functionality verification, and the power analysis and area calculation of the framer is analyzed using Cadence v6.1.4 and Xilinx 13.2. The designed framer can be used for generation and analysis of E1 frame that has a data rate of 2.048 Mbps and STM-1 frame that has a data rate of 155.52 Mbps

Keywords: PRBS, E1 frame, scrambler, descrambler, clock divider.

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36.

Authors: Pallavi Dhade, T.J.Parvat

Paper Title: Frequent Element Pattern Matching To Evade Deep Packet Inspection in NIDS

Abstract: To detect hostile traffic in network segments or packets , Signature based Network Intrusion Detection Systems (NIDS) uses a set of rules which are so effective in detecting anomalous behavior like known attacks that hackers look for new techniques to go unobserved. Some of the techniques involves, in the manipulations of obscurities of network protocol. At the present, the detection techniques are developed against most of these elusive and equivocal techniques by means of identifying and recognizing. The appearance of new elusive forms may possibly effect NIDS to be unsuccessful. This paper presents an innovative functional framework to perform modeling over NIDS. Main, NIDS demonstrated precisely through Apriori algorithm. At this point, the paper consists of watching for circumventions on models are simpler and easier than directly trying to understand the behavior of NIDS. We present a proof of concept showing how to perform deep packet inspection in NIDS using two publicly available datasets. This framework can be used for analyzing ,Modeling and detecting the commercial NIDS after elusion.

Keywords: Apriori Algorithm, Deep packet inspection, Network Intrusion Detection systems, frequent elements matching, High speed network

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37.

Authors: **Padmini Sahu, Anurag Singh Tomer**

Paper Title: **Implementation of PMBLDC motor using Cuk PFC converter**

Abstract: This paper aims at an improve speed quality employing Cuk DC-DC converter is used as a power factor correction (PFC) converter for feeding a voltage source inverter (VSI) based permanent magnet brushless DC motor (PMBLDCM) driven air condition. This PFC converter is front end diode bridge rectifier (DBR) fed from single-phase AC mains and connected to a three phase voltage source (VSI) feeding the permanent magnet brushless DC motor (PMBLDCM). The PMBLDC Motor is used to drive a compressor load of an air conditioner through a three-phase VSI fed from a controlled DC link voltage. The speed of the compressor is controlled to achieve energy conservation using a concept of the voltage control at DC link proportional to the desired speed of the PMBLDC Motor. Therefore the VSI is operated only as an electronic commutator of the PMBLDCM. The stator current of the PMBLDCM during step change of reference speed is controlled by a rate limiter for the reference voltage at DC link. The proposed PMBLDCM drive with voltage control based PFC converter is designed, modeled and its performance is simulated in Matlab-Simulink environment for an air conditioner compressor driven PMBLDC motor.

Keywords: Cuk Converter, Air Conditioner, Permanent Magnet Brushless DC Motor, Power Factor Correction, Voltage Control, Voltage Source Inverter.

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38.

Authors: **Sujin S. George, Valsson Varghese**

Paper Title: **General Concepts of Capacity Based Design**

Abstract: An earthquake resisting building is one that has been deliberately designed in such a way that the structure remains safe and suffers no appreciable damage during destructive earthquake. However, it has been seen that during past earthquakes many of the buildings were collapsed due to failure of vertical members. Therefore, it is necessary to provide vertical members strong so as to sustain the design earthquake without catastrophic failure. Capacity designing is aiming towards providing vertical members stronger compared to horizontal structural elements. A structure designed with capacity design concept does not develop any suitable failure mechanism or modes of inelastic deformation which cause the failure of the structures. In capacity design of earthquake resisting structures, elements of primary lateral load resisting system are chosen suitably and designed and detailed for energy dissipation under severe inelastic deformation.

Keywords: Capacity Design, Hinges, Pushover Analysis

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39.

Authors: **S.Hemalatha, R.Manickachezian**

Paper Title: **Present and Future of Cloud Computing: A Collaborated Survey Report**

Abstract:

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Cloud computing is one of the most discussed IT trends of this decade, and rightly so. This paper provides an executive summary of cloud computing over the past few years and expected ratio of cloud usage in the next five years. The results are collated from responses of several individuals as to their usage and preferences for infrastructure, virtualization, cloud investments and other cloud computing technologies. What differentiates this paper is its focus on analyzing and quantifying the effects of the migration of application workloads to cloud environments. This measurement enables us to estimate better the magnitude and longevity of cloud impacts and to understand the derivative impacts on existing technologies. We introduce the paper with the report showing the deployment of cloud computing in the world. Then the factors influencing and affecting the adoption of cloud computing are discussed. We also discuss the impact of cloud computing on IT manageability and cloud investments. The purpose of this study is to get firsthand accounts of companies' use of cloud computing and to quantify the potential, financial and environmental benefits that can be attained from this technology.

Keywords: Cloud, Drivers, Hybrid, Infrastructure, Inhibitors, Platform, Private, Public, Security, Virtualization

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40.

Authors: **Mogarkar, Valsson Varghese**

Paper Title: **A Concept for Development, Safe Erection and Use of Scaffolding for High Rise Buildings**

Abstract: The objective of the paper is to study different parameters involve in building a Scaffolding system for High-Rise Structures for supporting formworks, working platform and passageway for material logistics etc. The study also includes analysis of design guidelines for safe erection of scaffolding system. Scaffolding is the structure used or intended to use for supporting framework, swinging stage, suspended stage or protection of workers engaged in or in connection with construction work, for the purpose of carrying out that work or for the support of material transportation from one level to other or connection with any such work. Scaffolding system is defined as the planning for the design, erection and the inspection of the use and the dismantling of any scaffolding. By law, worker must have safe working environment. And most construction work involves working at heights which cannot be safely or easily reached from the ground or part of the building. The scaffolding design criteria consider the strength; stability; rigidity of the supporting structure and the safety of persons engaged in the erection, alteration and dismantling of the scaffold. When any material is transferred on or to a scaffold it shall be moved or deposited without imposing any violent shock. Scaffold system shall be properly maintained and every part shall be kept so fixed, secured or placed in a position as to prevent, as far as is practicable, accidental displacement. Thus, it must be designed for the most adverse combination of dead loads, live loads, impact loads and environmental loads that can reasonably be expected during the service life of scaffolding. The detail report considers design criteria given by various designing standards.

Keywords: Scaffolding, Formwork, Strength, Design, Safety

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41.

Authors: **Ginni Tonk, S.S. Tyagi**

Paper Title: **Performance of Ad-Hoc Network Routing Protocols in Different Network Sizes**

Abstract: A Mobile Ad-Hoc Network (MANET) is a temporary network that is composed of the mobile devices which communicates through wireless links without any pre-existing infrastructure. Routing is one of the major concerns in the MANET due to its frequent changing topology and the absence of centralized administrator. In this paper, we evaluate the performance of Mobile Ad-Hoc Network Routing Protocols Dynamic Source Routing (DSR), Ad-Hoc On Demand Distance Vector (AODV) and Destination-Sequenced Distance Vector (DSDV) under different performance metrics like PDF, Average End-to-End delay, NRL, Throughput, Routing Overhead and Packet Loss.

The performance evaluation is done in different network sizes using network simulator NS-2. The comparison result shows that AODV gives highest PDF and Throughput, DSR gives lowest packet loss and DSDV gives the lowest NRL, End-to-End Delay and Routing Overhead.

Keywords: AODV, DSDV, DSR, MANET

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42.

Authors: **R.M. Belokar, Sandeep Singh Kharb, Vikas Kumar**

Paper Title: **An Application of Value Stream Mapping In Automobile Industry: A Case Study**

Abstract: Value Stream Mapping has the reputation of uncovering waste in manufacturing, production and business processes by identifying and removing or streamlining non-value-adding steps. A flow diagram showing the process is drawn to reflect the current state of the operation. The non-value actions are identified in each step and between each step by their waste of time and resources. The process is analysed for opportunity to drastically reduce and simplify it to the fewest actions necessary. By reducing wastefulness the proportion of value adding time in the whole process rises and the process throughput speed is increased. This makes the redesigned process more effective (the right things are being done) and more efficient (needing fewer resources). The reengineered process is flow charted in its future state with process steps and information flows redesigned, simplified and made less expensive.

Keywords: Current state map, cycle time, future state map, lead time, takt time, Value Stream Mapping

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