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S. No			Page No.
1.	**Authors:**	**Chirag Sharma, Sandeep Kaur**	
	Paper Title:	**Behavior Analysis of Semantic Data Models**	
	Abstract: There are many traditional models of database present now a days in the form of Hierarchical model, Network Model, Relational model. Since they offer many advantages in terms of data integrity, data storage and retrieval but there is a big disadvantage as compared to latest introduced database models i.e semantic models such as Sembase, SAM, RM/T. Our paper presents many disadvantages of Conventional or Traditional Database Models as compared to Semantic models and try to find the efficient solution of these disadvantages. This paper also presents performance evaluation factors of different semantic models. **Keywords:** Database, Database models Traditional Models, Semantic Expressiveness, Abstraction, Objects, Normalization. **References:** 1. Chaudhary Sankhyanan, Chaki Nabendu, Bhattacharya Swapan,"New Graph Based Data Model using Functional Abstraction",JCST,vol-21 (3),Pp 430-438,May 2006. 2. Boyed Saurabh,"A Semantic Database Management System: SIM",University of Texas,Computer Science Honors,2003. 3. Prabhu C.S.R,"Object-Oriented Database Systems Approaches and Architectures",Third Edition,PHI learning Private Limited,2011. 4. Hammer Michael, Mcleaod Dennis,"Database Description with SDM: A Semantic Database Model",ACM Transactions on Database Systems, Vol 6(3), September 1981. 5. Hull Richard, King Roger, "Semantic Database Modeling", Survey, Applications and Research Issue, ACM Computing Surveys, Vol 19 (3),Pp-201-261, September 1987. 6. Tujarov Hristo, Mihailov Ivelin,"PER Model-Semantic Data Models Developing",International Conference on Computer Systems and Technologies-CompSysTech, 2004.	**1-3**
2.	**Authors:**	**Neelam R. Prakash, Dilip Kumar, Tejender Sheoran**	
	Paper Title:	**Microcontroller Based Closed Loop Automatic Irrigation System**	
	Abstract: In last few decades, electronics and communication have become an integral part of our lives, always expanding into new realms, to provide ways to do things in precise manner. With the recent developments in wireless networks especially regarding power requirements and cost, it has become possible to conceive a comprehensive model for precision agriculture. In this paper we present a closed loop automatic irrigation system along with the temperature and water usage monitoring. The system can be used in greenhouses as well as open fields. The real time values of soil moisture, temperature(useful in greenhouse cultivation) are wirelessly transmitted using Zigbee technology from field to substation which controls the state of the motor and irrigation valves according to the desired moisture levels set by the user. A flow sensor is also interfaced to the main water supply which continuously tracks the water applied to the field. All the information viz. temperature, current soil moisture level in field, upper and lower moisture levels to be maintained in field (set by user), motor status, water usage and flow rate are displayed on LCD. **Keywords:** Automatic irrigation, Zigbee, closed loop, Wireless, Precision agriculture. **References:** 1. Cha´vez, J. L., Pierce, F. J., Elliott, T. V., Evans, R. G., Kim, Y., & Iversen,W. M. (2009). "A remote irrigation monitoring and control system (RIMCS) for continuous move systems. Part A: Field testing and results", Precision agriculture Precision Agriculture, 11, 1–10. doi: 10.1007/s11119-009-9109-1. 2. Mahir Dursun and Semih Ozden (2011). "A wireless application of drip irrigation automation supported by soil moisture sensors", Scientific Research and Essays Vol. 6(7), pp. 1573-1582, 4 April, 2011. 3. V.I. Adamchuk, J.W. Hummel, M.T. Morgan and S.K. Upadhyaya (2004). "On the-go soil sensors for precision agriculture", Computers and Electronics in Agriculture, 44, (2004), 71–91. 4. Yandong Zhao, Jinfeng Guan, Junfu Zhang and Weilun Yin (2009). "Study on Precision Water-saving Irrigation Automatic Control System by Plant Physiology", IEEE 2009. 5. Fedro S. Zazueta, Allen G. Smajstrla and Gary A. Clark(1993). "Irrigation System Controllers", SSAGE22, Agricultural and Biological Engineering Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Available: http://edis.ifas.ufl.edu. 6. G.K. Banerjee and Rahul Singhal (2010). "Microcontroller based Polyhouse Automation Controller", 2010 International Symposium on Electronic System Design, IEEE 2010. 7. McCann, I.R., D.C. Kincaid, and D.Wang. 1992. Operational characteristics of the Watermark Model 200 soil water potential sensor for irrigation management. Appl. Eng. Agric. 8:603-609. 8. Watermark 200SS soil moisture sensor specification manual.Available: http://www.irrometer.com/sensors.html 9. Shock, C.C., J.M. Barnum, and M. Seddigh (1998). "Calibration of Watermark Soil Moisture Sensors for irrigation management", pp. 139-146 in Proceedings of the International Irrigation Show, Irrigation Association, San Diego, CA. 10. DS18S20 1-Wire Parasite-Power Digital Thermometer datasheet,Available:http://www.maximic.com/datasheet/index.mvp/id/2815 11. Flow sensor specification manual, Available: http://www.digisavant.com/Spec/FS-4400H-Spec.pdf	**4-6**
3.	**Authors:**	**Brijesh Shah, Akshaya Patel,Satish Shah**	
	Paper Title:	**Implementation of Image Segmentation on Digital Images Using Modified Otsu Algorithm**	
	Abstract: The first step in image analysis is segment the image. Segmentation subdivides an image into its constituent regions or objects. Among all Segmentation Techniques, the Thresholding methods are widely used because of their advantages of simple implement and time saving. Thresholding method is based on a threshold value. The key of this method is to select the threshold value. An Otsu method is one of the superior threshold selection methods. Image segmentation based on Otsu's method and modified Otsu algorithms are thoroughly		**7-9**

presented in the paper.

Keywords: Image segmentation, Threshold selection, Histogram, Otsu's method.

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4.

Authors: **Rekha Rani, Sukhbir Singh, Amit Malik**

Paper Title: **Image Denoising Using Hybrid Filter**

Abstract: Image Processing is the vast area in the field of research. There are various techniques used to remove Present noise. This paper represents obstacles related with image during transmission. The salt & pepper noise, Gaussian noise, impulse noise, Rayleigh noise are the such type of noise that are produced during transmission. Noise arises due to various factors like bit error rate, speed, dead pixels. The images become blurred due to camera movements, object movement or displacement of pixels. This paper deals with removal of combination of Gaussian noise, Rayleigh noise, impulse noise and blurredness, salt and pepper noise simultaneously from the image. The hybrid filter is such a tool that makes it successful to remove these noise form images and provide clarity to picture while preserving its details.

Keywords: PSNR, bit-rate, MSE, Weiner Filter, Multi adaptive filter, Median filter.

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5.

Authors: **Neelam Tyagi, Simple Sharma**

Paper Title: **Comparative study of various Page Ranking Algorithms in Web Structure Mining (WSM)**

Abstract: As the web is escalating day by day, so people rely on the search engines to investigate the web. In this situation, the challenge for website owner is to provide relevant information to the users as per their needs and fulfill their requirements. The famous search engine Google used Hyperlink structure for ranking the web pages. There are various ranking algorithms are present for getting the desired result. The paper refers a preface to Web mining then trying to explain detailed Web Structure mining, and supply the link evaluation algorithms brought into play by the Web. This paper also explores different PageRank algorithms and compares those algorithms used for Information Retrieval. In Web Mining, the essentials of Web mining and the Web mining categories are explained. Different Page Ranking algorithms like PageRank (PR), WPR (Weighted PageRank), HITS (Hyperlink- Induced Topic Search) algorithms are discussed and comparison of these algorithms in context of performance has been carried out. PageRanks are designed for PageRank and Weighted PageRank algorithm for a agreed hyperlink composition.

Keywords: HITS, PageRank, Weighted PageRank, Web Structure.

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Authors: **Akhilesh Gannavarapu, Vatte Suresh**

Paper Title: **Decoding Quadrature Signals using AT90CAN128**

Abstract: A code is written for decoding the quadrature signals from the rotary encoder, to get a pulse train along with direction signal, which shows one transition period, and the direction of the rotation, whether in clockwise or anti clockwise directions respectively. It is especially important for machines in Industries which have to monitor the transition periods, or for machines used for Image Processing. Using AVR Studio 4, and AVR GCC, a C code for decoding the quadrature signals is being presented, which gives the pulse for one cycle and the direction in which the encoder is being rotated. With a change in direction, there is a change in the direction pulse, and the pulse indicates the completion of one transition cycle. It is explained in detail in the documentation.

Keywords: Quadrature decoder, AVR Studio v. 4.18, AVR GCC, transition state

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7.

Authors: **Mamta Dhanda, Parul Gupta**

Paper Title: **Software Enabled Load Balancer by Introducing the Concept of Sub Servers**

Abstract: In computer networking, load balancing is a technique to spread work between two or more computers, network links, CPUs, hard drives, or other resources, in order to get optimal resource utilization, maximize throughput, and minimize response time. Using multiple components with load balancing, instead of a single component, may increase reliability through redundancy. The balancing service is usually provided by a dedicated program or hardware device (such as a multilayer switch). One of the most common applications of load balancing is to provide a single Internet service from multiple servers, sometimes known as a server farm. Commonly load-balanced systems include popular web sites, large Internet Relay Chat networks, high-bandwidth File Transfer Protocol sites, NNTP servers and DNS servers. The load balancing system is a set of substitute buffer to share the server load, when their load exceeds its limit. The proposed technique gives an effective way to overcome the load balancing problem. Serving to more number of client requests is the main aim of every web server, but due to some unexpected load, the server performance may degrade In this paper we proposes a software enabled load balancing model by introducing the concept of sub servers for regional services to overcome the overhead of the main server.

Keywords: FTP, NNTP Servers, DNS Servers, SLB

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8.

Authors: **K. Venkata Ramana, M. Ravi Kishor**

Paper Title: **To Reduced the Energy Conception in Wireless Sensor Networks by Using Selective Message Forwarding Schemes**

Abstract:
In a wireless sensor network where nodes have limited energy and forward messages of different priorities are frequent in the context of wireless sensor networks. So introduced several selective message forwarding policies to save energy and extend the lifetime of WSN. Forwarding schemes were designed for three different scenarios:1) when sensors maximize the importance of their own transmitted messages ; 2) when sensors maximize the

importance of messages that have been successfully retransmitted by at least one of its neighbors; and 3) when sensors maximize the importance of the messages that successfully arrive to the sink . The three schemes have been compared under different criteria. From an overall network efficiency perspective, the first scheme performed worse that its counterparts, but it required less signaling overhead. More sophisticated schemes will achieve better importance performance, but will also require information from other sensors. It is a greater impact on the overall network performance.

Keywords: AODOV, Markov Decision, Bayesian Decision Modal, wireless sensor networks.

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9.

Authors:	**Shakera Shaikh, Veena Gulhane**
Paper Title:	**User Authentication using Colors and data security using Armstrong numbers for Wireless Sensor Networks**

Abstract: In real world, data security plays an important role where confidentiality, authentication, integrity, non repudiation are given importance.A wireless sensor network(WSN) consisiting of a large number of tiny sensors can be an effective tool for gathering data in diverse kinds of environments.The data collected by each sensor node is communicated to the base station,which forwards the data to the end user. In wireless sensor network data security plays an important role where confidentiality, authentication, integrity, non repudiation are given importance. This paper, propose a User Authentication(UA) scheme for Wireless Sensor Networks (WSNs), which employs RGB color cube algorithm and Armstrong number for data security. The simulation results on NS2 show that Proposed scheme is not only secure but also increase speed of communication than the existing ATTUA scheme.

Keywords: WSNs, data security, colors, Armstrong numbers, authentication.

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10.

Authors:	**Chetan A. Samarth, A. K. Mahalle**
Paper Title:	**Design Optimization of Speed Ratio for Conventional Chain Drive Used In Tricycle**

Abstract: The present paper is work to optimize the speed ratio done to improve the efficiency of cycling. Various design changes in the components of chain drive mechanism of bicycle has been done to increase the mechanical advantage. In the previous study the mechanical efficiency of cycling was investigated with new developed pedal-

crank prototype (PP). The efficiency values were compared with those obtained, in the same experimental conditions and with the same subjects, by using a standard pedal–crank system (SP). the improvements in the efficiency of cycling observed in this study were rather small (about 2%) and apparent only at the higher load tested . further study also attempted to design a non-circular chainring that increases the crank power by 2.9% compared to a conventional circular chainring. Increase in the average crank power was the result of the optimal chainring slowing down the crank velocity during the down stroke (power phase) to allow muscle to generate power longer and produce more external work but the data also showed that the chainring with higher eccentricity increased negative muscle work following the power phase due to muscle activation-deactivation dynamics. This paper proposes to measure the optimal gear ratio as well as design of sprockets for the drive system of tricycle. The study provides guideline, design specification and performance measure to design efficient drive system.

Keywords: mechanical efficiency, non-circular chainring, pedal-crank prototype (PP)

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11.

Authors: **Piyush K. Ingole, N. A. Chavhan**

Paper Title: **Network Selection Algorithm for Vertical Handover in Co-operative Wireless Network**

Abstract: Wireless networks are emerging towards a heterogeneous co-operative architecture to support communication needs of the end user. In this paper a centralized spectrum manager is presented which calculates the traffic load on each network and allocates another network to the user by using the network selection algorithm. Simulation results shows that the centralized spectrum manager handover the end user to another network seamlessly and improve the global spectrum efficiency

Keywords: Co-operative Network, Resource allocation, Traffic Prediction

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12.

Authors: **Shruti Vashist, M.K.Soni, Pramod Singal**

Paper Title: **Design of a Square Microstrip Patch Antenna**

Abstract: In recent years, great interest is focused on microstrip antennas for their small volumes, low profiles, good integration, low costs and good performance. With the continuous growth of wireless and mobile communication service and the constant miniaturization of communication equipment, there are higher demands for the volume of antennas, integration and working band. This paper presents a basic square shaped microstrip patch antenna for wireless communications system which is suitable for 8GHz to 11 GHz band operations. These systems may include various combinations of WiMAX (Worldwide Interoperability for Microwave Access) and wireless local-area network (WLAN). A square microstrip patch antenna is designed to operate at 9.4GHz and 11GHz. A triangular slot is cut in the square patch to provide three bands at resonant frequency of 8.36MHZ, 9.84MHz and 11GHZ. The effect of cutting the slot on the original patch is examined. This design has several advantages as the total antenna volume can be reused, and therefore the overall antenna will be compact..The results confirm good performance of the single and multiband antenna design.

Keywords: Square Microstrip PatchAntenna (RMPA), Wimax, Wlan, multiple frequency bands.

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

Paper Title: **Performance Comparison of Ad-Hoc Network Routing Protocols using NS-2**

Abstract: Mobile Ad-hoc Network (MANET) is an infrastructure less and decentralized network which need a robust dynamic routing protocol. Many routing protocols for such networks have been proposed so far. The most popular ones are Dynamic Source Routing (DSR), Ad-hoc On Demand Distance Vector (AODV), and Destination-Sequenced Distance Vector (DSDV) routing protocol. In this paper, we are going to compare Mobile Ad-Hoc network routing protocols DSDV, AODV and DSR using network simulator NS-2. The performance matrix includes PDF (Packet delivery fraction), Average end-to-end delay, and Normalized Routing Load. We have compared the performance of routing protocols by varying pause time, number of nodes and maximum speed. The comparison result shows that AODV has the highest PDF and NRL while DSR gives the highest Average End-to-End delay.

Keywords: AODV,DSDV,DSR,MANET

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Authors: **Arvind K. Sharma**

Paper Title: **A Comparative Study between Web Mining Tools over some WUM Algorithms to Analyze Web Access Logs**

Abstract: This paper has attempted to provide an up-to-date survey of the rapidly growing area of Web usage

mining, which is the demand of current technology. In this paper, we present an overview of the various research areas in Web data mining and then focus on the Web usage mining tools and techniques. Web mining continues to remain as a potential research area in the present scenario. In this context, the various Web usage mining algorithms are discussed and their relative comparison of merits and demerits are also presented and the most appropriate ones are selected based on the characteristics of the data available from the Web server log files. Finally, we have investigated three powerful Web usage mining tools. The use of these tools is also illustrated through the analysis of one case study. The results of Web usage mining need to be visualised in order to assist with their analysis and interpretation.

Keywords: Web Data Mining, Web logs, WUM Tools

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Authors: **Geeta Nijhawan, M.K. Soni**

Paper Title: **A Comparative Study of Two Different Neural Models For Speaker Recognition Systems**

Abstract: In recent years there has been a significant amount of work, both theoretical and experimental, that has established the viability of artificial neural networks (ANN's) as a useful technology for speech recognition. It has been shown that neural networks can be used to augment speech recognizers whose underlying structure is essentially that of hidden Markov models (HMM's). In this paper, we first give a brief overview of automatic speech recognition (ASR) and then describe the use of ANN's as statistical estimators. We have compared back propogation (BP) neural network and radial basis function (RBF) network's performance as applied to the speaker recognition. We have compared the two neural network results by MATLAB simulation. From the quantitative point we have proved that the RBF neural network is more efficient and accurate than BP neural network in speaker recognition, and thus more suitable for practical applications.

Keywords: Speaker recognition system, Linear Predictive Coding (LPC), Neural networks, Mel Frequency Cepstrum Coefficient (MFCC), Back Propagation (BP); Radial Basis Function (RBF).

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16.

Authors: **Yogita L. Kumbhare, Pankaj H. Rangaree**

Paper Title: **Noise Drain in Wireless Body Area Sensor Network**

Abstract: Wireless body area sensor networks low-power integrated circuits, and wireless communications have enabled the design of low-cost, miniature, lightweight, and intelligent physiological sensor nodes. These nodes, capable of sensing, processing, and communicating one or more vital signs, can be seamlessly integrated into wireless personal or body networks (WPANs or WBANs) for health monitoring. These networks promise to revolutionize health care by allowing inexpensive, non-invasive, continuous, ambulatory health monitoring with almost realtime updates of medical records via the Internet.

This paper proposes a power and area efficient electrocardiogram (ECG) acquisition and signal processing application sensor node for wireless body area networks (WBAN). This sensor node can accurately record and detect the QRS peaks of ECG waveform with high-frequency noise suppression. analog front end integrated circuit (IC) and digital application. This ECG sensor node is convenient for long-term monitoring of cardiovascular condition of patients, and is very suitable for on-body WBAN applications. We minimize the other signal such as the ECG signal along with a bunch of noise is in analog form. In we use the High Pass Filter (HPF) to filter the noise from the ECG Signals. The ECG is a voltage difference, recorded between two metal plates or electrodes on the surface of the body

Keywords: Wireless body area sensor network, GSM model, ECG Sensor Node.

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17.

Authors:	**R. M. Belokar, Yashveer Dhull, Surender Nain, Sudhir Nain**
Paper Title:	**Optimization of Time by Elimination of Unproductive Activities through 'MOST'**

Abstract: Productivity is being the most important thing in the manufacturing world. This paper highlights a methodology developed for minimization of non productive activities (NVA) and minimization of fatigue in manufacturing line by using Maynard's Operation Sequence Technique (MOST) revealed the excessive movements of operators. Work study in productivity improvement could be done in two approaches; which are method study and time study. Thus, this research will use process mapping as the method study and Maynard Operation Sequence Technique (MOST) as the time study method. All this initiated by performing work study on the manual operators' activities. This case study was conducted at a LPS Ltd. Rohtak (Haryana) company. From this study, NVA activities, the standard time, utilization and recommendation for man power planning could be established. The necessary changes were suggested in workplace to minimize the stress creating unproductive movements. These results could be used for optimization of time at the company. So, the paper, it is believed, would be great help to those working in the area of efficiency improvement in manufacturing industry.

Keywords: MOST, Non-Value Added activities (NVA), Fatigue, Total Activity Time.

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18.

Authors:	**R.M. Belokar, Sudhir, Yashveer Dhull, Surender Nain**
Paper Title:	**Restructuring Manufacturing Process Using Matrix Method**

Abstract: In modern days competition is increasing in industries so time and cost are important factors. In this paper we present case studies on matrix method, so that best sequence with minimum time, minimum cost and reduced penalty (job changeover time from one machine to another) recommended for a particular product manufactured is achieved. Here two cases on idler pipe and idler shaft are analyzed and best sequences are generated.

Keywords: Matrix method, cellular manufacturing, path matrix P_{ij}, total matrix T_{ij}..

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19.

Authors:	**Gaurav, Amrit Kaur**
Paper Title:	**Comparison between Conventional PID and Fuzzy Logic Controller for Liquid Flow Control: Performance Evaluation of Fuzzy Logic and PID Controller by Using MATLAB/Simulink**

Abstract: Measuring the flow of liquids is a critical need in many industrial plants. In recent years, flow control has become a highly multi-disciplinary research activity encompassing theoretical, computational and experimental fluid dynamics. Fuzzy control is based on fuzzy logic-a logical system that is much closer in spirit to human thinking and natural language than traditional logical systems. During the past several years, fuzzy control has emerged as one of the most active and fruitful areas for research in the applications of fuzzy set theory, especially in the realm of industrial processes, which do not lend themselves to control by conventional methods because of a lack of quantitative data regarding the input-output relations. The fuzzy logic controller (FLC) based on fuzzy logic provides a means of converting a linguistic control strategy based on expert knowledge into an automatic control strategy. Fuzzy Logic controller has better stability, small overshoot, and fast response. In this Paper, performance analysis of the conventional PID controller and fuzzy logic controller has been done by the use of Matlab and Simulink and in the end comparison of various time domain parameters is done to prove that the fuzzy logic controller has small overshoot and fast response as compared to PID controller.

Keywords: Flow control, Conventional control, Fuzzy logic control, Simulink.

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20.

Authors: **P.Sivakumar, S.Ravi**

Paper Title: **Vector Quantization Based Image Compression**

Abstract: An image compression method combining discrete wavelet transform (DWT) and vector quantization (VQ) is presented. First, a three-level DWT is performed on the original image resulting in ten separate sub bands. These sub bands are then vector quantized. VQ indices are Huffman coded to increase the compression ratio. Lloyd extended scalar quantization technique is used to design memory less vector quantization. A novel iterative error correction scheme is proposed to continuously check the image quality after sending the Huffman coded bit stream of the error codebook indices through the channel so as to improve the peak signal to noise ratio (PSNR) of the reconstructed image. The sub band of the wavelet transformed image is also generated for the error correction scheme using the difference between the original and the reconstructed images in the wavelet domain. The proposed method shows better image quality in terms of PSNR at the same compression ratio as compared to other DWT and VQ based image compression. The proposed method of image compression is to obtain the best possible fidelity for given rate.

Keywords: Vector Quantization, Wavelet Transform, Compression Ratio.

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