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Doi : 10.7321/jscse.v2.n6.1	
Abstract . This paper introduces a new algorithm for accurately reconstructing two smooth orthogonal surfaces by processing ultrasonic data. The proposed technique is based on a preliminary analysis of a waveform energy indicator in order to classify the data as belonging to one of the two flat surfaces. The following minimization of a nonlinear cost function, inspired by the mathematical definition of Gibbs entropy, allows to estimate the plane parameters robustly with respect to the presence of outlying data. These outliers are mainly due to the effect of multiple reflections arising in the surfaces intersection region. The scanning system consists of four inexpensive ultrasonic sensors rotated by means of a precision servo digital motor in order to obtain distance measurements for each orientation. Experimental results are presented and compared with the classic Least Squares Method demonstrating the potentiality of the proposed approach in terms of precision and reliability. Keyword : data processing; artificial intelligence software; surface-profile extraction; sonar signal processing	
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Doi : 10.7321/jscse.v2.n6.2	
Abstract . With advances in hardware and networking technologies and mass manufacturing, the cost of high end hardware had fall dramatically in recent years. However, software cost still remains high and is the dominant fraction of the overall computing budget. Application sharing is a promising solution to reduce the overall IT cost. Currently software licenses are still based on the number of copies installed. An organization can thus reduce the IT cost if the users are able to remotely access the software that is installed on certain computer servers instead of running the software on every local computer. In this paper, we propose a generic application sharing architecture for users' application sharing in a cluster of closed operating systems such as Microsoft Windows. We also propose a broker-mediated solution where we allow multiple users to access a single user software license on a time multiplex basis through a single logged in user. An application sharing tool called ShAppliT has been introduced and implemented in Microsoft Windows operating	

system. We evaluated their performance on CPU usage and memory consumption when a computer is hosting multiple concurrent shared application sessions.

Keyword : Cluster Computing, Peer to Peer Network, Application Sharing, Remote Access, Software License, Windows Operating System

- 3 [A Modeling of a Memory Interface Using Modeling Language](#) 33-41
Akitoshi Matsuda, Shinichi Baba
Doi : [10.7321/jscse.v2.n6.3](#)
Abstract . In recent years, modeling languages have been widely used for algorithm development and verification in embedded system design methodologies. Such languages allow behavior descriptions or structure descriptions to be expressed in a specification that is defined by a consistent set of designers. It is expected that modeling language-based designs can reduce development times without sacrificing quality. This paper presents a case study of the design of a memory interface algorithm for peripheral memory circuits using a modeling language. The results of the case study demonstrate that the number of lines of source code of the modeling language-based design flow has been reduced by 86% and 78% compared to a traditional register transfer language (RTL) and the C language, respectively.
Keyword : modeling language, algorithm development, lines of source code
- 4 [Proposing a Load Balancing Algorithm with the Help of an Endpoint Admission Control Algorithm to Improve Traffic Engineering](#) 42-55
Zahra Vali, Massoud Reza Hashemi, Neda Moghim
Doi : [10.7321/jscse.v2.n6.4](#)
Abstract . The focus of this paper is to achieve a dynamic load balancing algorithm with the ability of guaranteeing the end-to-end quality of service (QoS) for a variety of service classes. The proposed algorithm consists of an explicit endpoint admission control (EEAC) mechanism, multiple path algorithm (MPA) as a multipath routing protocol and an adaptive load balancing algorithm. EEAC algorithm is composed of two phases: probing phase and data transfer phase. Information in the probing phase of EEAC algorithm such as buffer length and arrival traffic rate for each class of service is used to obtain a good estimation of network congestion state for efficient load balancing among multiple paths. The simulation results show that the proposed algorithm increases the utilization of network resources and also decreases the end-to-end delay of each path.
Keyword : multi-path routing ; load balancing ; end-point admission control ; QoS
- 5 [A Propose for a Quadrature – Phase as Full Orthogonal Matrix Transform Compared with FFT Matrix Multiplication and Applied in OFDM System \(Safe Transform the Fourier Twins\)](#) 56-72
Saifuldeen Abdulameer Mohammed
Doi : [10.7321/jscse.v2.n6.5](#)
Abstract . In this paper, we will introduce a set of fully-orthogonal matrices for a

transform that is more orthogonal than the Fast Fourier Transform (FFT), and prove that they are orthogonal for all rows and columns, as well as for each element and its neighbor elements, the basic matrix for this transform is founded upon the Quadrature -phase mapper principle, and can be extended by using the Hadamard matrix, this will provide orthogonality for all rows, columns and even single elements it will seen that the sum of all element be zero and applied in OFDM [1]system.

Keyword : Orthogonality; FFT matrix; OFDM.

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