微型电脑应用

Weixing Diannao Yingyong

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RESEARCH AND DESIGN

Jiang Weiyin,Li Bin,Ling Li(Department of Communication Science and Engineering, Fudan University, Shanghai 200433, China)
Abstract: WSN is an energy constraint wireless circumstance. Many research tried to prolong the life time of the whole network through analyzing and improving protocols at various network layers. Several compression methodologies are proposed in this article to compact redundant information. Among these methodologies, there are payload compression, packet level compression and packet header compression. Compressing payload with the first one based on LWO algorithm while handling header with the latter two can radically decrease the CPU cost of compress and decompress operations in addition to energy benefit. The algorithm mentioned is a kind of in-memory compression that conserves partial meanings of data blocks and reaches a balance between CPU and compression ratio.
Key words: WSN; Data Compression; Energy Efficiency
Wu Jianbo,Zhao Jianmin,Zhu Xinzhong,Xu Huiying(College of Mathematics,Physics and Information Engineering,Zhejiang Normal University, Jinhua 321004)
Abstract: This paper presented a new image retrieval algorithm which used a new class of image features as the image descriptors. Firstly ,the algorithm reduces the complexity of the traditional SIFT algorithm by the method which is called adaptive Gaussian kerbel size and then extracts the features in traditional way . It transformed the image into a set of SIFT features. The smilarity was computed using Euclidean distance. In addtion ,the BBF algorithm accelerates the speed of the image retrieval .Expermients show that the features are invariant to mi age scaling, translation, rotation, and change in viewpoint and partially invariant to illumination changes and affine. It is quite applicable to typical image retrieval both in exacting time and efficiency.
Key words: Content-based image Retrieva;SIFT Features; KEMEL-PCA Transform;BBF Searching.
Xu Xianlong, Yan Li, Yu Guangwei(School of Mechatronics, Xi'an Technological University, Xi'an 710032, China)
Abstract: In modern warfare, it is very necessary for logistics support mechanism from the traditional supply mode to the active distribution-based logistics support mode which aims to realize accurate support. In the paper, firstly, the content of distribution-based logistics support and crucial technology of internet of things are analyzed, secondly, the idea of applying technology of internet of things into realizing distribution-based logistics support system is proposed. From hardware platform configuration and software design, the distribution-based logistics support system is constructed. According to RFID and sensing technology, wireless network technology and intelligent technology, the network design of distribution-based logistics support system is presented. Finally, also the function model of distribution-based logistics support information system is established.
Key words: Distribution-based Logistics Support; Internet of Things; Network Design; Function Model
Gu Xupeng (Department of Automation, Shanghai Jiaotong University, Shanghai 200240,China)
Abstract: This paper focuses on the study of facial feature selection and feature fusion problem. Combining with the existing facial feature selection method based on AdaBoost, the paper can choose different features which have the best classification ability. Then these features of different kinds will be fused on the feature level to get a normalized facial feature which will be used in the pattern classification. The experiment results on FERET Face Database show that the proposed method improves the recognition performance.
Key words: Face Recognition; Feature Selection; Feature Fusion
Liu Yan, Chen Yimin, Li Qiming,Zhao Dongyang, Zhou Mingzhu (School of Computer Engineering and Science, Shanghai University, Shanghai 200072, China)
Abstract: To improve the accuracy and response speed of collision detection in the robot simulation control systems, an optimized algorithm based on the Vclip algorithm is proposed to calculate collision detection of the Axis Aligned Bounding Box (AABB) at the bottom. The features of GPU are also used to finish the triangle intersection test. The algorithm has been successfully applied to the control system of a self-developed industrial robot with six-DOF. The experiment results show that the algorithm is effective, accurate and real-time, which makes the industrial robot perform better.
Key words: Collision Detection; AABB; Vclip; GPU; Robot simulation
Jiang Dongmei(Department of Computer, Haidian Branch of Beijing Radio and TV University, Beijing 100083, China)
Abstract: Recording streaming media courseware, the existing software cannot capture video stream and screen flow at the same time. This paper solves live synchronization by using Windows Media Encoder SDK while recording multi-media courseware and achieves synthetic synchronization control when embedded player broadcasting multi-source media courseware with the "third screen" mode on Internet. Successfully applying the system proves that the method, which has certain reference value for synchronization research of streaming media courseware, is simple and feasible.
Key words: Multi-source Streaming Media Synchronization; Video on Demand ;Windows Media Encoder; Embedded Technology.
Gu Yunyun(Shanghai Sports Institute, Shanghai 200030,China)
Abstract: This paper discusses the application of Scroll Bar (Form Control) in Microsoft Excel. The Scroll Bar (Form Control) is used to control the price value which will influence the demand percentage. By observing the profit which is calculated from the price and demand percentage, the price which

maximizes the profit will be obtained. The whole process is visualizing. Finally ,the result can be verified by another Microsoft Excel Analysis tool that is Solver Add-in.

Key words: Scroll Bar; Form Control; Price Determination; Profit; Solver; Excel

Research on A Variable Rate MAC Protocol with Adaptive Transmission-threshold··(23)

Dai Ruilong, Li Bo,He Jing(School of Electronics and Information, Northwestern Polytechnical University, Xi'an 710129, China)

Abstract: While the multiple transmission rate modes are supported in the most widely used WLAN standard IEEE 802.11a, the implementation scheme of flexible transition between multiple transmission rate modes is not specified in the standard. In the paper, based on IEEE 802.11a, an AV-MAC (Variable rate Media Access Control protocol with Adaptive transmission-threshold) is proposed to improve the performance of WLAN by sensing the SNR of RTS frame, and dynamically determining whether to transmit the following frames and choosing the optimal transmission rate to adapt to dynamic channel conditions. Simulation results on OMNET++ 4.0 show that AV-MAC improves the network throughput significantly.

Key words: Ad Hoc; Adaptive Transmission-threshold; Variable Rate

Study the Online Recommendation Model of Personalized E-learning Teaching System···(27)

Shan Rong(Department of Computer Science, Weinan Teachers Univercity, Weinan 714000,China)

Abstract: At present, many mature personalized recommendation algorithm is applied to personalized E-learning education system, in order to achieving better personalized recommendations, designed a personalized E-learning teaching platform, which core technology is online personalized recommendation.It including personalized, IDBC management, CBR reasoning technology, the system feature is to applying faster and more accurate recommendation to the user, moreover different users may have different recommendations.

Key words: E-learning;Personalized Recommendation;CBR Reasoning;Teaching Resources

Research of Business System for Farm Product Based on Http Interface·· (29)

Wang Zhongfei(Mathematics Department, Baoji University of Arts and Sciences, Baoji 721013, China)

Abstract: Aiming at the problem of trading information occlusion of agricultural products ,the new business system for farm product based on http interface is proposed. The general structure and requirements module of the system are analyzed,mobile terminated module and mobile originate module in system background are key designed and realized by using http interface. Experiments show that communication between mobile phone and farm product transaction system is realized, which is good at improving the efficiency of trading farm product. This system can be applied to commercial operation after its amendment, and the the system have broad market prospects.

Key words: Farm Product Transaction; Http Interface; Mobile Terminated; Mobile Originate

Research On Lustre File System Performance Optimization··· (31)

Wang Bo ,Li Xianguo,Zhang Xiao (Northwestern Polytechnical University, Xi'an 710129, China)

Abstract: In order to accelerate the Lustre's development in mass storage system, this paper explores how to configure Lustre more efficiently according to analyzing its system structure and data storage-distribution mechanism. Combing with specific experimental environment, It is first to compared the different impacts of the Lustre under the various network transmissive performance; Then, by the In-depth analysis of Lustre's features, this paper formulate a optimal policy, and have a appendix research for kinds of client's configurations. Finally, according to the experimental result, this paper further clear and expand the factors which affect the Lustre system performance, and more importantly, we put forward a comprehensive optimal method.

Key words: Lustre; File system; Mass Storage System; Performance Optimization

Design and Implementation of Computer Remote Control··· (34)

Song Xiaobo(Shanghai Vocational College of Science and Technology, Computing Center,Shanghai201800,China)

Abstract: This article demonstrates the key technology and the approach to implement the remote control with its designed software by Delphi. It analyses computer communication principle, process, and Delphi network component properties. It's important to implement computer remote control using embedded Windows APIs which will increase the program efficiency, flexibility, and having low resources consumption.

Key words: Computer Communication; Remote Control; Delphi; API function

DEVELOPMENT AND APPLICATION

A Distributed Storage System for CSCW Environment ··· (37)

ZhengCen, Li Xiaoyong (School of Information Security Engineering, Shanghai Jiaotong University, Shanghai 200240, China)

Abstract: This paper designs and implements a distributed storage system for CSCW environment. By using the application pattern of "copy – modify - merge", concurrent write conflict problem is solved well. Using local data while deigning and improved work concurrency guarantee high efficiency. The system consists of a single metadata server for virtual namespace management and several data servers, serving customized clients, providing good scalability. A special file format is also designed to support multiple revisions, this furthermore makes data synchronization goes incrementally, thus improving the performance of the system. Also, the distributed locking mechanism supporting crash recovery is used to guarantee mutually exclusive access to files.

Key words: CSCW; Distributed Storage System; Concurrent Design; CAD

English Speech Training System Based on Xhtml+Voice·· (40)

Zhang Xinye, Zhang Zhongneng (Department of Computer Science and Engineering, Shanghai Jiaotong University, Shanghai 200240, China)

Abstract: Xhtml+Voice which combined the features of VoiceXML and Xhtml, migrates the voice interaction to Web. The development of the Web applications with voice interaction becomes more flexible and more efficient. In this paper, the application of the English speech training system based on Xhtml+Voice will be brought out. Such application increases the flexibility and interactivity of an English speech training system.

Key words: Xhtml; VoiceXML; Xhtml+Voice; Multimodel

Study of a Framework for Collaborative Business Based on SOA and Grid Computing···(42)

Li Haigang(Antai College of Economics and Management, Shanghai Jiaotong University, Shanghai 200052,China)

Abstract: The model of Collaborative business under internet environment is presented and then a framework for collaborative business platform is built based on grid computing with the idea of Service Oriented Architecture (SOA), which realized the collaboration among e-Business systems and the

internal systems of enterprises, and the cooperation among enterprises in the supply chain. The framework also provides cooperative channels for the enterprises, partners, customers and government departments. The interfaces of collaborative systems are encapsulated by the Grid Service and the e-business is transacted by finding, integrating and invoking of the grid service.

Key words: Grid Computing SOA;Web Services;Collaborative E-business; Framework of Platform

An Application Study Based on RFID and Internet of Things··(46)

Xu Yan(School of Engineering, Shanghai Sipo Polytechnic, Shanghai 201300, China)

Abstract: Internet of Things is based on internet technology and radio frequency identification (RFID),it can realize items identification and information sharing and communication through the Internet automatically. In this paper, the system outlines, methodology, key points and an application study on retail industry are present after some basic introductions, such as the RFID tag and the principle of IoT. Finally, the ideas about cloud computing, parallel computing and data mining technology are posted.

Key words: RFID; Internet of Things;Savant;PML;ONS Name Server

Study on Billing Solution for Overlap Service Crossing Online Charging System and Offline Charging System·················· (49)

Wang Qian (Shanghai Telecom , Shanghai 200071,China)

Abstract: The paper analysis the development of Overlap-Service Crossing Online Charging System and Offline Charging System. Then, the paper presents three typical solutions and compares them in detail. Finally, the article analysis the amalgamate billing solution which support Online and Offline Charging.

Key words: Online Charging System; Offline Charging System;Overlap-Service

TECHNICAL COMMUNICATION

Analysis Internet of Things in the View of Internet·· (52)

Wang Fei (North Institute of Information Engineering,Xi'an Technological University, Xi'an 710025,China)

Abstract: In order to study Internet of things, this paper analyses it according to Internet. Internet of things is based on Internet, using all kinds of technologies including RFID, wireless communication and sensors. All things(commodities)can communicate, identify automatically and share information based on RFID and network. Not only in conception but also in related technologies, but also there is a common foundation between internet and internet of things.

Key words: Internet of Things; RFID; Architecture;Internet

Overview of Intelligent Housing Estate Systems under the Internet of things Mode·······································(54)

Ma Qing(Department of computer, Qing Hai University, Xi Ning 810008,China)

Abstract: Design of intelligent housing estate system based on the Internet of Things is proposed. The Internet of Things has changed the traditional information interaction patterns and management models. The intelligent housing estate system is based on the "internet of things", and has multiple information services and management, estate management and safety, dwelling house intelligence integrated in one system, which can provide high technology of intelligent tools to achieve fast and efficient service and management.

Key words: Internet of Things; Wireless Sensor Network; Intelligent Housing Estate

A New Teaching Method for Digital Circuit-Application of DSCH Simulation Software····································· (57)

Zhang Minghuan(School of Computer, Shanghai Sanda College,Shanghai200129,China)

Abstract: It is a good way to explain the common circuit with the help of simulation software, such as DSCH, during teaching and the experience of digital circuit course. The software simulates the function of digital circuits, which will enhance students' sensible acquaintance to digital circuits, promote the interests of students and improve the teaching performance.

Key words: Software DSCH;Digital Circuit;Teaching Performance

Multilevel Thresholding Methodsfor Image Segmentation Based on Improved Particle Swarm Optimization······················· (59)

Wu Yan,Zhang Bing (Electronic information faculty ,Jiangsu University of Science and Technology, 212003 Jiangsu,China)

Abstract: To determine the optimal thresholds in image segmentation,an improved particle swarm optimization(pso) is put forward. In this method, it adopted Opposition-Based Learning in initialization to get a better solution and adopted expansion model in later iteration to avoid getting into local minumum.The optimization object function using maximum entropy(ME)method can be gotten. By the optimization of the object function, the optimal thresholds can be gotten well and quickly, and the image by use of the thresholds can be segmented. Compared with the Genetic Algorithm (GA), the experimental results show that the improved PSO realizes the image segmentation well and quickly.

Key words: Particle Swarm Optimization; Opposition-Based Learning; Expansion Model; Multilevel Thresholding; Image Segmentation

Effective Simplification of Decision Tree···(62)

Lu Weizhong(Information Engineering Department, Changzhou Institute of Light Industry Technology, Changzhou 213164, China)

Abstract: In decision tree Induction, the purpose of pruning is to prevent "over fitting" of the training data and reduce the quantity of nodes .But the final tree is still too big. The fact is in many applications accuracy is not very important. This paper is to optimize the pruning algorithm, making it a small decrease in accuracy but accompanied by a dramatic reduction in the size of trees.

Key words: Decision Tree; Pruning; MDL; Classifier; Predictive Accuracy; C4.5