2010 Sixth International Conference on Semantics, Knowledge and Grid

(SKG 2010)

Beijing, China
1 – 3 November 2010
**2010 Sixth International Conference on Semantics, Knowledge and Grids**

**SKG 2010**

**Table of Contents**

Message from the General Chair ................................................................................................................................. x
Organizing Committee / Reviewers ............................................................................................................................ xi

---

**Regular Papers**

**Session 1: Cyber Physical Society**

Cyber Physical Society .................................................................................................................................................... 1
   Hai Zhuge

Service Semantic Link Network Discovery Based on Markov Structure ................................................................. 9
   Anping Zhao, Zhixing Huang, and Yuhui Qiu

Discovery Dynamic Communities in Semantic Link Network ................................................................................. 17
   Bei Xu and Hai Zhuge

The Interactive Computing Model for Cyber Physical Society ............................................................................... 25
   Xiaoping Sun, Hai Zhuge, and Xiaorui Jiang

A Resource Space Model for Dataspace .................................................................................................................... 33
   Xiaorui Jiang, Xiaoping Sun, and Hai Zhuge

**Session 2: Semantic Link Network**

Concept Extraction based on Association Linked Network ......................................................................................... 42
   Xiao Wei and Xiangfeng Luo

Multi-faceted Learning Paths Recommendation Via Semantic Linked Network .................................................. 50
   Juan Yang, Zhixing Huang, and Hongtao Liu

Are Links on the Web Enough? .................................................................................................................................... 58
   Junsheng Zhang, Huilin Wang, and Yunchuan Sun

User Interaction Based Network Growth Model of Semantic Link Network .............................................................. 66
   Wei Ren, Zhixing Huang, and Yuhui Qiu

Provide Distant Learners with the Personalized Learning Paths Based on 3d_SLN Map ................................................. 74
   Juan Yang, Zhixing Huang, and Hongtao Liu

C*-tree: A Multi-Dimensional Index Structure for Resource Space Model .............................................................. 82
   Qiang Zeng and Hai Zhuge
Session 3: Grid and Cloud Computing

Vdismodel: A Display Latency Performance Model in Virtualization Environment ..................................................90
   Bin Zhou, Hai Jin, and Pingpeng Yuan

Join Optimization in the MapReduce Environment for Column-wise Data Store ..................................................97
   Minqi Zhou, Rong Zhang, Dadan Zeng, Weining Qian, and Aoying Zhou

Security and Privacy in Cloud Computing: A Survey .................................................................105
   Minqi Zhou, Rong Zhang, Wei Xie, Weining Qian, and Aoying Zhou

Optimization Research on Processes I/O Performance in Container-level Virtualization ........................................113
   Yi Zhao, Taoying Liu, Guanyuan Zhang, and Jiangning Cui

A Scheduling Algorithm Based on Task Complexity Estimating for Many-Task Computing ...........................................121
   Yingnan Li, Xianguo Wu, Jian Xiao, Yu Zhang, and Huashan Yu

A Knowledge-based Continuous Double Auction Model for Cloud Market .........................................................129
   Shifeng Shang, Jinlei Jiang, Yongwei Wu, Guangwen Yang, and Weimin Zheng

Multiple-Job Optimization in MapReduce for Heterogeneous Workloads ..........................................................135
   Weisong Hu, Chao Tian, Xiaowei Liu, Hongwei Qi, Li Zha, Huaming Liao, Yuezhuo Zhang, and Jie Zhang

Session 4: Networking Technologies

HTTP-session Model and Its Application in Anomaly HTTP Traffic Detection .........................................................141
   Yi Xie and Xiangnong Huang

Building Resilient Unstructured Peer-to-Peer Networks Using Mobile Agents .......................................................149
   Ming Xu, Shuigeng Zhou, and Jihong Guan

Constraints Partition Based Service Process Replacement with End-to-End QoS Constraints ........................................157
   Chaogang Tang, Qing Li, Yan Xiong, An Liu, and Shiting Wen

COTE: A Clustering Scheme with Optimal Tiers and Energy Efficiency in Wireless Sensor Networks .........................164
   Liansheng Tan, Yumei Ying, and Wei Liu

Rank Internet Service Quality Using Multiple Features: A Machine Learning Approach ..........................................172
   Dandan Tu, Chengchun Shu, Jingwei Shi, Tao Zhu, Shuang Wang, and Haiyan Yu

Session 5: Semantics and Ontology

Approximate Ontology Matching Based on Structure Quantization ..........................................................180
   Shuai Liang, Qiangyi Luo, and Zhenhong Huang

Translating Separation Logic into a Fragment of the First-Order Logic .............................................................188
   Yuefei Sui, Yuming Shen, Cungen Cao, and Ju Wang

Ontology-based Metadata Integration Approach for Learning Resource Interoperability ........................................195
   Kotchakorn Banlue, Ngamnij Arch-int, and Somjit Arch-int

The Research on Hierarchical Construction Method of Domain Ontology ..........................................................203
   Sheng-tao Sun, Ding-sheng Liu, Guo-qing Li, Wen-yang Yu, and Lv Pang
Researches on Semantic Annotation and Retrieval of 3D Models Based on User Feedback .....................................................................................................................................................................211

Tianyang Lu, Shaobin Huang, Peng Wu, and Yeran Jia

Mapping Relational Databases into Ontologies through a Graph-based Formal Model ..........................................................219

Shihang Yang and Jinzhan Wu

Session 6: Semantic Applications and Web

Characteristics and Uses of Labeled Datasets - ODP Case Study ..............................................................................................................227

Dengya Zhu and Heinz Dreher

A Framework Enabling Semantic Search in Health Service Ecosystems .................................................................................................235

Hai Dong, Farookh Khadeer Hussain, and Elizabeth Chang

Web Service Composition on the Environment Level ......................................................................................................................................243

Guangjun Cai

A Reference Model for Data Mining Web Services ........................................................................................................................................251

Ivan Janciak and Peter Brezany

Searching for Historical Events on a Large-Scale Web Archive .................................................................................................................259

Lian’ en Huang, Wu Lin, and Xiaoming Li

A Holistic Solution for Duplicate Entity Identification in Deep Web Data Integration .................................................................................267

Wei Liu and Xiaofeng Meng

Study on Key Technology for Topic Tracking ........................................................................................................................................275

Shengdong Li, Xueqiang Lv, Hongwei Wang, and Shuicai Shi

Short Papers

Session 1: Semantics and Ontology

Weaving the Semantic Link Network of Events ........................................................................................................................................281

Junsheng Zhang and Yunchuan Sun

Combination of Ontology Model and Semantic Link Network in Web Resource Retrieval ........................................................................................................................................285

Sheng-tao Sun, Ding-sheng Liu, Guo-qing Li, Wen-yang Yu, and Lv Pang

An Efficient Corpus Based Part-of-Speech Tagging with GEP .........................................................................................................................289

Chengyao Lv, Huihua Liu, and Yuanxing Dong

Selection Policy of Rescue Servers Based on Workload Characterization of Flash Crowd ........................................................................................................................................293

Chi-Hung Chi, Shijie Xu, FengLin Li, and Kwok-Yan Lam

Comparison of Wordprocessing Document Format in OOXML and ODF .................................................................................................297

Xia Hou, Ning Li, Hong-bo Yang, and Qi Liang

XPDL Intelligent Data Service Chain Based on Ontology ..............................................................................................................................301

Wenyang Yu, Guoqing Li, Shengtao Sun, and Lv Pang

Session 2: Grid and Cloud Computing

Towards a Logistics Cloud .................................................................................................................................................................................305

Bernhard Holtkamp, Sebastian Steinbuss, Heiko Gsell, Thorsten Loeffler, and Ulrich Springer

A Taxonomy and Survey of Resource Management in Grid ................................................................................................................................309

Bo Wang, Gang Chen, Hao Luo, and Weimin Zheng
Improve the Performance of Data Grids by Value-Based Replication Strategy ...................................................313
Wuqing Zhao, Xianbin Xu, Zhuowei Wang, Yuping Zhang, and Shuibing He

Software Reliability Prediction Model Based on Relevance Vector Machine ..........................................................317
Qiuhong Zheng

Research on Internet-Based Distributed Rendering .................................................................321
Qing Yang

Robust 3D Watermarking Technique for Authentication of 3D Polygonal Model ..................................................325
Yan-hong Zhang

Session 3: Networking Technologies

Research on K-Anycast Routing Schemes for IPv6 .................................................................330
Chun Zhu and Hanzhong Liu

Computing ST Reliability of 2-State Stochastic Flow Networks Using a New Topological Formula .................................................................334
Fei Gao and Hao Liang Hu

A Multimedia Information Retrieval Algorithm in P2P Networks Based on the Classification of Peers .................................................................338
Gepeng Wu, Zhipeng Jiang, Suixiang Gao, and Wenguo Yang

Trustworthiness Fusion of Web Service Based on D-S Evidence Theory .................................................................343
Hu Rong and Liu Jian-xun

A Novel Multipath Video-on-demand Transmission Algorithm .................................................................347
Laiquan Han and Jinkuan Wang

Data Gathering in Wireless Sensor Networks ................................................................................351
Zhen Liu and Chen Zhigang

Session 4: Semantics and Web

Research of Mobile E-commerce Security Solution Based on External Electronic Device .................................................................355
Dechao Sun, Tiejun Pan, Zhong Wan, and Haiyan He

Research for Customer Segmentation of Medical Insurance Based on K-means and C&R Tree Algorithms ................................................................................359
Jianxin Bi

Agents for Social Search in Long-Term Digital Preservation ................................................................................363
Josep Luis de la Rosa, Albert Trias, Raivo Ruusalepp, Kuldar Aax, Alex Moreno, Eloy Roura, Albert Bres, and Teresa Bosch

Development of a Logic Layer in the Semantic Web: Research Issues ................................................................................367
Naeem Khalid Janjua and Farookh Khadeer Hussain

Session 5: Service Computing

Research on Ontology Based Semantic Service Middleware within Spatial Information System .................................................................371
Lv Pang, Guoqing Li, Wenyang Yu, and Shengtao Sun

Service Interactions in CSCE Service Composition Environment ................................................................................375
Xinguo Zhang and Yingjun Zhang
Research of Information System for Agile Virtual Enterprise Supported by Fourth Party Logistics ................................................................. 379
Zheng Leina, Pan Tiejun, and Yan Guoqing

Research of Mobile Security Solution for Fourth Party Logistics ................................................................. 383
Zheng Leina, Pan Tiejun, and Yan Guoqing

Research and Design of Integrated Substation Monitoring Systems ................................................................. 387
Yang Ai-min, Wang Li-xia, Wu Jun-pin-i, and Xiao Qu-li

Study on Optimal Design of Planetary Gear Reducer Based on Particle Swarm Algorithm and Matlab ................................................................. 391
Xiao Qimin and Xiao Qili

Session 6: Statistic Semantics

The Research of Image Segmentation Based on Improved Neural Network Algorithm ................................................................. 395
Lijun Zhang and Xiuchun Deng

An Image Encryption Algorithm Based on Sequence ................................................................. 398
Qili Xiao, Bencheng Chai, and Qimin Xiao

Simulation Research of Applying Two-dimensional Empirical Mode Decomposition on Image Feature Extraction ................................................................. 402
Qin Wang, Ran Jin, and Kun Gao

Decision Under Insufficient Evidence: A Scalable Probabilistic Way ................................................................. 406
Xiaoqing Zheng, Hongjun Zhang, and Feng Zhou

A New Image Segmentation Approach by Using Automation Threshold Selection ................................................................. 410
Yunlan Zou, Bencheng Chai, and Qili Xiao

Poster Papers

Reconsidering Nature of Thesaurus and Its Automatic Construction in Information Network ................................................................. 414
Wen Zeng, Huilin Wang, and Junsheng Zhang

A Based-on A* Algorithm for Scheduling Application Tasks in Simulation Grid ................................................................. 416
Zhang Chuan-fu, Yu Jiang, Sun Wan-zhong, and Su Jin-hai

Cryptographic Key Agreement Protocol Simulation ................................................................. 418
Zhang Chuan-fu, Yu Jiang, Sun Wan-zhong, and Su Jin-hai

Data Dependency Based Application Description Model in Grid and Its Usage in Scientific Computing ................................................................. 420
Zhen-Chun Huang and Shi-Feng Shang

Ontology-based Integration and Interoperation of XML Data ................................................................. 422
Ze Hua and JianMin Ban

A Bigtree Index for Resource Space Model ................................................................. 424
Zhongyi Zeng and Hai Zhuge

Research and Implement of Chinese Text Classifier Based on Naïve Bayes Method ................................................................. 426
Jian Huang, Zhongdi Cen, and Qiuhong Zheng

Author Index ......................................................................................................................... 429