

# **2011 First ACIS International Symposium on Software and Network Engineering**

**(SSNE 2011)**

**Seoul, South Korea  
19 – 20 December 2011**



IEEE Catalog Number: CFP1189R-PRT  
ISBN: 978-1-4673-0349-1

# **2011 First ACIS International Symposium on Software and Network Engineering**

## **SSNE 2011**

### **Table of Contents**

<b>Message from the Conference Chairs.....</b>	viii
<b>Message from the Program Chair.....</b>	ix
<b>Conference Committee.....</b>	x
<b>Program Committee.....</b>	xi
<b>Reviewers .....</b>	xii
<b>Keynote Address.....</b>	xiii

---

#### **3D Image and Computer Art**

An Automated Detection Method of Solder Joint Defects Using 3D Computed Tomography for IC Package Inspection .....	3
<i>Junhyuk Yoon, Jeongjin Lee, Bohyoung Kim, and Yeong Gil Shin</i>	
Designing Phantoms for Industrial Computed Tomography .....	7
<i>In-Sung Cho, Seung-Mok Yoo, Chae-Ho Lim, Jeong-Ho Hwang, Jin-Seok Yang, and Kyoonyun Kim</i>	
Finding Problem by Information Diagram .....	12
<i>Eunkyeong Kwon and Yonggu Cho</i>	

#### **Artificial Intelligence**

Semantics Computation: Towards Identifying Answers from Problem Expressions .....	19
<i>Yucong Duan</i>	
Quantum of Mind: Fundamental Forces of the Universe in Natural Language Semantics .....	25
<i>Svetlana Machova and Jana Kleckova</i>	

## **Computer and Software Engineering**

Application Layer Development and Design of HD Digital TV .....	31
<i>Yang Li</i>	
vPELS: An eLearning Social Environment for VLSI Design with Content Security	
Using DRM .....	37
<i>Jahangir Dewan and Morshed Chowdhury</i>	

## **Design & Process Engineering and Science**

Catering Quality Evaluation Design for Service/Cloud Computing through Visualized	
Semantics Locating .....	45
<i>Yucong Duan</i>	

## **Distributed Intelligent Systems**

Ant Colony Optimization Based Service Flow Scheduling with Various QoS	
Requirements in Cloud Computing .....	53
<i>Hui Liu, Dong Xu, and Huai Kou Miao</i>	

## **Innovative Tourism Informatics (Workshop)**

Analyzing Tourism Information on Twitter for a Local City .....	61
<i>Kazutaka Shimada, Shunsuke Inoue, Hiroshi Maeda, and Tsutomu Endo</i>	
Comparison of Tourism Data Using Double Ranking .....	67
<i>Sachio Hirokawa and Jun Zeng</i>	
Extraction and Disambiguation of Name of Place from Tourism Blogs .....	73
<i>Tetsuya Nakatoh, Chengjiu Yin, and Sachio Hirokawa</i>	

## **Healthcare Engineering**

An Enhanced Fall Detection Approach Based on Cost Sensitivity Analysis .....	81
<i>Shuai Huang, Yujiu Yang, and Wenhua Liu</i>	

## **Mobile/Wireless Computing**

Formalizing the Structure and Behaviour of Context-Aware Systems in Bigraphs .....	89
<i>Ju-Shu Wang, Dong Xu, and Zhou Lei</i>	
A Secure Routing Scheme for DSR .....	95
<i>Thouraya Bouabana-Tebibel</i>	

## **Modeling with UML**

Shopping Mall System with Image Retrieval Based on UML .....	103
<i>Yan Ha and BoYoun Kim</i>	

## **Requirements Engineering**

NFR Modeling Approaches .....	109
<i>Muzaffar Iqbal</i>	

## **Safety and Security Critical Software**

Analysis of the Minerror of the pn-Periodic Sequences .....	117
<i>Zhihua Niu, Danfeng Guo, and Mingjun Xin</i>	

Static Analysis of Format String Vulnerabilities .....	122
<i>Wei Han, Mengfei Ren, Shuo Tian, Liping Ding, and Yiping He</i>	

## **Software Agent Technology**

A Proposal of Middle-Agent Based Framework for Innovating a Business Model .....	131
<i>Hiroki Nakagawa, Akihiko Nagai, and Takayuki Ito</i>	

## **Software Testing Techniques**

An Integrated Test Automation Framework for Testing on Heterogeneous Mobile Platforms .....	141
<i>Hyungkeun Song, Seokmoon Ryoo, and Jin Hyung Kim</i>	

## **Technology Transfer**

Information Technology Convergence for Industry in Korea .....	149
<i>Byeongdo Kang</i>	

<b>Author Index .....</b>	<b>153</b>
---------------------------	------------