16th International Conference on Software Engineering and Data Engineering (SEDE-2007)

PROGRAM

July 9-11, 2007

Imperial Palace Hotel
Las Vegas, Nevada

Sponsored by

International Society for Computers and Their Applications

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Cary, NC 27511-4216

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16th International Conference on Software Engineering and Data Engineering
(SEDE-2007)

SPONSOR

International Society for Computers and Their Applications (ISCA)

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All meeting rooms are located on the 4th Floor.

7:45 a.m. - 6:00 p.m. REGISTRATION – Coffee, Tea, Pastries (FUJI Foyer)

8:45 a.m. - 9:00 a.m. WELCOME (FUJI Room, 4th Floor)

Dr. Narayan Debnath, Winona State University, USA
Dr. Hisham Al-Mubaid, University of Houston-Clear Lake, USA
Dr. Marc Garbey, University of Houston, USA

9:00 a.m. – 10:00 a.m. INVITED SPEAKER – Software Engineering

“Software Engineering of Ubiquitous Systems: Challenges & Opportunities”
Mehdi T. Harandi
University of Illinois at Urbana-Champaign
Location: FUJI Room, 4th Floor

10:00 a.m. – 10:30 a.m. COFFEE BREAK

SESSION 1A:
SPECIAL SESSION on APPLICATIONS IN SOFTWARE ENGINEERING
Monday, July 9, 10:30 a.m. – 12:30 p.m., FUJI Room, 4th Floor
Session Chair: Dr. Narayan Debnath, Winona State University

1. goSmart: A New Solution for Home Automation
   Jim Motta, Fares Qeadan, Sergiu M. Dascalu, Siraj Malik, and Frederick C. Harris, Jr.
   (University of Nevada, Reno, USA)

2. Evolutionary Neural Network Prediction for Software Reliability Modeling
   Sultan Aljahdali (Taif University, Saudi Arabia) and Khalid A. Buragga (King Faisal
   University, Saudi Arabia)

3. AVRATAR: A Virtual Environment for Puppet Animation
   Alexander Redei, Ed Tumbusch, Josh Koberstein, Sergiu Dascalu, and
   Frederick C. Harris, Jr. (University of Nevada, Reno, USA)

4. Software Projects Finance Feasibility Analysis in the Context of Project Management
   Body of Knowledge using "Use Case Points" Estimation Approach
   R. Uzal (Universidad Nacional de San Luis and Universidad de Buenos Aires,
   Argentina), G. Montejano and D. Riesco (Universidad Nacional de San Luis,
   Argentina) and N. C. Debnath (Winona State University, USA)

5. Correctness in the Software Life Cycle
   M. Burgin (University of California-Los Angeles, USA), N. Debnath (Winona State
   University, USA), and H. Lee (University of Texas of the Permian Basin, USA)
SOFTWARE ARCHITECTURE

Monday, July 9, 10:30 a.m. – 12:30 p.m., SAMPAN Room, 4th Floor
Session Chair: Dr. Mara Nikolaidou, Harokopio University of Athens

1. **Software Architecture Based Connection Manager**
   Mourad Oussalah, Abdelkrim Amirat, and Tahar Khammaci (University of Nantes, France)

2. **Integrating Behavioral Aspect into COSA Architecture**
   Bessam Ammar (University of Jijel, Algeria) and Kimour Mohamed Tahar (University of Annaba, Algeria)

3. **Design and Implementation of the National R&D Information System Based-on Service-Oriented Architecture**
   Myung Il Kim and Sung Jin Jhun (Korea Institute of Science and Technology Information, Korea)

4. **Application of Architecture Description Languages to Automatic Distribution of Sequential Code**
   AliReza Soltani (Payam noor University -Bostanabad, Iran) and Siamak Najjar Karimi, Iran

12:30 p.m. – 2:00 p.m. **LUNCH BREAK** (on your own)

XML AND XML APPLICATIONS

Monday, July 9, 2:00 p.m. – 4:00 p.m., FUJI Room, 4th Floor
Session Chair: Dr. Yun Bai, University of Western Sydney

1. **A Framework for Constraint Checking Involving Aggregates for Multiple XML Databases using Schematron**
   Albin Laga and Praveen Madiraju (Marquette University, USA)

   Yun Bai (University of Western Sydney, Australia)

3. **mGrid: a Matching Grid for Querying XML Streams**
   Qinghua Zou (Microsoft Corporation, USA) and Guogen Zhang (IBM Silicon Valley Lab, USA)

4. **Efficient Twig Pattern Matching over XML Streams**
   Yaw-Huei Chen and Ming-Chi Ho (National Chiayi University, Taiwan, ROC)

DATABASE AND APPLICATIONS

Monday, July 9, 2:00 p.m. – 4:00 p.m., SAMPAN Room, 4th Floor
Session Chair: Dr. Sergiu Dascalu, University of Nevada, Reno

1. **Vertical Partitioning for Database Design: A Grouping Algorithm**
   Mahmoud Y. AlFaress (Aleppo University, Syria), Hassan I. Abdalla and Farhi Marir (London Metropolitan University, UK), and Yahiya Najjar (Aleppo University, Syria)

2. **A Fuzzy Active Relational Database for Employee Performance Evaluation**
   Cyrus Azarbod and Cindy Thompson (Minnesota State University at Mankato, USA)

3. **SIndex: Query Optimization and Access Control in a Semi-Structured Database**
   Lauren J. Foutz (Rensselaer Polytechnic Institute, USA)

4. **Formal Verification of a New Optimistic Concurrency Control Algorithm for Temporal Databases**
   Achraf Makni, Rafik Bouaziz, and Faiez Gargouri (FSEGS, Tunisia)

5. **Developing Three Tier Web Applications with an Object-Oriented Database and JAVA Technology**
   Mark B. Jones and Morris M. Liaw (University of Houston - Clear Lake, USA)
4:00 p.m. – 4:30 p.m.  COFFEE BREAK

DATA QUERY AND APPLICATIONS
Monday, July 9, 4:30 p.m. – 6:30 p.m., FUJI Room, 4th Floor
Session Chair: Dr. Joshua Pauli, Dakota State University

1. **An Extensive Math Query Language**
   Abdou S. Youssef and Moody E. Altamimi (The George Washington University, USA)

2. **Enhancing Noisy Speech in an MRT Using MFCC-CMAC**
   Abdul Wahab and Teh E. C. (Nanyang Technological University, Singapore)

3. **Rank-Based Feature Weighting**
   B. D. Gaston (Anautics, Inc., USA) and K. M. George (Oklahoma State University, USA)

4. **Breaking "EXTENDS" Relationships for Use/Misuse/Mitigation Use Case Refinement**
   Joshua J. Pauli (Dakota State University, USA)

WEB MINING AND WEB APPLICATIONS
Monday, July 9, 4:30 p.m. – 6:30 p.m., SAMPAN Room, 4th Floor
Session Chair: Dr. Peiyi Tang, University of Arkansas at Little Rock

1. **Mining Web Access Patterns with First-Occurrence Linked WAP-Trees**
   Peiyi Tang, Markus P. Turkia (University of Arkansas at Little Rock, USA), and Kyle A. Gallivan (Florida State University, USA)

2. **BeLearning: Designing Accessible Web Applications**
   Helmut Vieritz (Berlin University of Technology, Germany) and Sabina Jeschke (University of Stuttgart, Germany)

3. **A Graph Model for Generating Simulated Web Domains**
   Rong Yang (Western Kentucky University, USA) and Adel S. Elmaghraby (University of Louisville, USA)

4. **Self-Organizing Map based Web Pages Clustering using Web Logs**
   Dehu Qi (Lamar University, USA) and Chung-Chih Li (Illinois State University, USA)
8:00 a.m. – 6:00 p.m.  REGISTRATION – Coffee, Tea, Pastries

9:00 a.m. – 10:00 a.m.  INVITED SPEAKER

“DATA MINING APPLICATIONS”
Margaret H. Dunham
Southern Methodist University

LOCATION:  SAMPAN Room, 4th Floor

10:00 a.m. – 10:30 a.m.  COFFEE BREAK

BIOINFORMATICS AND BIOMEDICAL APPLICATIONS
Tuesday, July 10, 10:30 a.m. – 12:30 p.m., FUJI Room, 4th Floor
Session Chair:  Dr. Victoria Hilford, University of Houston

1. Using Text Mining to Extract Gene and Protein Synonyms from Biomedical Texts
   Duc Duong and Hisham Al-Mubaid (University of Houston - Clear Lake, USA)

2. WIMI - Web Interface to Medical Information
   Victoria Hilford, Marc Garbey, Sravan Vadakattu and Cody Addison (University of Houston, USA)

3. A Path Length Method for Gene Functional Similarity Using GO Annotations
   Elham Khabiri and Hisham Al-Mubaid (University of Houston - Clear Lake, USA)

4. Applying ARM in a Healthcare System – A Case Study
   Claudia Raibulet, Luigi Ubezio, Stefano Mussino, Francesca Arcelli, Francesco Tisato (University of Milano-Bicocca, Italy)

DATA ENGINEERING AND DATA MANAGEMENT
Tuesday, July 10, 10:30 a.m. – 12:30 p.m., SAMPAN Room, 4th Floor
Session Chair: Dr. Ray Bachnak, Texas A&M University-Corpus Christi

1. Effectivity Date Maintenance for a Product Data Management System
   Jiun-Yan Shiau (Chung Yuan Christian University, Taiwan)

2. Programming a Microcontroller for Data Capture and Display
   Rafic Bachnak, Ramya Chakinarapu, Mario Garcia, and Dulal Kar (Texas A&M University-Corpus Christi, USA)

   Naii-Jung Shih and Je-Zen Hu (National Taiwan University of Science and Technology, Taiwan, ROC)

4. Using Data-Integrity Constraints in Model-Based Design
   Sukhamay Kundu (Louisiana State University, USA)
12:30 p.m. – 2:30 p.m.     CONFERENCE LUNCHEON
and Awards Ceremony

LOCATION:  PEARL ROOM, 4TH Floor

**DESIGN PRINCIPLES AND APPROACHES**
Tuesday, July 10, 2:30 a.m. – 4:00 p.m., FUJI Room, 4th Floor
Session Chair:  Dr. Haesun Lee, University of Texas of the Permian Basin

1. Case Study: A Tool Centric Approach for Fault Avoidance in Microchip Designs
   Clemente Izurieta (Colorado State University, USA)

   Mohamed F. Ahmed (University of Connecticut, USA), Amr El-Kadi (American University in Cairo, Egypt), and Reda Ammar (University of Connecticut, USA)

3. PNDOM: A Domain Function-Based Software Component Composition Plan Build Approach
   Pengwei Tian, Yaoxue Zhang, Ming Zhong, Yuezhi Zhou, and Cunhao Fang (Tsinghua University, China)

**SOFTWARE ENGINEERING AND LEARNING**
Tuesday, July 10, 2:30 a.m. – 4:00 p.m., SAMPAN Room, 4th Floor
Session Chair:  Dr. Donald Schwartz, Millsaps College

1. Service Learning and Software Engineering: Managing "Real World" Group Projects
   Donald R. Schwartz (Millsaps College, USA)

2. Leveraging the TABLETPC in Systems Analysis and Design Courses
   Joshua J. Pauli (Dakota State University, USA)

4:00 p.m. – 4:30 p.m.     COFFEE BREAK
MACHINE LEARNING AND NEURAL NETWORKS
Tuesday, July 10, 4:30 p.m. – 6:30 p.m., FUJI Room, 4th Floor
Session Chair: Dr. Donna L. Hudson, University of California, San Francisco

1. A Parallel Neural Network Classification Approach to Assist in Decision Making
   D. L. Hudson, M. E. Cohen (University of California, San Francisco, USA)

2. Probabilistic Artificial Neural Networks for Arabic Character Recognition
   Ahmad M. Sarhan (New York Institute of Technology, UAE) and Omar I. Al Helalat
   (Ministry of Education, UAE)

3. A Systematic Algorithm to Construct Neuro-Fuzzy Inference System
   Tharwat E. Alhanafy (Al-Azhar University, Egypt), Tarek S. Sobh (Egyptian Armed Forces, Egypt),
   and Awad H. Khalil (The American University in Cairo, Egypt)

   Inference System
   Fatih V. Celebi, Tugba Ozturk (Baskent University, Turkey)

UML AND SOFTWARE DESIGN
Tuesday, July 10, 4:30 p.m. – 6:00 p.m., SAMPAN Room, 4th Floor
Session Chair: Dr. Sukhamay Kundu, Louisiana State University and A&M College

1. Measuring UML Design Quality in a Real-Time Development Environment
   Leigh J. French and Lorna Zorman (California State University, San Marcos, USA)

2. A UML2.0 Profile for DEVS: Providing Code Generation Capabilities for Simulation
   Mara Nikolaidou, Vassilis Dalakas, George-Dimitrios Kapos, Loreta Mitsi, and
   Dimosthenis Anagnostopoulos (Harokopio University of Athens, Greece)

   David R. Wright (North Carolina State University, USA)

4. A Software Tool for Optimal Class-Hierarchy Design Based on the Use-Relationship
   Among Functions and Variables
   Nigel Gwee (Southern University and A&M College, USA) and Sukhamay Kundu
   (Louisiana State University and A&M College, USA)

5. Design for a Three-Tier Mobile Form in an ASP.NET Application
   I. H. M. van Coppenhagen (University of South Africa, South Africa) and Barry Dwolatzky
   (University of the Witwatersrand, South Africa)
8:30 a.m. - 2:00 p.m.  REGISTRATION – Coffee, Tea, Pastries

MODELING DIAGRAMS AND METHODS
Wednesday, July 11, 8:30 a.m. – 10:15 a.m., FUJI Room, 4th Floor
Session Chair: Dr. Sultan Aljahdali, Taif University

1. An Effective Service Modeling Method through Use Case Analysis
   Shin Su-mi and Jhun Sung-Jin (Korea Institute Science and Technology Information, Korea)

2. Ontology Enhanced Modeling Diagrams
   Nisreen Innab (Arab Academy for Computer and Financial Sciences, Jordan) and
   Ahmad Kayed (Applied Science University, Jordan)

3. Testing Techniques for SOA Model
   Li Liao and Hareton K. N. Leung (Hong Kong Polytechnic University, Hong Kong)

4. The Graph Object Oriented Multidimensional Data Model: A Conceptual Perspective
   Anirban Sarkar and Swapan Bhattacharya (National Institute of Technology, India)

10:15 a.m. – 10:30 a.m.  COFFEE BREAK

ALGORITHMS AND PROTOCOLS
Wednesday, July 11, 10:30 a.m. – 12:30 a.m., FUJI Room, 4th Floor
Session Chair: Dr. Ehab Ezzat Hassanien, Cairo University

1. Improving the Compression of Inverted Index using Sequitur Algorithm
   Eman Essam Edeen Saied, Ehab Ezzat Hassanien, and Mohamed El Sharkawi
   (Cairo University, Egypt)

2. Advanced Robust E-Mail Protocols with Perfect Forward Secrecy
   Rui Jiang, Aiqun Hu, and Xiaohui Yang (Southeast University, P.R. China)

3. Parallel Implementation for Solution Verification of CFD Code
   C. Picard, G. Garbey, M. Garbey (University of Houston, USA)

4. Direct Transformation of Coordinates for GPS Positioning Using the Techniques
   of Genetic Programming and Symbolic Regression on Partitioned Data
   Chih-Hung Wu, Hung-Ju Chou (National University of Kaohsiung, Taiwan) and
   Wei-Han Su (Shu-Te University, Taiwan)
1. **Issues in Open Source Software Development**
   Radha Shankarmani, Siddhi Mehta and Farha Mukri (Sardar Patel College of Engineering, India)

2. **Measurement Theory Principles in Software Measurement**
   P. N. Gedela, P. Kosaraju and A. Melton (Kent State University, USA)

3. **Visualization Taxonomy for Software Metrics**
   Ibrahim M. Al-Harazin, Muhammad Shafique, Jarallah S. Al-Ghamdi, and Muhammed S. Al-Mulhem (King Fahd University of Petroleum and Minerals, Saudi Arabia)

4. **Monitoring Software Technology Evolution, One Trend at a Time**
   Yanzhi Bai and Ali Mili (New Jersey Institute of Technology, USA)