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Contents

From the President

From the Editor-in-Chief

**A COMPARISON BETWEEN E-GOVERNMENT PRACTICES IN
TAIWAN AND NEW ZEALAND**

Eric Deakins, Stuart Dillon, Wan-Jung Chen 1

**A MODULE LANGUAGE FOR IMPLEMENTING
MULTI-AGENT SYSTEMS SPECIFIED BY GAMMA
CALCULUS**

Hong Lin 25

**DERIVING FEATURE VECTOR FROM BIOLOGICAL
SEQUENCE FOR FILTERING IN SIMILARITY SEARCH**

Huang-Cheng Kuo, Te-Wen Hsieh, Jen-Peng Huang 49

**A STUDY OF THE EFFECTS OF COMPUTER AUDITING
EDUCATION ON AUDITOR'S WORK SELF-EFFICACY AND
OUTCOME EXPECTANCY**

Hsueh-Ju Chen, Shaio Yan Huang, Chiu-Ying Ho, Yu-Hsuan Chung 70

**REPORT ON 2007 INFORMATION TECHNOLOGY
INNOVATION AND APPLICATION EXCELLENCE WORKSHOP**

Jinsheng Roan, Chun-Nan Lin 85

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A Comparison between E-Government Practices in Taiwan and New Zealand

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ABSTRACT : Few studies have focused on comparing the state of e-government in Western- and Non-Western settings, where the political, social, economic, and cultural environments can be markedly different. This paper compares the views of local authority policymakers in Taiwan and New Zealand, in order to judge the sophistication of their e-government initiatives via the formal and informal policies underpinning website development.

Good levels of agreement were observed between the Taiwanese and New Zealander respondents for the high levels of significance they attached to 3 key issues, which the authors argue are critical for successful e-government: *Accessibility*, *Security* and *Privacy*. Similarly, the policymakers agreed on a medium level of significance for the 7 key issues: *E-procurement*, *Digital Divide*, *Private Sector*, *Taxation*, *Cultural Obstacles*, *IT Workforce*, and *Social Effects* (and on a low level of significance for *E-tailing*). It was concluded that government policymakers in both countries, in an era of commercial online social networking, are continuing to favor pushing (what they deem to be important) information to citizens, rather than creating collaborative service channels with citizens, contractors and suppliers or integrating separate service processes to satisfy all stakeholders. An attendant lack of commitment to promoting heightened (e-) democracy was also noted, especially in New Zealand.

Keywords : E-government, International Comparison, Taiwan government, New Zealand government.

A Module Language for Implementing Multi-Agent Systems Specified By Gamma Calculus

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ABSTRACT: The suitability of using the Chemical Reaction Metaphor (CRM) to model multi-agent systems (MASs) is justified by CRM's capacity in specifying dynamic features of multi-agent systems. This paper presents a module language that facilitates a transformational method for implementing the specified multi-agent systems. A computation model with a tree-structured architecture is proposed to support the module language. The computational model is a straightforward abstraction of networked computing sources with minimum assumptions. In this model, the multicast network functionality pragmatizes the implementation of communications and synchronization among distributed agents. The transformational method is a rewriting process that translates the CRM specification into a program in the module language. With the implementation of this method, the most recent formalism of the CRM, Gamma Calculi, can find applications in specifying and implementing multi-agent systems.

Keywords: Multi-agent systems, the chemical reaction models, program specification, very high-level languages, distributed systems, software architecture

1. INTRODUCTION

Agent-oriented design has become one of the most active areas in the field of software engineering. The agent concept provides a focal point for accountability and responsibility for coping with the complexity of software systems both during design and execution (Yu, 2001). It is deemed that software engineering challenges in developing large scale distributed systems can be overcome by an agent-based approach (Paquette, 2001). In this approach, a distributed system can be modeled as a set of autonomous, cooperating agents that communicate intelligently with one another, automate or semi-automate functional operations, and interact with human users at the right time with the right information. Such a model should be general enough to address common architectural issues and not be specific to design issues of a particular system. A direct benefit of such a model is expressiveness and

Deriving Feature Vector from Biological Sequence for Filtering in Similarity Search

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ABSTRACT : Study on biological sequence database similarity searching has received substantial attention in the past decade, especially after the sequencing of the human genome. With larger and larger increases in database sizes, fast similarity search is becoming an important issue. Transforming subsequences into numerical vectors, called feature vectors, for storing in a multidimensional data structure is becoming a promising method.

In our research, we present an effective transformation method, called SD (Sequence Descriptor) Transformation which uses multiple features of a sequence including Count, RPD (Relative Position Dispersion), and APD (Absolute Position Dispersion) to represent the original sequence data. In contrast to the q-gram frequency transformation, this avoids the problem of exponentially growing vector size. Also, we present a transformation, called Segment Transformation, which recursively divides sequence data into equal-length subsequences, and concatenates them after transformation of the subsequences. The experiment on real data shows our transformation methods have better filtration performance than q-gram method.

Keywords : Biological Sequence, Feature Vector, Similarity Searching, K-NN.

A Study of the Effects of Computer Auditing Education on Auditor's Work Self-Efficacy and Outcome Expectancy

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ABSTRACT : This study investigates whether an education in computer auditing affects computer self-efficacy, auditor's work self-efficacy and auditor's outcome expectancy by using the Society Cognitive Theory found in Bandura (1977). The results indicate that auditors who took computer auditing courses show a higher level of computer self-efficacy and work self-efficacy. In addition, computer self-efficacy and work self-efficacy significantly affect an auditor's outcome expectancy. There is a positive relationship for auditors between receiving an education in computer auditing and outcome expectancy. This phenomenon implies that the computer auditing courses offered by the universities do provide auditors a lot of assistance in their daily work conduct.

Keywords : Computer auditing education, Computer self-efficacy, Auditor's work self-efficacy, Auditor's outcome expectancy.
