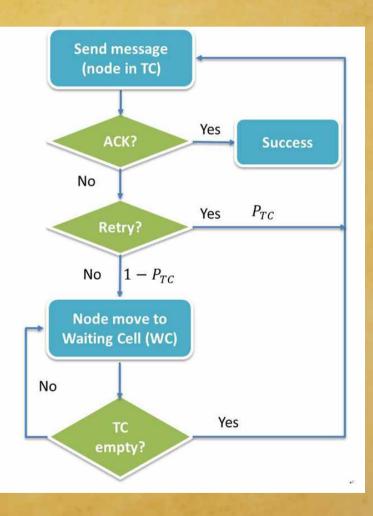
ISSN: 1945-3116 Vol. 8



# Journal of Software Engineering and Applications





www.scirp.org/journal/jsea

# **Journal Editorial Board**

ISSN 1945-3116 (print) ISSN 1945-3124 (online) http://www.scirp.org/journal/jsea

### **Editor-in-Chief**

Prof. Yashwant K. Malaiya

Colorado State University, USA

## **Editorial Board**

Dr. Nicoletta Adamo-Villani Prof. Kuang-Hua Chang Dr. Calvin Yu-Chian Chen Dr. Kim-Kwang Raymond Choo Prof. Steven A. Demurjian Dr. Phan H. Giang Dr. Zonghua Gu Dr. Nabil Hameurlain Dr. Wolfgang Herzner Dr. Jacky Wai Keung Dr. Mitsuhiro Kimura Prof. Chang-Hwan Lee Prof. Anthony F. Norcio Dr. Indrajit Saha

Prof. Janche Sang Prof. Midthe V. Srinath Dr. Eliot Winer Prof. Xin Yuan

Purdue University, USA The University of Oklahoma, USA China Medical University, China University of South Australia, Australia The University of Connecticut, USA George Mason University, USA Zhejiang University, China University of Pau, France Austrian Institute of Technology, Austria City University of Hong Kong, China Hosei University, Japan Dongguk University, South Korea University of Maryland, USA Institute of Informatics and Telematics (IIT), National Research Council (CNR), Italy Cleveland State University, USA Mahendra Engineering College, India The Iowa State University, USA Florida State University, USA



# **Table of Contents**

Volume 8 Num	ber 8	August 2015
A Quantitative Analysis of Collision Resolution Protocol for Wireless Sensor Network R. Patel, D. Patel		
An Integration of UML Sequence Diagram with Formal Specification Methods—A Formal Solution Based on Z		
N. M. Minhas, A. M. Q	azi, S. Shahzadi, S. Ghafoor	
A Framework for Software Defect Prediction Using Neural Networks		
V. Vashisht, M. Lal, G.	S. Sureshchandar	
The Optimization and	Improvement of MapReduce in Web Data N	Aining
J. Qu, CQ. Yin, S. W. S	Song	
Towards Knowledge M	Nanagement in RE Practices to Support Softw	ware Development
M. Humayoun, A. M. C	Qazi	
Hand Gesture Recogni	tion Approach for ASL Language Using Hand	Extraction Algorithm
A. Akoum, N. Al Maw	la	
Evaluating Enterprise Content Management Tools in a Real Context		
M. J. Escalona, F. J. Domínguez-Mayo, J. A. García-García, N. Sánchez, J. Ponce		

The figure on the front cover is from the article published in Journal of Software Engineering and Applications, 2015, Vol. 8, No. 8, pp. 361-371 by Reema Patel and Dhiren Patel.

### Journal of Software Engineering and Applications (JSEA)

#### **Journal Information**

#### SUBSCRIPTIONS

The Journal of Software Engineering and Applications (Online at Scientific Research Publishing, <u>www.SciRP.org</u>) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates: Print: \$89 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: <u>sub@scirp.org</u>

#### SERVICES

Advertisements Advertisement Sales Department, E-mail: <u>service@scirp.org</u>

**Reprints (minimum quantity 100 copies)** Reprints Co-ordinator, Scientific Research Publishing, Inc., USA. E-mail: <u>sub@scirp.org</u>

#### COPYRIGHT

#### COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2015 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY). http://creativecommons.org/licenses/by/4.0/

#### COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:

Copyright © 2015 by author(s) and Scientific Research Publishing Inc.

#### **REUSE RIGHTS FOR INDIVIDUAL PAPERS:**

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### DISCLAIMER OF LIABILITY

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### **SPONSOR:**

International School of Software, Wuhan University (iss.whu.edu.cn).

#### **PRODUCTION INFORMATION**

For manuscripts that have been accepted for publication, please contact: E-mail: jsea@scirp.org



# Journal of Software Engineering and Applications (JSEA)

ISSN 1945-3116 (print) ISSN 1945-3124 (online) http://www.scirp.org/journal/jsea

**JSEA** publishes four categories of original technical articles: papers, communications, reviews, and discussions. Papers are well-documented final reports of research projects. Communications are shorter and contain noteworthy items of technical interest or ideas required rapid publication. Reviews are synoptic papers on a subject of general interest, with ample literature references, and written for readers with widely varying background. Discussions on published reports, with author rebuttals, form the fourth category of JSEA publications.

# Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

Automated Software Design and Synthesis		
Automated Software Specification		
Component-Based Software Engineering		
Computer-Supported Cooperative Work		
Formal Methods		
Knowledge Acquisition		
Object-Oriented Technology		
Patterns and Frameworks		
Process and Workflow Management		
Program Understanding Issues		
Programming Languages and Software Engineering		
Reflection and Metadata Approaches		
Reliability and Fault Tolerance		

Requirements Engineering Reverse Engineering Software Architecture Software Design Methods Software Domain Modeling and Meta-Modeling Software Engineering Decision Support Software Engineering Education Software Maintenance and Evolution Software Process Modeling Software Quality Software Reuse Software Testing Tutoring, Help, Documentation Systems

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the JSEA.

# **Notes for Prospective Authors**

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

# Website and E-mail

http://www.scirp.org/journal/jsea

E-mail: jsea@scirp.org

## What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

# What is Open Access?

Art and Design Review

Advances in

ldvances in Biological hemistry Entomology

Applied Mathematics

Engineering

entiti e

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Soft

Website: http://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org