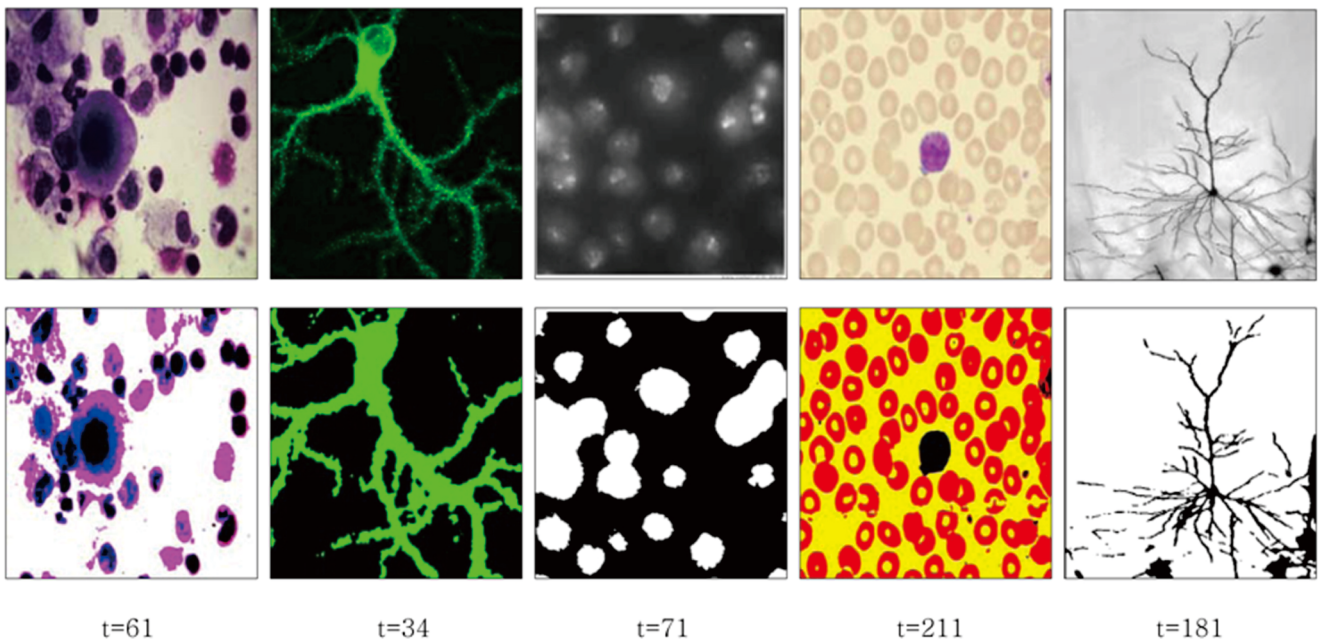




Journal of Software Engineering and Applications



ISSN: 1945-3116



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

Purdue University, USA

Prof. Kuang-Hua Chang

The University of Oklahoma, USA

Dr. Calvin Yu-Chian Chen

China Medical University, China

Dr. Kim-Kwang Raymond Choo

University of South Australia, Australia

Prof. Steven A. Demurjian

The University of Connecticut, USA

Dr. Phan H. Giang

George Mason University, USA

Dr. Zonghua Gu

Zhejiang University, China

Dr. Nabil Hameurlain

University of Pau, France

Dr. Wolfgang Herzner

Austrian Institute of Technology, Austria

Dr. Jacky Wai Keung

City University of Hong Kong, China

Dr. Mitsuhiro Kimura

Hosei University, Japan

Prof. Chang-Hwan Lee

Dongguk University, South Korea

Prof. Anthony F. Norcio

University of Maryland, USA

Prof. Janche Sang

Cleveland State University, USA

Prof. Midthe V. Srinath

Mahendra Engineering College, India

Dr. Eliot Winer

The Iowa State University, USA

Prof. Xin Yuan

Florida State University, USA

TABLE OF CONTENTS

Volume 7 Number 1

January 2014

The Current and Future of Software Securities and Vulnerabilities

C. X. Zhang, M. J. Zhou, Y. L. Xie, X. L. Li.....1

Hybrid Enterprise Modelling: Integrating Modelling Mechanisms for Socio-Technical Systems Analysis and Design

A. Fayoumi, P. Loucopoulos, A. Fayyumi.....6

Analysis and Programming of Kernel for Embedded Systems

K. Im, W. Ham.....14

Developing a Scoring Model to Evaluate Project Management Software Packages Based on ISO/IEC Software Evaluation Criterion

H. M. Gharaibeh.....27

Multi-Threshold Algorithm Based on Havrda and Charvat Entropy for Edge Detection in Satellite Grayscale Images

M. A. El-Sayed, H. A. M. Sennari.....42

Multidimensional Design Paradigms for Data Warehouses: A Systematic Mapping Study

A. Cravero, S. Sepúlveda.....53

Generalized α -Entropy Based Medical Image Segmentation

S. Sadek, S. Abdel-Khalek.....62

The figure on the front cover is from the article published in *Journal of Software Engineering and Applications*, 2014, Vol. 7, No. 1, pp. 62-67 by Samy Sadek and Sayed Abdel-Khalek.

Journal of Software Engineering and Applications (JSEA)

Journal Information

SUBSCRIPTIONS

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

Subscription rates:

Print: \$89 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright©2014 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: jsea@scirp.org



Call for Papers

Journal of Software Engineering and Applications (JSEA)

ISSN 1945-3116 (print) ISSN 1945-3124 (online)
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, by delivering superior scientific publications and scientific information solution provider that enable advancement in scientific research.

What is Open Access?

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, world-wide, 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



Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org