Call for Papers
Journal of Universal Computer Science (J.UCS)

Special Issue

Knowledge Intensive Software Engineering Applications

Guest Editors

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Description and Scope:

Knowledge intensive software engineering applications are becoming crucial in organizations to support their performance. Knowledge-based technologies provide a consistent and reliable basis to face the challenges for organization, manipulation and visualization of the data and knowledge, playing a crucial role as the technological basis of the development of a large number of information systems. In software engineering, it involves the integration of various knowledge sources that are in constant change.

Knowledge intensive in software applications is becoming more significant because the domains of many software applications are inherently knowledge-intensive and this knowledge is often not explicitly dealt with in software development. This impedes maintenance and reuse. Moreover, it is generally known that developing software requires expertise and experience, which are currently also implicit and could be made more tangible and reusable using knowledge-based or related techniques. Furthermore, organizations have recognized that the software engineering applications is an optimal way for providing solutions, because it is a file that are constantly evolving due to the new challenges. Examples of approaches that are directly related to this tendency are

data analysis, software architectures, knowledge engineering, ontologies, conceptual modeling, domain analysis and domain engineering, business rules, workflow management, human and cultural factors, to mention but a few. Therefore, tools and techniques are necessary to capture and process knowledge in order to facilitate subsequent development efforts, especially in the domain of software engineering. With the use of new proposals on how using the knowledge intensive in a multitude of ways and in all phases of software development can be advantageous.

The goal of the Special Issue is to investigate and disseminate trends among innovative and high-quality research in the form of the form of theoretical foundations, case studies, techniques, tools, applications, frameworks, strategies, techniques, methodologies, informatics platforms and models for developing advanced Knowledge intensive software engineering applications and techniques and their application in industry. In addition to direct submission, in this Special Issue, we will also invite the best papers from the International Conference on Software Process Improvement (CIMPS) 2019 (http://cimps.cimat.mx), which will take place from October 23 to 25 in León, Guanajuato, Mexico.

Topics of interest include, but not restricted to:

- Knowledge-intensive software engineering tools
- Self-Adaptive Software
- Data analysis for organizational decision making.
- Knowledge-based Decision Support Systems
- Knowledge-intensive Representation and Reasoning
- Knowledge engineering for process management and project management
- Knowledge-intensive management for business processes, workflows and enterprise modelling
- Knowledge-intensive technologies for service-oriented systems, Internet of Services and Internet of Things
- Knowledge-intensive methods and tools for testing, verification and validation, maintenance and evolution in software engineering
- Methodology and tools for knowledge-intensive discovery and data mining
- Natural Language Processing applied to Software Engineering
- Case-based reasoning in Software Engineering
- Ontology Engineering in Software Engineering
- Supply Chain Knowledge Management
- Software to Modeling Knowledge in industry (Mining, automotive, aerospace, business, health care, manufacturing, etc.).
- Software Quality Assurance trends.
- Improvements in software organizations knowledge-Based on human and cultural factors.
- Software improvement in emergent markets.
- Process improvement, small, medium and large Organizations.
- Implementation of agile methods across different models and standards.
- Software architectures trends.

Instructions for authors
Authors should submit their paper via email: jmejia@cimat.mx valencia@um.es, jmejia@cimat.mx, galor@ito-depi.edu.mx, joseantonio.calvomanzano@upm.es and the subject of the email should be: "JUCS SI Submission: Extended papers CIMPS 2019". All manuscripts for this special issue should be submitted electronically by April 15th, 2020.

Authors of best papers presented at the CIMPS'19 conference (http://cimps.cimat.mx /) with papers published in the workshop proceedings are invited to submit their extended papers with at least 30-50% additional materials relative to conference papers and the title of the extended version must clearly and unmistakably differ from the title of the paper presented at the workshop. New submissions are welcome.

The length of the manuscript may not exceed 25 pages. Authors' papers should accord to the J.UCS Style Guide for Authors which can be found at the following URL: http://www.jucs.org/ujs/jucs/info/submissions/style_guide.html

Important Dates
Working schedule
• **Attention: Submission deadline extended till April 20th, 2020**
• Completion of first-round reviews: July 6th, 2020
• Revised papers: September 30th, 2020
• Target of the second (last) round of reviews: November 5th, 2020
• Publication: December 2020

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