

21st Conferencia Iberoamericana en Software Engineering (CibSE 2018)

Bogota, Columbia
23-27 April 2018

Editors:

**Rubby Casallas
Mario Sanchez**

Kelly Garces

ISBN: 978-1-5108-6937-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by the authors
All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact CIBSE - IberoAmerican Conference on Software Engineering at the address below.

CIBSE - IberoAmerican Conference on Software Engineering
c/o Luca Cernuzzi
Universidad Católica “Nuestra Señora de la Asunción”,
Campus Universitario, Asunción
Barrio Santa Ana, C.C.1683, C.P. 1364
Asunción - Paraguay

Phone: +595 21 334650
Fax: +595 21 310587

lcernuzz@uca.edu.py

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Preface	i
Organization	iv
ESELAW - Experimental Software Engineering	
A Taste of the Software Industry Perception of Technical Debt and its Management in Brazil <i>Victor Silva, Helvio Jeronimo and Guilherme Travassos</i>	1
A tertiary study on model-based testing areas, tools and challenges: Preliminary results <i>Leonardo Villalobos-Arias, Christian Quesada-López, Alexandra Martinez and Marcelo Jenkins</i>	15
An Empirical Study on the Knowledge Management Practice in Software Testing <i>Claudia Patricia Candia Maciel, Érica Ferreira de Souza, Nandamudi Lankalapalli Vijaykumar, Ricardo de Almeida Falbo, Giovani Volnei Meinerz and Katia Romero Felizardo</i>	29
Knowledge Management in Agile Testing Teams: a Survey <i>Glauco Antonio Ruiz, Patrick R. Da Silva, Érica F. De Souza, Katia Romero Felizardo, Giovani Volnei Meinerz and Nandamudi L. Vijaykumar</i>	43
Gender Gap in Computing: A Preliminary Empirical Study <i>Geovanny Raura, Efraín R. Fonseca C., John W. Castro, Tatiana Gualotuña, Rebeca Mejía C., Mónica Santillán T., Claudia Pons and Oscar Dieste</i>	57
An Exploratory Study of Academic Architectural Tactics and Patterns in Microservices: A systematic literature review <i>Gaston Marquez, Felipe Osses and Hernan Astudillo</i>	71

Software Measurement and Estimation: A Case Study in the Financial Services Industry <i>Juan Cubillos and Jairo Aponte</i>	85
Towards a developer's reputation model based on source code features <i>Oscar Garavito, Jairo Aponte, Felipe Restrepo and Fabio Gonzalez</i>	99
Privacy by Design in Software Engineering: a Systematic Mapping Study <i>Miguel Ehécatl Morales Trujillo, Erick Orlando Matla Cruz, Gabriel Alberto García-Mireles and Mario Piattini</i>	107
Elicitación de requisitos de interoperabilidad desde la perspectiva de las necesidades del negocio: Una revisión sistemática de la literatura <i>Daniel E. Paz, Francisco J. Pino and Sandra L. Buitron</i>	121
Challenges in System of Systems Development: A Systematic Mapping <i>Diego Nascimento and Rosana Braga</i>	135
Factores asociados a prácticas de desarrollo y pruebas de software en Costa Rica: Un estudio exploratorio <i>Christian Quesada-López and Marcelo Jenkins</i>	149
SET - Software Engineering Track	
Using Automatic Refactoring to Improve Energy Efficiency of Android Apps <i>Luis Cruz and Rui Abreu</i>	163
Structuring and Accessing GoF Design Patterns with Kuaba Ontology <i>Patrick Helder Alvarenga Belem and Adriana Pereira de Medeiros</i>	177

An ontology-based approach to identify developers in a software ecosystem based on their skillset	185
<i>Marcio Tadeu Oliveira Junior, Regina Maria Maciel Braga, José Maria David, Marco Antônio Araújo, Victor Stroele and Fernanda Cláudia Alves Campos</i>	
Towards using task similarity to recommend Stack Overflow posts	199
<i>Glaucia Melo, Ulisses Telemaco, Toacy Oliveira, Paulo Alencar and Don Cowan</i>	
Um Estudo Qualitativo sobre Crowdsourcing: Análise da Colaboração na plataforma TopCoder	212
<i>Ricardo Melo, Leticia Machado, Rafael Prikladnicki and Cleidson De Souza</i>	
Improving the Decision-Making Support in Context-Aware Applications: The Case of an Adaptive Virtual Education Learning Management System	220
<i>Jose Bocanegra, Luis Garcia-Paucar, Jaime Pavlich-Mariscal and Nelly Bencomo</i>	
Ufahamu: Um Framework para Aplicações Móveis Android Conscientes de Contexto	234
<i>Rafael Souza and Cleidson De Souza</i>	
Sýntixi - A Generative Approach to Dynamic Fusion of Software Components	248
<i>Juan-Alberto Hernández-Martínez, Ulises Juárez-Martínez and Nicolás Cardozo</i>	
Quito SmartSafe City: Un Sistema en Tiempo Real de Rescate Usando Comunicación IoT	262
<i>Ana Zambrano, Eduardo Ortiz, Xavier Calderón and Marcelo Zambrano</i>	

Towards a Simulation-Based Project Monitoring and Control Learning Approach	270
<i>Jean Carlo Rossa Hauck, Santiago Matalonga, Gerardo Matturro, Gerardo Quintana, Lucas Jacques, Christian Galafassi and Rafael Queiroz Gonçalves</i>	
¿Los estudiantes de pregrado son capaces de diseñar software? Estudio de la relación entre el tiempo de codificación y el tiempo de diseño en el desarrollo de software.	284
<i>Silvana Moreno and Diego Vallespir</i>	
Evaluation of source code in ACM ICPC style programming and training competitions	298
<i>Wilson Julca Mejía, Hugo David Calderon Vilca and Flor Cagniy Cárdenas Mariño</i>	
MoWebA Mobile: Modeling and Generation of the Communication of Mobile Apps with their Functions in the Cloud	312
<i>Emanuel Sanchiz, Magali Gonzalez, Nathalie Aquino and Luca Cernuzzi</i>	
Applying Transformation Templates to Diversify User Interfaces Generated by Model-Driven Engineering	326
<i>Nathalie Aquino, Luca Cernuzzi and Oscar Pastor</i>	
Análisis sobre la adopción de MDSE en empresas de construcción de software del Eje Cafetero colombiano	340
<i>Fáber Danilo Giraldo Velásquez, Diego Alberto Zabala and Jhonathan Stiven Moncada García</i>	
Towards the automation of a defect detection protocol for functional size measurements	354
<i>Denisse Madrigal-Sánchez, Christian Quesada-López and Marcelo Jenkins</i>	

Mapeo entre la ISO/IEC 29110-5-1-2 y el MAAGTICSI dirigido a Organizaciones Pequeñas Desarrolladoras de Software en México <i>Miguel Ehécatl Morales Trujillo, Felipe Orlando Becerra Palma, Boris Escalante Ramírez and Maria Del Pilar Angeles</i>	368
Linking Business and Information Need Goals with Functional and Non-functional Requirements <i>Luis Olsina and Pablo Becker</i>	381
Indicadores de Medição de Testes em um Contexto Ágil Usando o Template ASM.br <i>Douglas Silva Lima, Cristina Teles Cerdeiral and Gleison Santos</i>	395
Um Estudo sobre a Percepção do Uso de Métodos Ágeis por Equipes de Infraestrutura de TI durante a Transformação Ágil <i>Gian Biolchini Abi-Saber and Gleison Santos</i>	409
Usability Evaluation Techniques Adopted in Agile Development Processes <i>Daniel A. Magües, Efraín R. Fonseca C., John W. Castro and Silvia T. Acuña</i>	423
A collaborative IDE for dynamic multi-versioning and variant management <i>Santiago Beltran and Nicolás Cardozo</i>	437
Un Algoritmo Genético para Generar Casos de Prueba con Oráculo <i>Macario Polo, Óscar Pedreira, Ignacio García, Nieves R. Brisaboa and Mario Piattini</i>	451
CodeForest: Uma ferramenta visual de depuração <i>Fábio Pereira Da Silva, Danilo Mutti, Marcos Lordello Chaim and Higor Amario de Souza</i>	465

WER - Requirements Engineering

Goal and Risk Analysis in the Development of Information Systems for the Web of Data	473
<i>Marcio Louzada De Freitas, Allan Araujo Silva, Renata Guizzardi and Vitor E. Silva Souza</i>	
As técnicas de elicitação e de documentação de requisitos nos métodos ágeis	487
<i>Angélica T. S. Calazans, Roberto Avila Paldes, Eloisa T. S. Masson and Fernando De A. Guimarães</i>	
Mapeamento dos processos e artefatos da Engenharia de Requisitos para o eXtreme Programming	501
<i>Ricardo Duarte Cardoso, Renata Brasil-Silva and Fábio Levy Siqueira</i>	
Modelado de Requisitos de Seguridad para Big Data	515
<i>Julio Moreno, Manuel Serrano and Eduardo Fernandez-Medina</i>	
La Elicitación de Requisitos No Funcionales en el Contexto de la Industria del Software: Un Reporte de Experiencias	523
<i>Sandra Lorena Buitron Ruiz and Francisco J. Pino</i>	
Ontología para la Especificación de Casos de Uso, Casos de Prueba y su Trazabilidad	537
<i>Marcela Vegetti, María Luciana Roldán, Marcelo Marciszack, Silvio Gonnet and Horacio Leone</i>	
Do users talk about the software in my product? Analyzing user reviews on IoT products	551
<i>Kamonphop Srisopha, Pooyan Behnamghader and Barry Boehm</i>	

Doctoral Symposium

Modelo de Proceso para Proyectos de Ingeniería de Explotación de Información	565
<i>Sebastian Martins</i>	
Un método colaborativo para determinar el alcance de líneas de productos software	573
<i>Marta Cecilia Camacho Ojeda</i>	
Formulación de Procesos para una Ingeniería de Explotación de Información Espacial	581
<i>Giovanni Daián Rottoli</i>	
An Extension to Pre-conceptual Schemas for Refining Event Representation and Mathematical Notation	589
<i>Paola Andrea Noreña Cardona</i>	
Método de automatización del despliegue continuo en la nube usado en la implementación de microservicios	597
<i>Fredy Humberto Vera-Rivera</i>	
Coordinación de dispositivos en ambientes ubicuos mediante coreografías	605
<i>Oscar Testa</i>	
Marco de trabajo para la elicitación y evolución de requisitos no funcionales basadas en la gestión de conocimiento	613
<i>Sandra Lorena Buitron Ruiz</i>	