

# Contents

## Processes and Methods

On the Tasks and Characteristics of Product Owners: A Case Study in the Oil and Gas Industry . . . . .	3
<i>Carolyn Unger-Windeler and Jil Klünder</i>	
Agile Manifesto and Practices Selection for Tailoring Software Development: A Systematic Literature Review . . . . .	12
<i>Soreangsey Kiv, Samedi Heng, Manuel Kolp, and Yves Wautelet</i>	
Agile Meets Assessments: Case Study on How to Do Agile Process Improvement in a Very Small Enterprise . . . . .	31
<i>Jakob Diebold, Philipp Diebold, and Arthur Vetter</i>	
Implementation of a DevOps Pipeline for Serverless Applications . . . . .	48
<i>Vitalii Ivanov and Kari Smolander</i>	
Iterative Prototyping Methodology for the Development of Innovative and Dependable Complex Embedded Systems Through SPC&KPI Techniques . . .	65
<i>Patricia López, Jon Mabe, Leire Etxeberria, and Eneko Gorritxategi</i>	
HAVOSS: A Maturity Model for Handling Vulnerabilities in Third Party OSS Components . . . . .	81
<i>Pegah Nikbakht Bideh, Martin Höst, and Martin Hell</i>	
Towards a Digital Ecosystem for Rural Areas: Experiences from Three Years of Development . . . . .	98
<i>Frank Elberzhager, Matthias Koch, and Balthasar Weitzel</i>	
Software Processes Analysis with Provenance . . . . .	106
<i>Gabriella Castro Barbosa Costa, Humberto L. O. Dalpra, Eldânae N. Teixeira, Cláudia M. L. Werner, Regina M. M. Braga, and Marcos A. Miguel</i>	
The Essence Theory of Software Engineering – Large-Scale Classroom Experiences from 450+ Software Engineering BSc Students . . . . .	123
<i>Kai-Kristian Kemell, Anh Nguyen-Duc, Xiaofeng Wang, Juhani Risku, and Pekka Abrahamsson</i>	

**Empirical Studies in Industry**

An Exploratory Study on Software Products and Development Organizations in New Zealand . . . . . 141  
*Di Wang and Matthias Galster*

Software Professionals’ Attitudes Towards Video as a Medium in Requirements Engineering . . . . . 150  
*Oliver Karras*

Do Developers Really Worry About Refactoring Re-test? An Empirical Study of Open-Source Systems . . . . . 159  
*Stev Counsell, Stephen Swift, Mahir Arzoky, and Giuseppe Destefanis*

Moving Beyond the Mean: Analyzing Variance in Software Engineering Experiments . . . . . 167  
*Adrian Santos, Markku Oivo, and Natalia Juristo*

An Activity and Metric Model for Online Controlled Experiments . . . . . 182  
*David Issa Mattos, Pavel Dmitriev, Aleksander Fabijan, Jan Bosch, and Helena Holmström Olsson*

Influential Factors of Aligning Spotify Squads in Mission-Critical and Offshore Projects – A Longitudinal Embedded Case Study. . . . . 199  
*Abdallah Salameh and Julian Bass*

**Testing**

Test-Driving FinTech Product Development: An Experience Report . . . . . 219  
*Anders Sundelin, Javier Gonzalez-Huerta, and Krzysztof Wnuk*

Does the Performance of TDD Hold Across Software Companies and Premises? A Group of Industrial Experiments on TDD . . . . . 227  
*Adrian Santos, Janne Järvinen, Jari Partanen, Markku Oivo, and Natalia Juristo*

Test Case Prioritization Using Test Similarities. . . . . 243  
*Alireza Haghightakhah, Mika Mäntylä, Markku Oivo, and Pasi Kuvaja*

**Measurement and Monitoring**

Feature Crumbs: Adapting Usage Monitoring to Continuous Software Engineering. . . . . 263  
*Jan Ole Johanssen, Anja Kleebaum, Bernd Bruegge, and Barbara Paech*

Software Process Measurement and Related Challenges in Agile Software Development: A Multiple Case Study . . . . . 272  
*Prabhat Ram, Pilar Rodriguez, and Markku Oivo*

Emperor’s New Clothes: Transparency Through Metrication  
in Customer-Supplier Relationships . . . . . 288  
*Christian R. Prause and Alfred Höhle*

**Global Software Engineering and Scaling**

Global Software Development: Practices for Cultural Differences . . . . . 299  
*Marcelo Marinho, Alexandre Luna, and Sarah Beecham*

Exploring Cross-Site Networking in Large-Scale Distributed Projects . . . . . 318  
*Aivars Sablis, Darja Smite, and Nils Brede Moe*

Benefits and Challenges of Adopting the Scaled Agile Framework (SAFe):  
Preliminary Results from a Multivocal Literature Review . . . . . 334  
*Abheeshta Putta, Maria Paasivaara, and Casper Lassenius*

**Industry Talks**

Threat Analysis in Practice – Systematically Deriving  
Security Requirements . . . . . 355  
*Markus Fockel, Sven Merschjohann, and Masud Fazal-Baqaie*

Process Evolution and Product Maturity: From Prototype to Product . . . . . 359  
*Tilman Seifert*

**Workshops and Tutorial**

Workshops and Tutorials . . . . . 365  
*Jürgen Münch and Krzysztof Wnuk*

**Workshop: QuASD 2018**

2<sup>nd</sup> QuASD Workshop: Managing Quality in Agile and Rapid Software  
Development Processes . . . . . 373  
*Claudia Ayala, Silverio Martínez-Fernández, and Pilar Rodríguez*

Quality Improvement of Mobile Apps – Tool-Supported Lightweight  
Feedback Analyses . . . . . 378  
*Simon André Scherr, Frank Elberzhager, and Lisa Müller*

Thinking Strategically About Knowledge Management  
in Agile Software Development . . . . . 389  
*Raquel Ouriques, Krzysztof Wnuk, Richard Berntsson Svensson,  
and Tony Gorschek*

Modeling in Agile Software Development: Decomposing Use Cases  
Towards Logical Architecture Design . . . . . 396  
*Nuno Santos, Jaime Pereira, Nuno Ferreira, and Ricardo J. Machado*

Mapping Agility to Automotive Software Product Line Concerns . . . . . 409  
*Philipp Hohl, Sven Theobald, Martin Becker, Michael Stupperich,  
and Jürgen Münch*

Making Runtime Data Useful for Incident Diagnosis:  
An Experience Report . . . . . 422  
*Florian Lautenschlager and Marcus Ciolkowski*

**Workshop: HELENA 2018**

3rd Workshop on Hybrid Development Approaches in Software  
System Development . . . . . 433  
*Paolo Tell, Stephen MacDonell, and Sherlock A. Licorish*

Possibilities of Applying Institutional Theory in the Study of Hybrid  
Software Development Concepts and Practices . . . . . 441  
*Michal Doležal*

Towards Understanding the Motivation of German Organizations  
to Apply Certain Software Development Methods . . . . . 449  
*Jil Klünder, Philipp Hohl, Steffen Küpper, Stephan Krusche,  
Pernille Lous, Masud Fazal-Baqaie, and Christian R. Prause*

**Author Index** . . . . . 457