Contents

Lessons Learned from Industry-Research Collaborations

Strategic Ecosystem Management: A Multi-case Study in the B2B Domain . . . 3
   Helena Holmström Olsson and Jan Bosch

Early Value Argumentation and Prediction: An Iterative Approach
to Quantifying Feature Value . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 16
   Aleksander Fabijan, Helena Holmström Olsson, and Jan Bosch

Challenges of Structured Reuse Adoption — Lessons Learned . . . . . 24
   Veronika Bauer

Instruments to Improve the Software Development Process

Software Process Improvement Implementation Risks: A Qualitative Study
Based on Software Development Maturity Models Implementations
in Brazil . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 43
   Eliezer Dutra and Gleison Santos

Model-Driven Development for Multi-platform Mobile Applications . . . 61
   Rita Francese, Michele Risi, Giuseppe Scanniello,
   and Genoveffa Tortora

SINIS: A Method to Select Indicators for IT Services . . . . . . . . . . . . . 68
   Bianca Trinkenreich, Gleison Santos, and Monalessa Perini Barcellos

Requirements, Features, and Release Management

Requirement Prioritization with Quantitative Data - A Case Study. . . . 89
   Enrico Johansson, Daniel Bergdahl, Jan Bosch,
   and Helena Holmström Olsson

A Method for Requirements Capture and Specification Based
on Disciplined Use Cases and Screen Mockups . . . . . . . . . . . . . . . . . . . . 105
   Gianna Reggio, Maurizio Leotta, and Filippo Ricca

A Case Study on Artefact-Based RE Improvement in Practice . . . . . 114
   Daniel Méndez Fernández and Stefan Wagner
Practices of Modern Development Processes

Artefacts in Agile Software Development ........................................... 133
   Gerard Wagenaar, Remko Helms, Daniela Damian, and Sjaak Brinkkemper

Is Water-Scrum-Fall Reality? On the Use of Agile and Traditional Development Practices .................................................. 149
   Georgios Theocharis, Marco Kuhrmann, Jürgen Münch, and Philipp Diebold

Tickets Without Fine: Artifact-Based Synchronization of Globally Distributed Software Development in Practice ...................................... 167
   Masud Fazal-Baqaie, Marvin Grieger, and Stefan Sauer

Ontology-Based Identification of Commonalities and Variabilities Among Safety Processes ............................................... 182
   Barbara Gallina and Zoltán Szatmári

Human Factors in Modern Software Development

What Motivates Software Engineers Working in Global Software Development? .......................................................... 193
   Sarah Beecham and John Noll

Empower a Team’s Product Vision with LEGO® SERIOUS PLAY® .............. 210
   Danielle Pichlis, Stefanie Hofemann, Mikko Raatikainen, Juho Sorvettula, and Calle Stenholm

Early Product Design in Startups: Towards a UX Strategy .................. 217
   Laura Hokkanen, Kati Kuusinen, and Kaisa Väänänen

Effort and Size Estimation Validated by Professionals

An Empirical Study on Memory Bias Situations and Correction Strategies in ERP Effort Estimation ........................................... 227
   Pierre Erasmus and Maya Daneva

Applying a Verification Protocol to Evaluate the Accuracy of Functional Size Measurement Procedures: An Empirical Approach .................. 243
   Christian Quesada-López and Marcelo Jenkins

From Function Points to COSMIC - A Transfer Learning Approach for Effort Estimation ............................................... 251
   Anna Corazza, Sergio Di Martino, Filomena Ferrucci, Carmine Gravino, and Federica Sarro
Empirical Generalization

Investigating Functional and Code Size Measures for Mobile Applications: A Replicated Study
Filomena Ferrucci, Carmine Gravino, Pasquale Salza, and Federica Sarro

Defining Continuous Planning Through a Multiple-Case Study
Tanja Suomalainen

Issue Dynamics in Github Projects
Riivo Kikas, Marlon Dumas, and Dietmar Pfahl

Studying the Effect of UML-Based Models on Source-Code Comprehensibility: Results from a Long-Term Investigation
Giuseppe Scanniello, Carmine Gravino, Genoveffa Tortora, Marcela Genero, Michele Risi, José A. Cruz-Lemus, and Gabriella Dodero

Source Code Driven Decomposition of Object-Oriented Legacy Systems: A Systemic Literature Review and Research Outlook
Inese Supulniece, Solvita Berzisa, Inese Polaka, Janis Grabis, Egils Meiers, and Edgars Ozolins

Johann Thor Mogensen Ingibergsson, Ulrik Pagh Schultz, and Marco Kuhrmann

Software Reliability and Testing in Industry

A Process for Risk-Based Test Strategy Development and Its Industrial Evaluation
Rudolf Ramler and Michael Felderer

Focused Inspections to Support Defect Detection in Automation Systems Engineering Environments
Dietmar Winkler and Stefan Biffl

A Field Study on the Elicitation and Classification of Defects for Defect Models
Dominik Holling, Daniel Méndez Fernández, and Alexander Pretschner
Workshop on Processes, Methods and Tools for Engineering Embedded Systems

Performance Engineering for Industrial Embedded Data-Processing Systems ................................................................. 399
Martijn Hendriks, Jacques Verriet, Twan Basten, Marco Brassé, Reinier Dankers, René Laan, Alexander Lint, Hristina Moneva, Lou Somers, and Marc Willekens

Fault-Prone Byte-Code Detection Using Text Classifier ......................... 415
Tsuyoshi Fujiwara, Osamu Mizuno, and Pattara Leelaprute

Variability Management Strategies to Support Efficient Delivery and Maintenance of Embedded Systems................................. 431
Susanna Teppola, Päivi Parviainen, Jari Partanen, and Petri Kettunen

Using Cross-Dependencies During Configuration of System Families .... 439
Christopher Brink, Philipp Heisig, and Sabine Sachweh

Workshop on Human Factors in Software Development Processes

Toward a Meta-Ontology for Accurate Ontologies to Specify Domain Specific Experiments in Software Engineering .......................... 455
Waldemar Ferreira, Maria Teresa Baldassarre, Sergio Soares, and Giuseppe Visagio

A Qualitative Empirical Study in the Development of Multi-platform Mobile Applications .................................................. 471
Rita Francese, Michele Risi, Giuseppe Scanniello, and Genoveffa Tortora

If Usability Evaluation and Software Performance Evaluation Shook Their Hands: A Perspective ................................. 479
Tania Di Mascio, Laura Tarantino, and Giovanni De Gasperis

Quantitative Metrics for User Experience: A Case Study .................. 490
Roberta Capellini, Francesca Tassistro, and Rossana Actis-Grosso

Evaluating Mobile Malware by Extracting User Experience-Based Features . 497
Francesco Mercaldo and Corrado Aaron Visaggio

Information System Software Development with Support for Application Traceability ....................................................... 513
Vojislav Đukić, Ivan Luković, Matej Črepinšek, Tomaž Kosar, and Marjan Mernik
Characterising Users Through an Analysis of On-line Technical Support Forums ........................................... 528
  Solomon Gizaw, Jim Buckley, and Sarah Beecham

Software Developers as Users: Developer Experience of a Cross-Platform Integrated Development Environment ........................................... 546
  Kati Kuusinen

Workshop on Software Startups: State of the Art and State of the Practice

Ways to Cross the Rubicon: Pivoting in Software Startups ....................... 555
  Henri Terho, Sampo Suonsyrjä, Aleksi Karisalo, and Tommi Mikkonen

On the Feasibility of Startup Models as a Framework for Research on Competence Needs in Software Startups ........................................... 569
  Pertti Seppänen, Kari Liukkunen, and Markku Oivo

Towards a Software Tool Portal to Support Startup Process ..................... 577
  Henry Edison, Dron Khanna, Sohaib Shahid Bajwa, Valery Brancaleoni, and Luca Bellettati

What Can Software Startuppers Learn from the Artistic Design Flow?
Experiences, Reflections and Future Avenues ........................................... 584
  Juhani Risku and Pekka Abrahamsson

Designing a Maturity Model for Software Startup Ecosystems ................... 600
  Daniel Cukier, Fabio Kon, and Norris Krueger

A Conceptual Framework of Lean Startup Enabled Internal Corporate Venture ........................................... 607
  Henry Edison

Author Index .............................................................................. 615