

3rd Workshop on Continuous Software Engineering

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I. INTRODUCTION

In order to develop and deliver high-quality products to their customers, software companies have to adopt state-of-the-art software development processes. To face this challenge, companies are applying innovative methods, approaches and techniques like agile methods, DevOps, continuous delivery, test automation, infrastructure as code or container-based virtualization. These new approaches have a high impact on the specification, design, development, maintenance, operation and the evolution of software systems. Therefore, common software engineering activities, organizational forms and processes have to be questioned, adapted and extended to ensure continuous and unobstructed software development. After the successful 1st and 2nd Workshop on Continuous Software Engineering (CSE 2016/2017) [1,2], held in Vienna and Hannover, the organizers of the workshop extended the scope of the workshop to the following topics:

Processes and workflows

- Change management and handling user feedback
- Software development lifecycle for CSE
- Continuous delivery for requirements engineering/early prototyping
- Lean agile processes and practices

Technologies and tools

- Infrastructure as code
- Provisioning of software and infrastructure
- Engineering of deployment pipelines

Architecture

- Design for scalability
- Software architecture for CSE
- Model driven architecture for CSE

Quality and testing

- Test automation and optimization
- Monitoring and performance
- Security for DevOps
- Metrics for DevOps

Microservices & DevOps

- Pattern & Best-Practices
- Domain Specific Languages for Microservices
- Distributed Persistence
- Containerization

Culture and business

- Teaching CSE approaches
- Organizational issues for CSE
- Digital transformation and innovation

Overall, the workshop aimed at gathering together researchers and practitioners to present new ideas and discuss experiences in the application of state of the art approaches to Continuous Software Engineering.

II. WORKSHOP FORMAT

Based on our former experience, we wanted the workshop to be highly interactive. In order to have an interesting and interactive event sharing lots of experience, we organized the workshop presentations applying the author-discussant model. According to this model, papers are presented by one of the authors. Afterwards, a discussant starts the discussion based on his or her pre-formulated questions. Therefore, the discussant has to prepare a set of questions and has to know the details of the presented paper. The general structure of each talk was as follows:

1. The author of a paper presented the paper (20 minutes).
2. After that, the discussant of the paper opened the discussion using his or her questions (5 minutes).
3. Finally, we moderated the discussion among the whole audience (5 minutes).

This format has proven to be very successful because it led to more intensive discussions among the participants.

III. WORKSHOP CONTRIBUTIONS

Altogether, seven papers were submitted. Finally, three papers were accepted by the program committee for presentation and

publication covering different topics. In addition, we accepted one industry contribution introducing a different point of view. We grouped the papers into two sessions and added a final round-up session to discuss the major findings of our workshop. The following papers were presented:

Session A:

- A1 Anja Kleebaum, Jan Ole Johanssen, Barbara Paech and Bernd Bruegge: *Tool Support for Decision and Usage Knowledge in Continuous Software Engineering*
- A2 Andreas Steffens, Horst Lichter and Marco Moscher: *Towards Data-driven Continuous Compliance Testing*
- A3 Nelson Tavares de Sousa, Wilhelm Hasselbring, Tobias Weber and Dieter Kranzlmüller: *Designing a Generic Research Data Infrastructure Architecture with Continuous Software Engineering*

IV. ACKNOWLEDGEMENTS

Many people contributed to the success of this workshop. First of all, we want to give thanks to the authors and presenters of the accepted papers. Furthermore, we want to express our gratitude to the SE 2018 organizers for supporting our workshop. Finally, we are glad that these people served on the program committee, soliciting papers and writing peer reviews:

- Lukas Alperowitz, TU München
- Jan Bosch, Chalmers University of Technology

- Michael Goedicke, University of Duisburg-Essen
- Willi Hasselbring, Universität Kiel
- Martin Jung, develop group, Erlangen
- Stephan Krusche, TU München (Organizer)
- Horst Lichter, RWTH Aachen University (Organizer)
- Christian Nester, Google Inc.
- Dirk Riehle, FAU Nürnberg (Organizer)
- Daniel Fogl, FAU Nürnberg
- Heinz-Josef Schlebusch, Kisters AG, Aachen
- Andreas Steffens, RWTH Aachen University (Organizer)
- Christian Uhl, codecentric AG, Düsseldorf
- André van Hoorn, Universität Stuttgart
- Stefan Wagner, Universität Stuttgart
- Heinz Züllighoven, WPS und Universität Hamburg
- Thomas Kurpick, Trusted Shops, Köln
- Matthias Tichy, Universität Ulm

- [1] W. Zimmermann, L. Alperowitz, B. Brügge, J. Fahsel, A. Herrmann, A. Hoffmann, A. Krall, D. Landes, H. Lichter, D. Riehle, I. Schaefer, C. Scheuermann, A. Schlaefler, S. Schupp, A. Seitz, A. Steffens, A. Stollenwerk, R. Weißbach (eds) (2016): *Gemeinsamer Tagungsband der Workshops der Tagung Software Engineering 2016 (SE 2016)*, Wien, 23.-26. Februar, 2016. CEUR-WS.org., Vol-1559.
- [2] S. Krusche, H. Lichter, D. Riehle, A. Steffens (eds) (2017): *Proceedings of the 2nd Workshop on Continuous Software Engineering co-located with Software Engineering 2017 (SE 2017)*, Hannover, 20. Februar, 2017. CEUR-WS.org., Vol-1806.