Message from the SE'21 Satellite Events Chairs

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This volume includes the proceedings of the Workshops and Tool Demonstrations of the 2021 Software Engineering conference (SE'21). SE is the leading conference on software engineering in German-speaking countries and is annually organized by the Gesellschaft für Informatik (GI). The SE conference series serves as a platform to exchange experiences and insights in the area of software engineering for which it addresses an audience from both practice and academia. The workshops were held on the 22nd and 23rd of February 2021. The tool demonstrations were part of the scientific program of the first day of the main conference on the 24th of February 2021. The SE'21 was supposed to be held in Braunschweig, Germany. However, due to an unfortunate circumstance which was the COVID-19 pandemic, a physical meeting was not possible. Instead, the SE'21 was held as a fully virtual meeting via the Zoom video conferencing system with no less success.

1   Workshops

The workshops were selected by the workshop chairs, considering the feasibility of the proposed workshop and the potential to attract an engaged audience. All six submitted proposals were of high quality and therefore were accepted.

- 2nd Workshop on Anforderungsmanagement in Enterprise Systems Projekten (AE-SP21). Many projects on enterprise systems selection, implementation, development fail due to missing, incorrect, deficient, or incomplete requirements. This often is due to false expectations, definitions, and disagreements on requirements management between customers and suppliers. In this workshop, these challenges are discussed.

- 18th Workshop on Automotive Software Engineering (ASE'21). The workshop focuses on problems related to software engineering for automotive systems, including adequate methods, techniques, and tools. As cars are more and more connected, have complex driving assistance features, and considering the problem of fully autonomous driving, automotive software is a timely and highly relevant research topic.

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- 3rd Workshop on Avionics Systems and Software Engineering (AvioSE). Software development in the aerospace domain is driven by demanding fault tolerance, increasing complexity, new application potentials, rising certification effort, and increasing cost pressure. New software development methodologies are required for future applications such as e.g., autonomous air transport, aircrew workload reduction, commercial UAVs, and further enhancement of existing functionality. At the same time, there are challenges in communication and navigation in airspace, certification for multi-core processors, artificial intelligence as well as security of software, hardware, and connectivity.

- 8th Collaborative Workshop on Evolution and Maintenance of Long-Living Systems (EMLS). The digitalization of social, political, scientific, and economic processes leads to social transformations and changes the environment, the use, and the development of software systems. Systems should follow the changing needs but still meet the quality requirements of the users. The dynamics and scope of digitalization projects therefore increasingly require software that ensures their operation during their lifetime. At the same time, however, machine-supported decision-making processes should be handled in a way that is comprehensible and transparent for humans. The EMLS workshop addresses these challenges of the transition between the different software development phases.

- 1st Workshop on Software Engineering in Cyber-Physical Production Systems (SECPPS). As software is playing an increasingly important role in the efficient operation of industrial production systems, the workshop on Software Engineering in Cyber-Physical Production Systems aims to discuss new approaches and methods for the design of software for use in the production systems domain, which follows the latest trends from the software engineering domain.

- 1st Workshop on Software Engineering for E-Learning-Systems (SEELS). This workshop focuses on questions related to the development of software for e-learning systems. In particular, distributed e-learning systems in schools and universities are of interest. The goal of this workshop is to identify and discuss timely research questions covering the interfaces of e-learning systems, security in heterogeneous landscapes, and management of requirements for universal e-learning systems.

2   Tool Demonstrations

SE'21 offered the chance to demonstrate tools as part of the scientific program that have already been published and peer-reviewed at an international conference or journal in the field of software engineering. Two proposals for tool demonstrations were submitted and considered by the tools chair. Both were not only in accordance with the formal requirements but also well thought out and therefore accepted.

- *Continuous Rationale Management Using the ConDec Tools*: Anja Kleebaum, Jan Ole Johanssen, Barbara Paech and Bernd Bruegge

- *Unterstützte Fehlerbehebung durch kausales Strukturwissen in Überwachungssystemen der Automobilfertigung*: Johannes Huegle, Christopher Hagedorn and Matthias Uflacker

3 Acknowledgements and Thanks

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- Marina Reich, Björn Annighöfer and Andreas Schweiger for organizing the 3rd workshop on Avionics Systems and Software Engineering (AvioSE'21)

- Robert Heinrich, Reiner Jung, Marco Konersmann, and Eric Schmieders for organizing the 8th Collaborative Workshop on Evolution and Maintenance of Long-Living Systems (ELMS'21)

- Rick Rabiser, Birgit Vogel-Heuser, Manuel Wimmer, and Alois Zoitl for organizing the workshop Software Engineering in Cyber-Physical Production Systems (SECPPS'21)

- Michael Striewe and Sven Strickroth for organizing the workshop on Software Engineering for E-Learning-Systems (SEELS'21)

- Christoph Weiss and Johannes Keckeis for organizing the workshop on Anforderungsmanagement in Enterprise Systems Projekten (AESP'21)

Furthermore, we are grateful to the members of the workshop program committees, who reviewed the workshop submissions and ensured the quality of the presented research. Additional thanks go to the authors of all workshop and tool submissions and the attendees of the workshops for making SE'21 an interesting venue.

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