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Message from ITEQS 2022 workshop chairs

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It is our pleasure to welcome you to the sixth edition of the International Workshop on Testing Extra-Functional Properties and Quality Characteristics of Software Systems (ITEQS), co-located with the IEEE International Conference on Software Testing, Verification and Validation (ICST) 2022. The workshop and the main conference will be run virtually.

Due to the ever-increasing integration of software systems with the physical world, extra-functional aspects such as performance, safety, security, and robustness become more important and play a central role in determining the overall system quality. Such extra-functional characteristics, which are also referred to as non-functional properties, complement the overall system functionality. In fact, reports show that there are bigger chances of systems failing because of non-functional issues rather than because of functional ones.

Testing extra-functional properties has gained significant interest recently, both in research and in practice. This has been accentuated by the fact that the extra-functional properties have become an important part of today's software development processes, where they need not only to be taken into account at early stages of the development process, but also to be verified and validated throughout the process. However, many challenges remain open and further research is needed to address the testing of extra-functional properties.

ITEQS focuses on different aspects of testing extra-functional properties, with an emphasis on advancing such techniques and increasing their applicability to industrial practice, by providing evidence on the validity, efficiency, and effectiveness of the proposed techniques. To this aim, ITEQS brings together practitioners and researchers proposing novel methods for extra-functional testing and provides a framework for discussion and cross-fertilization of new ideas.

ITEQS 2022, in particular, attracted contributions on approaches and topics including: monitoring for safety and security analysis, use of deep learning in early detection of network attacks, improving explainability, resilience, and performance of cybersecurity analysis in 5G and IoT networks, testing for energy efficiency in code, test case generation for finite state machines, and use of online generative adversarial networks and multi-armed bandits for falsifying the safety requirements of cyber-physical systems. These contributions were received from: Finland, France, Czech Republic, and Sweden.

This year we will have two keynote presentations. The first one will discuss principles and challenges of security testing as part of the software quality assurance process, given by Dr. Wissam Mallouli, CTO of Montimage, a French company developing tools for testing and monitoring networks, applications and services, with focus on the verification of functional, performance and security aspects. The second presentation will be given by Dr. Markus Borg from RISE Research Institutes of Sweden on using search-based software testing to guide the strive for robust machine learning models highlighting the lessons learned in the mobility domain.

Last but not least, we would like to thank the ICST 2022 organizers, ITEQS 2022 program committee, as well as the authors and the participants for assuring the quality and continued success of the ITEQS workshop.

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Looking forward to seeing you at ITEQS 2022!