

Preface

Increased connectivity and software complexity lead to an ever-growing demand for techniques to ensure software quality, dependability, reliability, and security. The risks that software systems do not meet their intended level of quality can have a severe impact on vendors, customers, and even society at large. The precise understanding of risks has become one of the cornerstones of critical decision-making within complex social and technical environments.

Traditional approaches for ensuring system quality address risk implicitly rather than systematically. However, there is a growing interest in enhancing traditional approaches for ensuring system quality by taking risk systematically into account. For instance, in traditional test approaches, test planning and prioritization are often based on an implicit notion of risk; systems, functions, or modules, which are known to be critical, are tested more intensively than others. However, taking risk systematically into account allows for a more rigorous prioritization process that is better documented, less dependent on human guesswork, and more easily supported by tools.

The RISK Workshop series has emerged as a high-profile series of events that discusses innovative work in the areas of software risk assessment, testing, and the combination thereof. We have been able to look back on four successful years, in which we have been involved in different conferences and initiated a fruitful exchange between scientists from academia as well as from industry.

This volume contains the proceedings of the 4th International Workshop on Risk Assessment and Risk-Driven Quality Assurance (RISK 2016) held in October 2016 in Graz, Austria, in conjunction with the 28th International Conference on Testing Software and Systems (ICTSS). RISK 2016 brought together researchers from Europe who study, develop, and evaluate innovative techniques, tools, languages, and methods for risk assessment and risk-driven quality engineering. During the workshop, the participants discussed 11 peer-reviewed contributions tackling challenges of assessing and managing safety, security, and reliability risk, and in particular the intersection between these areas. The workshop was structured into three sessions on Security Risk Management, Security Risk Analysis as well as Risk-Based Testing.

We would like to take this opportunity to thank the people who have contributed to the RISK 2016 workshop and helped make it a success. We want to thank all authors and reviewers for their valuable contributions, and we wish them a successful continuation of their work in this area.

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