ICSEA 2022

Forward

The Seventeenth International Conference on Software Engineering Advances (ICSEA 2022), held between October 16th and October 20th, 2022, continued a series of events covering a broad spectrum of software-related topics. The conference covered fundamentals on designing, implementing, testing, validating and maintaining various kinds of software. Several tracks were proposed to treat the topics from theory to practice, in terms of methodologies, design, implementation, testing, use cases, tools, and lessons learned. The conference topics covered classical and advanced methodologies, open source, agile software, as well as software deployment and software economics and education.

Other advanced aspects are related to on-time practical aspects, such as run-time vulnerability checking, rejuvenation process, updates partial or temporary feature deprecation, software deployment and configuration, and on-line software updates. These aspects trigger implications related to patenting, licensing, engineering education, new ways for software adoption and improvement, and ultimately, to software knowledge management.

There are many advanced applications requiring robust, safe, and secure software: disaster recovery applications, vehicular systems, biomedical-related software, biometrics related software, mission critical software, E-health related software, crisis-situation software. These applications require appropriate software engineering techniques, metrics and formalisms, such as, software reuse, appropriate software quality metrics, composition and integration, consistency checking, model checking, provers and reasoning.

The nature of research in software varies slightly with the specific discipline researchers work in, yet there is much common ground and room for a sharing of best practice, frameworks, tools, languages and methodologies. Despite the number of experts we have available, little work is done at the meta level, that is examining how we go about our research, and how this process can be improved. There are questions related to the choice of programming language, IDEs and documentation styles and standard. Reuse can be of great benefit to research projects yet reuse of prior research projects introduces special problems that need to be mitigated. The research environment is a mix of creativity and systematic approach which leads to a creative tension that needs to be managed or at least monitored. Much of the coding in any university is undertaken by research students or young researchers. Issues of skills training, development and quality control can have significant effects on an entire department. In an industrial research setting, the environment is not quite that of industry as a whole, nor does it follow the pattern set by the university. The unique approaches and issues of industrial research may hold lessons for researchers in other domains.

We take here the opportunity to warmly thank all the members of the ICSEA 2022 technical program committee, as well as all the reviewers. The creation of such a high-quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and effort to contribute to ICSEA 2022. We truly believe that, thanks to all these efforts, the final conference program consisted of top-quality contributions. We also thank the members of the ICSEA 2022 organizing committee for their help in handling the logistics of this event.

We hope that ICSEA 2022 was a successful international forum for the exchange of ideas and results between academia and industry and for the promotion of progress in software engineering advances.

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