

Fourth International Workshop on Variability and Evolution of Software-Intensive Systems (VariVolution 2021)

Lea Gerling

University of Hildesheim, Germany
gerling@sse.uni-hildesheim.de

Kristof Meixner

TU Wien, Austria
kristof.meixner@tuwien.ac.at

Sandra Greiner

IT University of Copenhagen, Germany
grei@itu.dk

Gabriela Karoline Michelon

JKU Linz, Austria
gabriela.michelon@jku.at

ABSTRACT

Software versions resulting from evolution in time (revisions) and space (variants) are still separately managed instead of being treated uniformly. Recently, several research activities have focused on the integrated management of evolution and variability. Existing approaches stem from multiple origins, most notably from the fields of software configuration management and software product line engineering. For instance, variation control systems adopt a holistic view on software evolution in time and space with the ultimate goal of systematically managing software revisions and variants. *VariVolution* (the 4th International Workshop on Variability and Evolution of Software-Intensive Systems) aims at bringing together active researchers studying software evolution and variability from different angles as well as practitioners who encounter these phenomena in real-world applications and systems. The workshop offers a platform for exchanging new ideas and fostering future research collaborations and synergies.

CCS CONCEPTS

• **Software and its engineering** → *Software product lines; Software configuration management and version control systems.*

KEYWORDS

Evolution, variability, version control, configuration management

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WORKSHOP SUMMARY

Just like software in general, software product lines are subject to frequent changes. This introduces evolution as a second problem dimension in addition to variability, which is the primary problem dimension addressed by software product line engineering.

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Traditionally, the methods and tools applied for revision control and variant management are radically different and mutually disjoint although research has already suggested that evolution and variability can be tackled in a holistic way.

VariVolution offers a collaborative forum to present and work on this research direction. With the fourth edition of the VariVolution workshop, we follow the topics and intentions of previous years [1–3], conveying concepts of software evolution to the variability management community. The objectives of the workshop are:

- Conceptual approaches and technical solutions for uniform management of variability in time and space
- Variation control systems and similar supportive solutions
- Concepts enabling software product line modernization
- Evolution problems concerning specific variability mechanisms (e.g., delta-oriented, annotation-based)
- Variability- and evolution-friendly software development processes (e.g., reactive, incremental, agile)
- Tools implementing above concepts
- Investigations and classifications of real-world problems caused by the combination of variability and evolution
- Industrial challenges and lessons learned

VariVolution aims to establish collaborations on evolving variability by raising the awareness for open problems, presenting novel techniques, and providing a discussion forum for future research.

We received two submissions for the fourth edition of VariVolution, out of which the program committee accepted one full and one short paper to be included in the workshop.

Website: <https://sites.google.com/view/variolution2021/>

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