

# Towards a Software Reengineering Body of Knowledge (SREBOK)

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## Abstract

The special interest group software reengineering (FG-SRE) of the German Informatics Society (GI e.V.) meets to discuss and move forward the state-of-practice and research of software reengineering in the German-speaking countries since 1999. In 2021 we started an initiative to collect and share the knowledge about the state-of-the-art in software reengineering to help practitioners and researchers to get an understanding of the field. In this paper and the associated talk, we present the progress and expected results of this initiative.

**Introduction** Software reengineering (SRE) is concerned with “the examination and alteration of a subject system to reconstitute it in a new form and the subsequent implementation of the new form” [2]. The field of SRE is very broad, incorporating technical and organizational aspects, which stretch through all phases of software development. This broadness makes it difficult to get an overview of the field, e.g., for practitioners to learn about SRE and apply it to software systems and for researchers to identify valuable points for research.

To tackle this problem, on the 22nd Workshop on Software Reengineering and Evolution 2021, the special interest group software reengineering (FG-SRE<sup>1</sup>) of the German Informatics Society (GI e.V.) started an initiative to collect their knowledge and experience and share it with the public. The initiative’s goal is to describe the state-of-the-art of SRE as an entry point for interested software engineers to learn about SRE and as a reference to existing further literature. In this contribution and the associated talk, we present the current state & planned activities for achieving this goal and how the audience, members of our special interest group and further experts in the field can contribute to the project.

<sup>1</sup><https://fg-sre.gi.de>

**Current State of the Initiative** We decided to create a citable open access publication that collects and describes the relevant aspects of SRE. The “Software Reengineering Body of Knowledge” (SREBOK) is intended to describe the aspects deeply enough to serve as a self-contained overview and reference document while referencing further reading for details comparable to the Software Engineering Body of Knowledge [1]. The publication will present definitions of SRE alongside reasons for and goals of SRE. It will present challenges, risks and chances of SRE. Major chapters will describe foundational practices, processes and technical and organizational aspects. It will also set the context of the current state-of-the-art by commenting on the history and the envisioned future of SRE. Besides SRE, it will also describe means to *design for future*, i.e. how to design software products and development processes in a way that they are beneficial with respect to maintenance, evolution and SRE in the future.

Currently, the initiative has defined the intended format, content and structure of the publication. In a first review phase, the current results were reviewed by further experts in the field to ensure high quality and completeness.

**Planned Activities** In the Workshop on Software Reengineering and Evolution we will present the current state of the document and invite the workshop participants to show their interest in contributing to the document, e.g., by co-authoring a chapter or section. As the next steps, we plan to:

1. identify potential co-authors for chapters and sections of the SREBOK in the workshop,
2. sketch the chapters’ contents in detail, together with all (potentially new) co-authors, to create an overview of the whole document,
3. contact potential publishers in parallel,
4. iteratively write the document as a group, and

5. publish when ready.

**Final Remarks** We are currently actively searching for co-authors for the SREBOK. We call every interested party to join our effort to share our knowledge. If you are interested in joining, please address Marco Konersmann via [konersmann@uni-koblenz.de](mailto:konersmann@uni-koblenz.de).

## References

- [1] Pierre Bourque. *SWEBOK : Guide to the Software Engineering Body of Knowledge*. IEEE Computer Society, Los Alamitos, CA, 2014.
- [2] Elliot J. Chikofsky and James H. Cross II. Reverse engineering and design recovery: A taxonomy. *IEEE Softw.*, 7(1):13–17, 1990.