



Software Engineering Seminar

Automated Refactoring Techniques

Description

Refactoring is the process of restructuring existing program code *without changing the visible outcome* of the executed program. This includes changes (i.e., improvements) to the readability, complexity and performance, among others. Manually refactoring large portions of program code is a very time-consuming and, possibly, error prone task. For many specific refactoring goals, *automated refactoring techniques* have been developed to help a developer with this task.

The student should explore and discuss the current state of the art of automated refactoring techniques.

References

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- [2] Adam C. Jensen and Betty H.C. Cheng. On the use of genetic programming for automated refactoring and the introduction of design patterns. In *Proceedings of the 12th Annual Conference on Genetic and Evolutionary Computation, GECCO '10*, pages 1341–1348, New York, NY, USA, 2010. ACM.
- [3] Sang-Uk Jeon, Joon-Sang Lee, and Doo-Hwan Bae. An automated refactoring approach to design pattern-based program transformations in java programs. In *Ninth Asia-Pacific Software Engineering Conference, 2002.*, pages 337–345, Dec 2002.
- [4] Iman Hemati Moghadam and Mel Ó Cinnéide. Code-imp: A tool for automated search-based refactoring. In *Proceedings of the 4th Workshop on Refactoring Tools, WRT '11*, pages 41–44, New York, NY, USA, 2011. ACM.

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