

Title / Titel

A Study On Behavior Preservation of Test Code while Refactoring

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To whom is the presentation addressed? / An wen richtet sich der Beitrag?

Software developers and researchers interested in Refactoring and Unit testing

Keywords / Stichwörter

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Abstract / Zusammenfassung

The primary concern of the refactoring process is to ensure that external behavior of the code does not change. Automated unit tests form a vital part of refactoring activity and are written to validate the code once refactoring is carried out on code. However, many refactorings invalidate these unit tests and there is need for adapting the unit tests for syntactic and semantic alignment with refactored code. The cost and effort involved in adapting the unit test suites is huge, particularly for large systems. Hence, tools and techniques are needed to automate the task of unit test code adaptation. There are no well defined patterns or guidelines that can aid developers to fix test code after refactoring. Moreover, a significant number of refactoring guidelines by Fowler are found to be insufficient that could keep the external behavior of the production and test code intact. Our analysis shows that all refactoring mechanics are not written at the same level of detail. Therefore, in this paper, we analyze and present an exhaustive categorization of refactorings based on their impact on production and test code together. In addition, we present extended refactoring guidelines that adapt the test code to keep it aligned with refactored production code

Biography / Biografie

Mrs. Basit is a Phd Candidate at FAST NUCES Pakistan, Her research interests include Empirical Software engineering, Formal Methods in Software Engineering, Program Manipulation and evaluation.

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