Analyzing Object Models with Theory of Innovative Solution

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Abstract

Object-Oriented Modeling is a modeling paradigm mainly used in computer programming that assists the programmer to address the complexity of a problem domain by considering the problem and reduce the effect on model caused by such problem and make designs more robust, more maintainable, and more reusable. It is a design strategy where system designers think in terms of 'things' instead of operations or functions. Object-Oriented software projects are becoming more popular than structured or functional technology based projects. While Object-Oriented modeling are already arriving in the marketplace but their formal foundations are still under development. Object Technology offers support to deliver products to market more quickly and to provide high quality with lower maintenance costs. Quality Assurance is an important field of software engineering and there is need for good Object-Oriented metrics and models for both process and product. The quality of object-oriented design has a decisive impact on the quality of a software product; but due to the diversity and complexity of design properties like coupling, encapsulation etc their assessment and correlation with external quality attributes like maintenance, portability etc is hard. To address these issues, we will use the innovative solution (TRIZ) to enhance quality with available Object-oriented metrics and affecting factors. TRIZ is a problem-solving, analysis and forecasting tool that is abbreviation of Russian word Teoriya Resheniya Izobretatelskikh Zadatch which typically rendered as the Theory of Inventive Problem Solving. The objective of TRIZ is development of an algorithmic approach to the invention of new systems, and the refinement of existing ones. In this paper we will apply TRIZ to Object-oriented Models to enhance the quality of Object-oriented design. This paper describes a method based on TRIZ principles and tools that can be easily applied to maintain the quality of Object-Oriented based models.