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A Brief Comparation of Generative Programming Technologies

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Abstract

Generative programming is the emerging programming paradigm of the last ten years. Its approach is to generate customized programming components or systems. Integration of domain specific languages, implementation of active libraries, compile-time adaption and maintaining cross-cutting concerns in software systems are the major areas of application of generative programming. Generative programming itself is a collection of various technologies. Aspect-oriented programming, template metaprogramming, macro-based extensions of functional programming are used in industrial environments. Theoretical fundations and practical applicability of generative programming, however, are still not fully revieled. In this paper we make an attempt to compare the different areas of generative programming. We overview their main properties, positive and negative aspects during the software life cycle.

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