

Towards a methodology for rigorous development of generic requirements patterns.



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Abstract

We present work in progress on a methodology for the engineering, validation and verification of generic requirements using domain engineering and formal methods. The need to develop a generic requirement set for subsequent system instantiation is complicated by the addition of the high levels of verification demanded by safety-critical domains such as avionics. We consider the failure detection and management function for engine control systems as an application

domain where product line engineering is useful. The methodology produces a generic requirement set in our, UML based, formal notation, UML-B. The formal verification both of the generic requirement set, and of a particular application, is achieved via translation to the formal specification language, B, using our U2B and ProB tools.



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