

Using inheritance to represent hierarchical software product lines

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Description

While some domains need a simple software product line (SPL) which is well understood and whereby products can be automatically generated, others, such as complex systems, demand a larger variety of products, hence the composition of several SPLs is needed. Manipulating more than one SPL at the same time means using different feature models, which is more complicated. One way to reduce complexity is by using a top-down hierarchical structure as we argue in this paper. In this paper, we present a new structure dedicated to composite SPLs that: 1) models composite SPLs using composition models; 2) derives architecture models based on a feature-component mapping technique. In the context of an e-government product line a simple illustrative example is presented to illustrate the overall process, from the feature model of each different product line to the final application.