Abstract

The development of complex software systems involves the participation of many stakeholders (e.g. customers, users, analysts, designers, and developers) who collaborate in publishing numerous heterogeneous software artifacts such as source code, analysis models and design, unit tests, XML deployment descriptors, the user guides, among many others. Since these artifacts are spread over several designs sites and therefore stored in several version managers. In this context it becomes very difficult to ensure their consistency and manage the impact of their evolution out the development process. In this article we propose a unified meta-model to represent the different elementary operations built on a set of heterogeneous artifacts and establish a uniform formalism to express consistency rules as logical constraints based on the meta-model construction. Our approach allowing us to deal with consistency between different artifacts whatever their kind. We will validate our approach by building a eclipse plug-in (in progress) that will provide an interface to declare the rules of consistency and check engine to detect violations of constraints listed previously.
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