Dear editors,

We are submitting the manuscript titled « PAMELA: an annotation-based Java Modeling Framework » as an Original Software Publication to be considered for publication in Science of Computer Programming journal.

Our manuscript describes an operational modeling approach. While Model-Driven Software Development focuses on conceptual level and provides required and pertinent abstractions, this raises two major issues. First, this creates an important gap between the conceptual level and the source code, where semantics may be totally hidden or implicit. Second, it becomes hard to maintain the synchronization of the models and the code in a co-evolution scenario where they may both evolve independently. Eventually this limits the use of Model-Driven Software Development tools and techniques in industrial contexts.

To cope with these problems, we propose a shift in the modeling paradigm in which models and code are developed together and at the same time in what we call a continuous modeling process. The PAMELA framework supports this paradigm shift by providing the means to annotate Java code with model-based annotations, which are interpreted at runtime.

The framework provides meta-programming support (standard or specific semantics), multiple inheritance and traits programming, contract programming, aspect programming and runtime weaving. This framework also offers operational features derived from model-level edition such as notification management, validation, persistence, comparison and object graph computation.

PAMELA approach has been tested and validated on some Java-based industrial projects. The tool is used in various software, and is now really mature and stable, making it a credible and reliable alternative in the context of Model-Driven Engineering.

To sum up, we believe that the manuscript may form a useful and interesting contribution to the journal.

Sincerely,

Sylvain, Guillaume, Caine, Joel, Jean-Christophe, Salvador and Antoine