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Development of a modular framework for computational modelling approaches

ABSTRACT

Number of computational tools of mathematical models allow simulations of performance and analysis of the established models of biological systems in the field of synthetic and systems biology are already in place. The biggest drawback of the existing tools is the lack of modularity. The main objective of the thesis is to develop a modular framework that will enable development and integration of various building blocks mainly for synthetic and systems biology, and to enable future users and researchers to easily add their own modules that implement modern approaches to modeling, analysis and design of biological systems. This paper introduces methods, tools, and development itself for establishing such a modular system, as well as instructions and guidance for future developers.

Key words: computational modeling, modular framework, OSGi, Java, NetBeans, RCP