Framework for development of enterprise-ready simulation models and domain-specific decision support tools in Java programming language

Package (system) name

Amalgama Platform.

Authors

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Official developer site

www.amalgamasimulation.com
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Area (s) of application package (system)

Amalgama Platform is a framework for development of enterprise-ready simulation models and domain-specific decision support tools in Java programming language.

Supported types of modeling

Continuous, discrete, discrete-event, agent.

Scientific-technical description

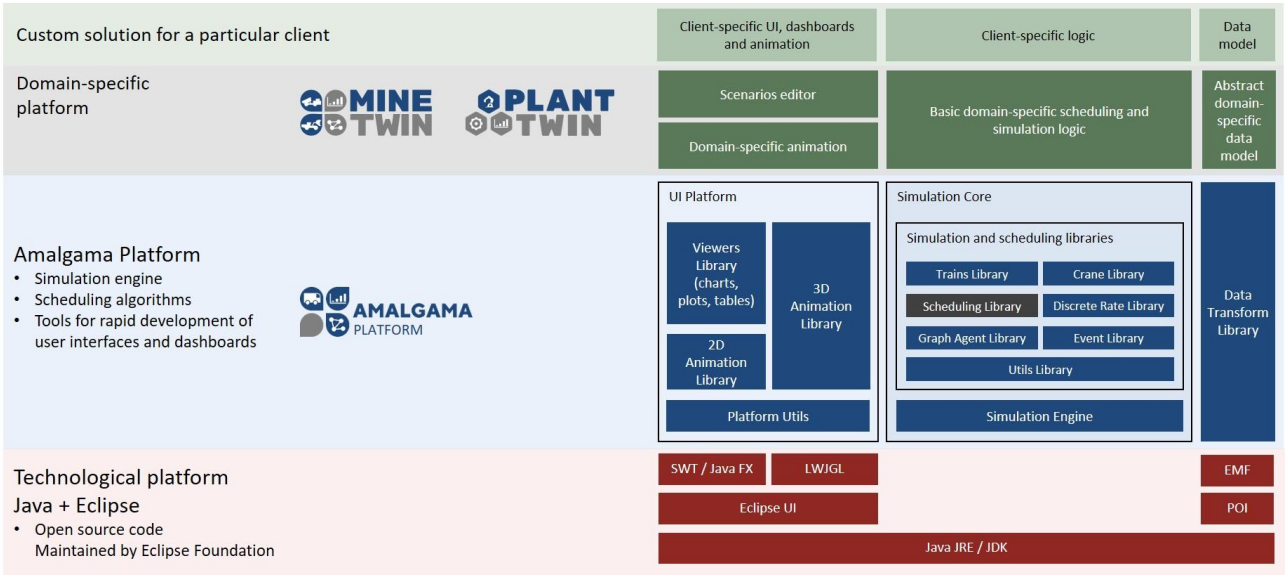
Amalgama Platform consists of:

- simulation engine for building simulation models;
- Java API (application programming interface);
- libraries for simulation complex processes such as fluid flows, movement of cranes, trains, etc;
- visual components: tables, graphs, diagrams.

The platform is designed to provide full decoupling of data, logic and presentation. Based on this, it supports all types of solutions, such as:

- Standalone cross-platform desktop simulation applications;
- Simulation models with shared scenarios repository and web view of the results;
- Fully embedded simulation models with testing and verification tooling for support and maintenance purposes.

The architecture of the solutions based on the Amalgama Platform is illustrated in the diagram below.



Development stage (implementation) of the package (system)

Commercial item.

Package (system) status

A software product is designed for commercial distribution in the open market.

Hardware and software requirements

CPU: 64-bit, 4 Cores, 2 GHz
RAM: 8 GB
1 GB of available HDD/SSD space

Organization (enterprise, company, group of specialists) the product developer

Amalgama LTD
Office 75, Karl Liebknecht Str. 24/5A, Ulyanovsk, 432017, Russian Federation.
The company specializes in the development of complex simulation models and decision support systems in mining, manufacturing, metallurgy, retail, distribution, and other industries. Amalgama was founded in 2011. Over 12 years of activity, more than 35 successful projects in the field of simulation modeling have been completed in Russia and abroad.
The team consists of 8 members, including developers, mathematical analysts, architects of simulation models, including 3 Ph.D.'s.

Educational system version

A temporary license without functional limitations (trial) is available for training.

Technical support and training

Documentation and educational materials are available on the platform's website at www.platform.amalgamasimulation.com.
Technical support is available upon request for non-commercial use and under partnership agreements. In cases of commercial use of the software product, the cost of technical support is subject to negotiation.

Package (system) price

The price is negotiable.

Legal protection of the intellectual property object

Certificate of state registration of a computer program No. 2022660788 dated June 09, 2022.

Market review (introduction)

The software product is suitable for creating digital twins in various industries, including agriculture, metallurgy, mining, and engineering.
Benefits of the software product:

- Paradigm-free approach and lightweight simulation API;
- Solutions are based on structured data models, not ad-hoc point-and-click designs;
- Built-in algorithms and building blocks for scheduling logic of any complexity;
- Compatible with enterprise Java technologies.

Documentation

The documentation and educational materials are available on the website www.platform.amalgamasimulation.com.

Language support

Russian, English.

Publication on the website 30.09.2023