

JAS 1.0: new features of the first major release

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Abstract

The JAS (Java Agent-based Simulation) library is a Java toolkit for creating agent-based simulation models. It is based on a discrete-event scheduling system, supporting the development of a wide range of discrete simulation models.

This paper describes the new features provided by the first major release of JAS.

A new graphics user interface has been introduced. The experimental simulation environment is now implemented as a parent window containing the simulation controls as well as the windows created by the users' models.

Particular attention has been put on the development of a new statistical package, now supporting all the Java native data types. The *jas.statistics* package provides both a rich set of statistical functions and the possibility to add new custom statistical computers.

In addition, a new database package makes JAS able to save and retrieve data from HSQL databases. It also provides an automatic system to collect simulation data into databases.

The plotting library has been enriched with new statistical charts, in order to support the new statistic collectors.

A brand new graph library has been introduced in JAS. It is designed to manage and visualize networks of “social” agents and it is equipped with a rich set of Social Network Analysis based statistic computers.

The paper is concluded with a brief discussion about the features scheduled for the next versions.