Platform's synthetic description

Netlogo is a programmable modeling environment for simulating natural and social phenomena, authored by Uri Wilensky in 1999 and in continuous development ever since. It is particularly well suited for modeling complex systems where modelers can give instructions to hundreds or thousands of "agents" all operating independently. NetLogo lets students and researchers open simulations and "play" with them. Although it is simple enough to quickly build your own models, it is yet advanced enough to serve as a powerful tool for researchers in many fields. It has extensive documentation and tutorials and comes with the Models Library, a large collection of pre-written simulations that can be used and modified. These simulations address content areas in the natural and social sciences including biology and medicine, physics and chemistry, mathematics and computer science, and economics and social psychology. NetLogo is the next generation of the series of multi-agent modeling languages including StarLogo and StarLogoT. NetLogo runs on the Java Virtual Machine, so it works on all major platforms (Mac, Windows, Linux, et al). It is run as a desktop application. Command line operation is also supported.

Cormas is an Agent based modeling platform dedicated to the study of the interactions between societies and their environments. Its name stands for COmmon-pool Resources and Multi-Agent Simulations. It has been designed to ease the conception and development of ABMs but provide powerful tools to track and to analyze model simulations. The platform is based on the Pharo programming environment, which allows models to be developed in Smalltalk. It is a framework from which users can create specific entities for their own models through specialization and refinement. Although it can address all possible content areas in natural and social sciences, a particular attention has been put to provide interactive abilities with modelers and users, making it easy to switch during a simulation run from autonomous simulated entities to human driven agents.

Gama is an easy-to-use open source modeling and simulation environment for creating spatially explicit agent-based simulations. It has been developed to be used in any application domain such as urban design, crisis management or epidemiology. The generality of the agent-based approach advocated by GAMA is accompanied by a high degree of openness, which is manifested, for example, in the development of plugins designed to meet specific needs, or by the possibility of calling GAMA from other software or languages (such as R or Python). This openness allows the more than 2000 users of GAMA to use it for a wide variety of purposes: scientific simulation, scenario exploration and visualization, negotiation support, serious games, mediation or communication tools, the possibilities are endless! The latest version of GAMA, labeled 2025-06, can be freely downloaded or built from source, and comes with hundreds of templates, tutorials, and extensive online documentation. A large set of features of the platform makes it a good choice for: data-intensive models - it offers the possibility to load and

manipulate GIS (Geographic Information System) data in the models, and a large number of data types, such as CSV files, Shapefiles, OSM data, grids, images, SVG files, but also 3D files, such as 3DS or OBJ.

Platform's SWOT

	Strength	Weakness	Opportunities	Threats
Netlogo	Easy to learn, hard to master	Limited expressiveness	Largest ABM community	Rely on other contribution (plugins) for important features
Cormas	Easy to bring on the field	Generic programming language	Bridges with the Companion Modeling approach	Ongoing deep platform changes
Gama	Easy to feed with data and visual assets	Learning curve	Small but open source active community	Push toward building complicated models

Platform's best peak

Go for Netlogo if…

- you want the "lightest" platform in terms of learning curve and coding requirements
- you have no one to help you master the platform in your direct working environment
- you want to build simple and theoretical models

Go for Cormas if…

- you want a platform to discuss and to manipulate models with stakeholders
- you have no fear of learning a new generic programming language (SmallTalk)
- you want to build stylised human-environment interaction centered models

Go for Gama if…

- you want a compromise between platform accessibility and programming power
  you already have coding knowledge and look for a platform to include in your workflow
- you want to build data-intensive models with great visual assets