

Swarmfest 2009 Abstracts

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The Eclipse Agent Modeling Platform: Complexity, Cooperation and Community (30 minutes)

The Agent Modeling Platform (AMP) has been accepted as an Eclipse Incubation project and will make its debut at Swarmfest 2009. The ABM software community could be a case study for group complexity -- competing needs and organization priorities have created a diverse, creative but bewildering and arguably wasteful array of tools. MetaABM was introduced at Swarmfest 2008 as model-driven approach to bridge the gap between complexity and commonality. But I'm convinced that the realization of that vision demands a run-time technology to match design-time capabilities. By utilizing the powerful and flexible Eclipse infrastructure we now have the capability to support independent modeling engines, visualization, data and other tools within a shared high-quality environment. Escape is a component of AMP that provides an Eclipse enabled version of Ascape. In this session we'll focus on the user benefits of AMP by demonstrating Escape and other tools within the AMP environment.

A Sugar Epidemic (15-30 minutes)

Sugar is another Swarmfest exclusive. It's an ABM specific high-level language with features of logic, data-flow and functional languages designed for maximum expressiveness and accessibility. And since it is transformed into an Acore (MetaABM) model it carries the same key advantage -- Sugar models can automatically generate code for arbitrary ABM platforms, including Escape, Ascape and Repast Symphony. Influenza is on everyone's minds, and we'll write a version of a model that we've been developing with collaborators in the bio-medical community.

The Agent Modeling Platform in Depth (30-?? minutes. This session could really benefit from more time, but it will have a strong technical focus.)

Eclipse is more than an Open Source software technology. It is also a set of Open Development practices that encourage -- in fact demand -- an open, inclusive approach to software development. The Eclipse AMP proposal stated: "AMP is also not intended as a monolithic ABM tool. Instead it provides infrastructure and highly leveraged tools for ABM and other agent technologies. As with the Eclipse project itself, AMP's vision is of a set of loosely coupled yet strongly collaborating components that integrate and enable a large and diverse ecosystem of tools and approaches." How can that work in practice? We'll provide concrete examples of how developers -- as well as ABM tool users with programming experience -- can easily contribute pluggable, run-time integrated components for AMP. We'll also discuss enhancements and changes to AMF Acore, the Eclipse-hosted successor to the MetaABM system.