Building Up a Simple Agent-Based Model: The Manual Technique

Nathaniel Osgood

Add a New Model Project



Filling in the Model Project Details

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Create a new m	odel	
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Location:	/Users/osgood/Models	Browse
Java Package:	model	
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Add an Active Object Class

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Filling in the Agent Class Details

Active Object	Class	
Name:	Person	
Description:		
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The Updated Project



Declaring "Person" as an Agent





Double-Click on "Person" & Scroll Until you See The Cross-Hairs



Create an Oval at the Origin (Cross-Hairs)



From the Centre of the Oval, Draw a Line



Set the "Replication" Dynamic property of the *Line* so there is 1 for each connection

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Also set the "dX" and "dY" properties



Double Click on "Main" class Name to View this it (Should Appear on Top Tab)



Click and Drag from "Person" into the Space on the Right



Here!

Set the Count of Agents in the Agent Population

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For Clarity, Rename "Person" to "Population"

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Add an Environment



Set the Network Type to Use



Make the Population Depend on the

Environment (for placement, connections, etc.)



Try Running the Model!



Adding "Color" Variable



Make Oval "Color" property Use Variable



Add Entry Point of State chart



Add in "Susceptible" State



Connect with Entry Point



Fill In Code to Color Green when Enter State



Adding in "Infective" State



Set to Color Red when Enter State



Adding Transition



Adding Infection Clearance Transition



Run the Model!



Completing Set-Up	
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Model Presentation



Making Infection Depend on a Message



Using a "Contact" Event to Spread Infection



Setting "Person" so forwards Infection

Message to Statechart



Setting Startup Code So Initially Infects a Random Person (so start with 1 infective)



Infection Percolation over the Network



Tip: Beware Loose Connections



Corrected

