Agent Based Modelling and Simulation
Session 02

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Outline

Summary

Summary of Practice Session

In this session, we have coded, compiled and run a simple multi agent model. In this ultra-simplistic model we had two types of agents, producers and consumers. The aim of the practice was to demonstrate (1) how to define agents, their memory variables and the state transitions. See the *freemarket.xml* (2) How to initilaize memory variables and number of agents in the model. See *0.xml*. (3) How to parse the model via *xparser*, and examine the state transition graph, the *stategraph_color.dot*, how to compile the agent functions via *make* command, how to run the compiled *main* file with a desired number of iterations and with initialization filr *0.xml*.

Steps for Compiling and Running a Model under a Windows Machine

A generic process for Windows:

Please see the Lecture01-Practice slides or your own notes. This is a repetition of material we have seen during that first practice session.

1. Creating or locating a model. *"cd C:Whatever the path is for the class material*
2. Compiling the model description: *"Whatever the path is for the xparser\xparser.exe freemarket.xml"*
3. Compiling the function implementations: *"make LIBMBOARD_DIR=C: Whatever is the path to the libmboard directory."*
4. Running the compiled model: *"main 10 "Whatever the path is for the "\0.xml -f 1"*

Steps for Compiling and Running a Model under a Windows Machine

A sample process:

Please check the **"commands.txt"** file within **""Practice Materials - Session 02""**. It includes commands and their explanations of the material we had in the lecture. Note that the process is not principally different than what is done earlier or what can be done within a Windows environment. It is just a thread of commands under MAC OS system.

Manual for XMML and FLAME Model Implementation and Execution

How to progress forward?

Check the online manual. It does contain everything you need to design, implement and run your project:

- `http://www.flame.ac.uk/docs/user_manual.html`

Graphiz Tool: Visualizing State Transition Graph

Steps:

1. The site: `http://www.graphviz.org/Download_windows.php`
2. Pick the "msi" version: `http://www.graphviz.org/pub/graphviz/stable/windows/graphviz-2.34.msi`
3. Use the installed **GVEdit.exe** program to inspect for instance the state transition graph **stategraph_color.dot** or any other ".dot" graphs generated by the xparser.

Agent-agent Communications

How to send and receive messages?

We have not covered this material in the lecture. However, you can examine Model 02 and and Model 05 within the "Session 01".