

COMPUTER SYSTEMS RESEARCH  
Fall/Spring 2007-2008  
Code and Testing Writeup Quarter 1

**Running Description of Code:**

Currently the program displays the environment, and has the agents move and harvest sugar. The display draws each location in the matrix using a circle whose radius increases based on the amount of sugar at that location. The display draws the agents as a red circle with the same radius as a location with the maximum amount of sugar. The display also shows the current time step. The GUI window has a frame containing the canvas and buttons to play, pause, and step the simulation and to quit the program. The agents themselves choose the closest location with the greatest amount of sugar. If more than one location matches these requirements, one of them is randomly chosen. Then the agent harvests the sugar and consumes from his own supply of sugar. At each time step the sugar in the environment grows back by one.

**Description of Testing:**

The testing I have done so far has been verifying whether or not my running program matches the one described by Axtell and Epstein in Growing Artificial Societies. I have done various tests displaying to the command line different information such as the possible choices of an agent or the amount of sugar at each location. This information is used to track down the problem in the code so that the program will run correctly. Now that I have a working program, to which I will continually add more features, I can use graphs displaying certain variables, such as the wealth of agents, to compare the graphs to the graphs and equations in Axtell and Epstein's book. I will start implementing these graphs for testing shortly.