Game AI – Programming Assignment (Ms. Pacman vs Ghosts)

Due: Thursday 30th April 2015 (to be demoed in class)

For this assignment, you will be creating AI to control the ghosts in Pacman. The purpose of the assignment is to try some of the decision making techniques discussed in the module. You are however free to apply any other AI technique you deem relevant.

The assignment can be done in groups, preferably of size two but groups of size one and three are also allowed.

We will be using the IEEE Ms. Pac-Man vs. Ghost Team framework for this assignment, which has historically been used in game AI research competitions. The framework is available for download from the shared Drive and from http://www.pacman-vs-ghosts.net where there are some tutorials and getting started guides, but unfortunately the Javadoc is no longer hosted there

The framework provides a simple interface for you to write a Java agent to control the ghosts, and also comes with several example agents for both Pacman and the ghosts (including a pass-through controller that permits a human to control Pacman). It also provides some important pathfinding functions that you are permitted to use in the assignment.

You have to write at least one controller for the ghosts. You can read a description of the original ghost behavior AI at http://gameinternals.com/post/2072558330/understanding-pac-man-ghost-behavior. This can be used as the basis for your ghost controller if you wish.

It is not necessary to alter the framework in any way, other than changing a line in `Executor.java` that determines which controllers will be used in the game. All characters are controlled by a single controller object that inherits from `Controller`. Each controller should be implemented in a separate Java class (see the example controllers that come with the code). The controllers should extend the class `Controller`. Your ghost controller should go in the `game.entries.ghosts` package. All your code should reside in the appropriate folder - if you have separate AI class files, they should be in subfolders of game/entries/ghosts/.

You are required to submit the source code for your assignment and a short writeup (up to a page) about how your controller works.