

Kittera McCloud
TCSS 305
2020-12-16
Kivanç A. Dincer

PRGA04 Writeup

Design:

I chose to use JPanels to construct the map. Each grid location is represented by a MapTile, of which many are contained within a MouseMap. These tiles are how the SmartMouseEntities interact with the “board” of the game.

Each MapTile extends JPanel so that paintComponent() can be exploited to set up conditional drawing code. Each MapTile also maintains a list of inhabitants sorted by a layer value assigned to each one. The first one, if present, is what gets drawn in that tile’s paintComponent().

The game is synchronized with a SmartMouseStatemanager which acts as an event router and translation layer between board and display. It keeps track of the number of cheese on the board and where cheese was added. Furthermore, the Timers which get the whole game moving inhabit the state manager. Finally, it also handles events like game over, victory, reset, mouse pounced, and so on.

Each cat had a basic AI implementation that just follows a very inexpensive procedure. The SmartCat, however, was a challenge that I accepted. I took it as an opportunity to learn something valuable for later, and so I spent the few extra days to familiarize myself with the A* algorithm. I certainly think it was worthwhile.

Takeaways:

This assignment was actually pretty fun in the end. It was as close as I've ever come to doing the "full stack" everyone's raving about today.

I definitely had an opportunity to practice at requirements analysis and structural planning with this project and I do wish I had capitalized on it more. Still, it was practice in place of no practice and between the two the former is preferable.

Pathfinding! That's a huge takeaway. I never thought it could be as easy as A* actually makes it. I'm sure there are better ways, but I had to start somewhere.

This was also my first real experience with Timers. Once I learned about them, the entire game changed, pun thoroughly intended. Suddenly I had a way to make a program time things and have some sense of mild autonomy. The picture is slowly getting clearer.