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IGME.202.05

Assignment: Project 4 HvZ

Description:

In this project, humans and zombies utilizing forces and Reynold’s steering algorithm for movement inhabit a park. Humans wander the park, and zombies pursue the closest human to them. Humans evade the nearest zombie. When a zombie collides with a human, the human is turned into a zombie. The humans and zombies are autonomous agents that make movement decisions, like avoiding trees and staying in the park, based on the environment.

Goblins represent the zombies and peasants represent the humans. The “park” is a forest clearing surrounded by hills.

User Responsibilities:

All the humans and zombies in the scene are autonomous agents that require no input from the user to function. Pressing the ‘D’ key will toggle debug lines on and off. Pressing the ‘C’ key will transition between cameras.

Three buttons are present on the left side of the screen. The top button adds a human to the scene in a random location, the second does the same with a zombie, and the third clears the park of all humans and zombies.

Above and Beyond:

I added the three buttons listed above that add and remove humans and zombies, as well as multiple cameras that the user can shift through (using the ‘C’ key).

Known Issues:

Once the last human is turned into a zombie, a message appears on the console stating that the forward vector for each zombie object is set to the zero vector. This is not an error, but the reason for this message being stated in the console once per frame per zombie, as well as the way to stop this message from showing, is unknown.

Zombies sometimes clip through the edges of the obstacles when a turn would be too sharp or when they are moving too quickly. They also sometimes clip through the edges of each other when wandering – the separation force is not always strong enough with their larger mass.

Sources:

* Code for the OnRenderObject() method
  + Taken from the project 3 and 4 document on myCourses
* Peasant model
  + <https://assetstore.unity.com/packages/3d/characters/lowpoly-medieval-world-lowpoly-medieval-peasant-122225>
* Goblin model
  + <https://assetstore.unity.com/packages/3d/characters/humanoids/goblin-12131>
* Grass material
  + <https://assetstore.unity.com/packages/2d/textures-materials/floors/yughues-free-ground-materials-13001>
* Tree models
  + <https://assetstore.unity.com/packages/3d/vegetation/trees/realistic-tree-9-rainbow-tree-54622>

Notes:

***\*\* Grace Period*** ***\*\****

I will be using my grace period for this project. The *Cabaret* production ate up my time this past week.