9/22/2023

Today, rat swarm functionality was implemented. I’m using control flow to spawn a certain number of “rats” at a spawnpoint specified by a placeholder cube in the character blueprint. There’s a slight upward impulse added so the rats don’t just get stuck in the ground.

I haven’t quite figured out what I want to signify the completion of the loop to mean. If anything, I might just implement a bool that is true at the start and once the index reaches a certain number it turns false. Additionally, I’ve encountered several crashes via programming infinite loops that immediately spawn hundreds of thousands of rats. *This issue was fixed. I had a loop within a loop, creating two infinite loops.*

For now, the rat models are a default cube.

10/15/2023

Rat models are now an actual rat. Also, they add impulse but only in a straight line. It works mostly as intended, but unfortunately the line they spawn in is a little bit different from the actual game.

2/23/2024

I added another rat blueprint, created as a child of the pawn class, so I could implement the character movement component required for potential possession. Additionally, I added functionality for random roaming/patrolling within a radius based off of where the rat’s initial spawn location is.

3/27/2024

I’m attempting to program movement and test various mechanic ideas. Movement is not happening yet.

The first idea is that on BeginPlay(), I want the rats to simply wander around. However, if there are multiple rats overlapping a sphere radius (each rat instance has one), then I want to activate a swarm.

The Swarm() event is called when enough components with the tag “Swarm” are overlapping the GroupSphere component on the rats. A Boolean variable bIsSwarmEligible? Is used to confirm the number of rats in the vicinity. A swarm of rats \*should\* compare the distance between the nearest AI and the player, and pursue the closer target. If they fail to reach the target, the Swarm event is called again after a check on the Boolean value. If the bool is false, the Move() event is called and the AI patrols randomly. After a successful Move() event execution, the bool check is performed again, determining if they should swarm a target or continue moving randomly.

Bugs/Issues:

I might need a way to make the bool set to false if they are no longer overlapping enough AI.

Collision on the rats causes the player and the AI to freak out. Nauseating.

The rats don’t move. They look like miniature Quinns because of their skeletal meshes.

When the player activates the ability, they take damage. This may be a result of the player spawning enough rats to cause the swarm to be eligible.

*Keep in mind that the player is the closest target for swarm when they spawn it in.*

Rats should only do damage while a swarm is eligible.

3/28/2024

Rats now lose swarm eligibility when the surrounding overlaps are less than 10. They check every time a rat leaves the overlap sphere radius, which means that they’ll continue to check constantly whether they can swarm or not.

Additionally, a new bool was added to check whether or not the rat was player spawned. If true, they will automatically attack the nearest AI (if swarm is eligible). This bool is set to true when the player activates the RatSwarm\_IA().