

DynAI

an UT'99 server mutator tool aiming DM - DeathMatchPlus without extra english skill included

Current archive contains a small Server-Side Mutator in purpose to be used in Levels with good Navigation so it's for A.I. as main goal.

This tool is an option you might not take it account seriously especially if you aren't using Bot (A.I.) in your games. I did this for me as long as I'm not playing DM alone with myself or waiting a player for a couple of minutes of gaming and leaving soon for "reasons". Bot being known somehow, it's using almost the same routes again and again.

Oh well, this tool is able to develop a PathNode Movement - read again - it's able to launch PathNodes in a sort of circle type movement using a random rotation speed and changing even direction of rotation. This makes Bot to do some slopes, navigating a bit randomized. Some Nodes placed in ledges might have chances to develop temporary unreachable routes so Bot will switch route changing default habits.

If this tool is not well enough, source-code is integrated in archive so you might modify/add/switch things. We don't have Net stuff here for a couple of reasons:

- we don't need new data replicated at client for invisible things by default;
- server has authoritative control over A.I. so their movement can be seen Off-Line. In server works like a LiftCenter - client cannot see that thing moving with Lift when playing On-Line (ShowAll command);
- Navigation Help (WayBeacon types) still work and if are properly coded they track PathNodes with no issue.

Tech chapter:

No worries this is pretty simple.

- PathNode is "unlocked" in order to gain movement ability.
- Spawn a DecoTest 1UU higher with a known size.
- DecoTest is moved native if doesn't have place in spawning spot;
- If DecoTest doing a test is moved, that means PathNode debated is too close to a wall or it's a nasty Ramp there;
- DecoTest properly spawned without to be moved away will set itself as a good one;
- While iterating through DecoTest types we mind good ones. We spawn another sort of null decoration like a DISK - Circle. PathNode is moved at disk's boundary (50 UU radius) and will have as BASE this thing;
- New Decoration has a default rotation and is ready to get triggered;
- Last thing is spawning a sort of customized TimedTrigger which will proceed at triggering BASES each 2 seconds;
- Then BASES are going to modify rotation at each trigger hit;
- In next 3 seconds DecoTest decoration types will self destruct without to mess by colliding things in Level;
- In log file (if log is not suppressed) you might see how many PathNodes are supposed to be movable.

The rest:

If tool seems to not help anything then do not use it.

If tool is... not enough with what it does, see source-code for modifications.

If tool is causing a large number of issues but it's fixable, do it.

The occurrences (sorta bugs)

- need Pathing experience for understanding -
 - bOneWayPath settings might suffer - this is not so tested, in DM we need to roam properly - adjust node rotation properly based on CNBase decoration;
 - might push temporary a Node out of visibility with other node - Bot usually is retrying when fails;
 - might rotate even useless nodes (see stupid Levels with Path in air) meh... BOT DOESN'T FLY, and YES we have a mountain of Levels with shitty paths. This time I'm not bother to load tracing things for preventing dumb setup, good night!
 - And so on.

The goal

- Levels with good paths are developing a cute ski sloping type navigation, which is the main purpose of this tool;
- If Level aim usage of such mutator-type but that one special set PathNode might get screwed, then another node can be added in MyLevel as long as this tool IS RESTRICTED to NOT attack other NavigationPoint classes than Engine.PathNode. So custom stuff won't suffer and creativity gets properly unlocked.

Archive Content:

- INT file for local games usage unlocking presence in mutators list;
- U file;
- Current Info Document.

Server setup:

In mutators chain (whatever MapVote), use **DynAI.DynPath** so it's simple, it doesn't require adding in ServerPackages.

Tech Errata:

Due to some problems of Levels able to remove actors right after spawn and causing a null deal in native relocation followed by a game crash, I have modified a couple of things at 02.16.2016:

- PathNode is checked for possible collisions - won't get rotated if is too close by something;
- Initial Wrapper against actor added pending deletion right in next moment - DecoTest was under attack by some dark forces from a sort of Level;
- Base spawns static and it starts rotating after spawn - only if mother DecoTest is OK and not in pending removal time;
- DecoTest removes Collision after spawn - no longer need it after location test.

Coded and checked at

February-14-2016

sudden bad news solved

February-16-2016