

## **NavAdder**

aka Navigation Attacher and Tweaker  
- a tool for UT'99 using XC\_Engine -

### **Purpose:**

This is a mutator - a very small one working with "body parts". This means it will be loaded and will check map. If desired package for map is found it will load that package, an optional module, and launching it. That module-package will execute tweaking operations in map. To summarize, we will not have an almighty package-mutator knowing a lot of maps and testing things in each of them. It will be a small mutator checking if a tweaker file is found and letting tweaker to do its job accordingly and staying passive - all tweaks are done once or, depending on situation some latent stuff is injected being more or less active, triggerable, etc.

### **Mutator operation:**

**NavAdder.NavAdder** (aka XC Navigation Adder - in mutators menu) is loaded as server-side, no packages. It is dependent on XC\_Engine so we won't mess with packages at this point. Mutator will print something in logs, files <name.class> which is looking for. If mutator will find these 2 files it will load them. First file is also a server-side which I'm using to patch things without packages. The secondary will have player needs so mutator will put it automatically in "PackagesMap", no ini editing is required at this point. Second file being a package should have the name with prefix "P\_" (no quotes). If game/server uses hookers for teleporters this mutator has to be prioritized to do the job first, otherwise results are crapped up.

What happens in fact ? First module loaded addressing authority - server, will be capable of tweaking paths, if map is borked in some areas it will inject even a fake navigation. It will correct movers, blocking bad spots where Bots are acting nasty, module was properly tweaking levels where MBot (produced by self person) works like a charm. This server-side actor can be modified anytime because it's not for players - so to speak, we can develop another paths Network whatever next week. Modules are not dependent of main mutator as main mutator has no relations with module, it is The LOADER and nothing more.

The second module is addressing to audio-visual stuff, tiny borks can be covered with decorations and this package is mapped automatically so player will have it without to modify INI files for each map.

Each map which is fixable in run-time can be a subject for this mutator. A certain package is doable anytime so to speak mod is supporting UPDATES related to server-side parts and new maps.

### **Explained files:**

**NavAdder.u** - is the main mutator that needs to be loaded;

**NavAdder.int** - file opening the interface in Mutators list - Off-Line play;

**N1-JIMBO-HTD.u** - this is a Server-Side package loaded by mutator addressing poor pathed map **DM-1on1-Jimbo-HTD.unr**. This U file is loaded by mutator ONLY if this map is running so it won't react in other maps. As you can figure, package has a short name based on Map-Name. It uses 12 characters from map's title. Maps are not provided here. What is changed in that map then ? Some paths are added in areas heading to redeemers, yeah, those small spots have paths by using this mutator and mapped in

run-time.

**INEDRESEARCH.u** - this module is another Server-Side tweaker loaded by mutator if server is running map **MH-BirdBrainedResearch.unr**. Basically MBot was capable of unlocking some weapons while I was busy to unlock the rest of harder ones. It will add MH specific objectives and tweaks accordingly for preventing breaks as much as possible, it will connect forced other messed up nodes, will move levitating nodes back in their locations, it will remove some setup from several InventorySpot types - preventing Bot to be retarded due to facinating mapping idea, GRAB cheat is removed from all movers having this "feature", etc. However, map has some nasty ledges where default Bot might go locked - out of duty, not that much MBot. The result: MBot can reach to end and even to end map regarding to poor cover support which map has in original toward some areas and Teleporters featured craps. This map uses a PrecipitationGenerator - a cancerous and bugged actor for UE1 which this module will shedule to destruction - I'm not gonna mess with that anymore.

**P\_INEDRESEARCH.u** - this is a secondary package which client will load for map **MH-BirdBrainedResearch.unr** but admin will not need other editing - it will go in packages by itself when map is running. As you can see it uses P\_ in front of that name for figuring which stuff needs to be placed in redirect P\_ comes from Package that will be downloaded at a moment. If one of these is missing from System folder nothing will happen, just map will not have that tweaking section. This secondary package replaces some borked weapons and it is adding a few decorations at some poor walls, a lot of stuff is doable here but I think what I did is enough for a normal game.

Lzma file from archive is file for redirect which I'm using VIA XC\_Engine - this file will be downloaded when map is running. You can use UZ as usual if that is more nice for you.

**GXECH.u** - Server-Side automatically loaded when map **MH-GXech.unr** is loaded. It does some paths removal because they develop bad loops in start area, navigation there being based on "pushing" A.I. VIA Uscript. Some actors (useless and evil) are removed with delay, others are morphed into nice ones, we have attached some MonsterEvent types for several objectives completion (perhaps enough). An area to bugged Boss Behemoth has been completed with paths and WayPoint and that ruined Boss was tuned back to a more normal collision. Monsters and other pawns unreachable are also removed.

As conclusion all u and int files goes to System folder and mutator is listed in mutators chain without to claim ServerPackages for it. The rest of files are loaded by mutator when are needed. Once again, without XC\_Engine Mutator will NOT RUN.

Source-Code for modules involved is not that relevant. They have not been compiled normally so is pointless trying to modify them in normal environments.

#### Work Notes:

This is the mostly a personal exercise around UT patching, given new options, a new Engine extension - XC\_Engine - I can drop an eye on some old stuff from garbage-box and bringing it back into playground.

If mod seems primitive for your needs, do not use it. For future I'm

planning other patchers-modules loadable by this toy. This is just the start.

**Credits:**

First is **Epic** as basement and stage.

**Higor** is the next great dude with all XC related stuff and tweaks.

**Mappers** - without crapped works this mutator would never be alive, not even as an idea.

**Random UT people** - I could see codes which others were doing and which I studied for figuring things.