

Dev Blog

map: TO4 fusion power plant

-by Vollgaser-

7.9.2017

After checking the prerequisites, the map idea (see appendix A at the end of this document for details) was pitched to the dev team and the community. Input from both parties was taken into consideration for further changes to the general idea.

Basic scale of the map was set for about 20 players playing 10 vs 10, esp. as larger maps were missing from the available maps.

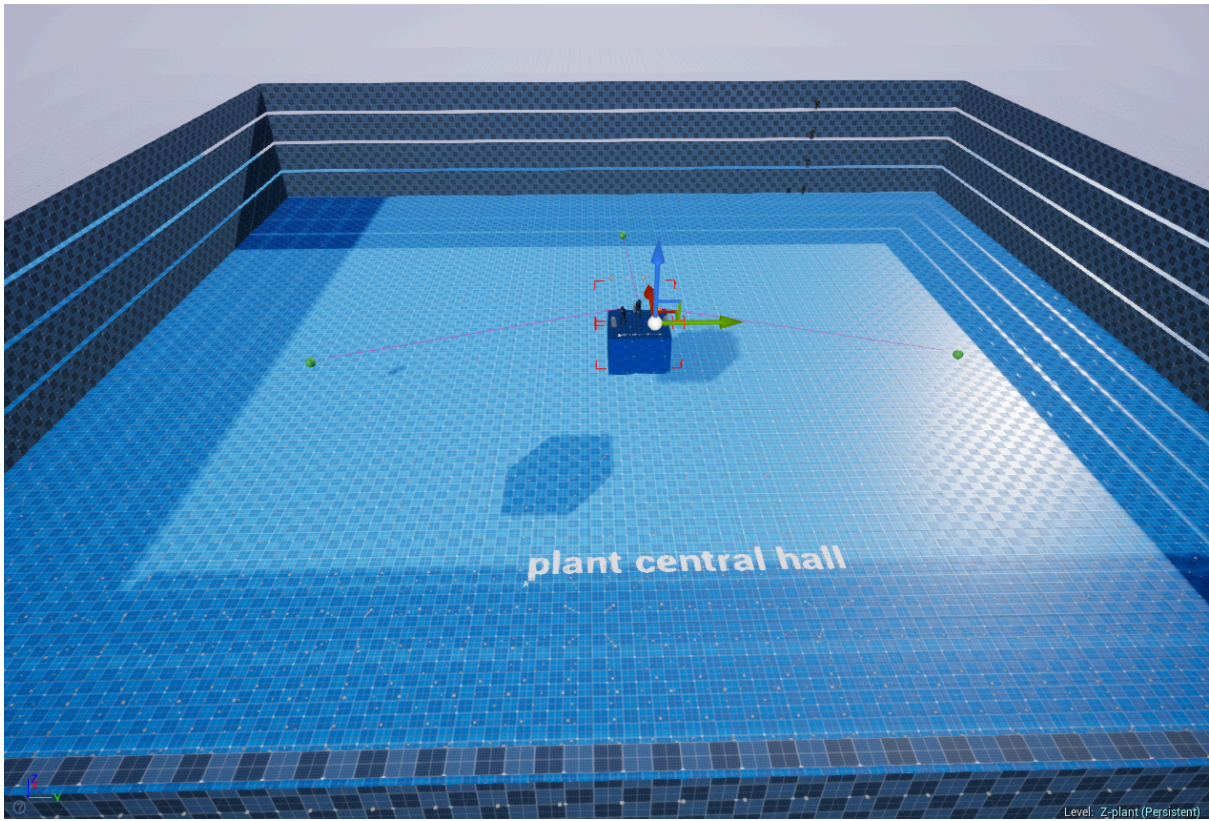
This are 3 screenshots to demonstrate the scale. Each pic is zoomed out further.

Each blue grid square has one meter.

1) the control room with dummies for the 3 consoles to activate their according cover over the hacking-sites (green spheres for now). The players must be able to see the hacking sites they can cover from the control room, so I added a line-of-sight guide (red). In the background you see the 4 stories/height-levels of the central hall for the powerplant with more dummies for scale reference at the far wall.



2) size of the central hall in the atomic plant:



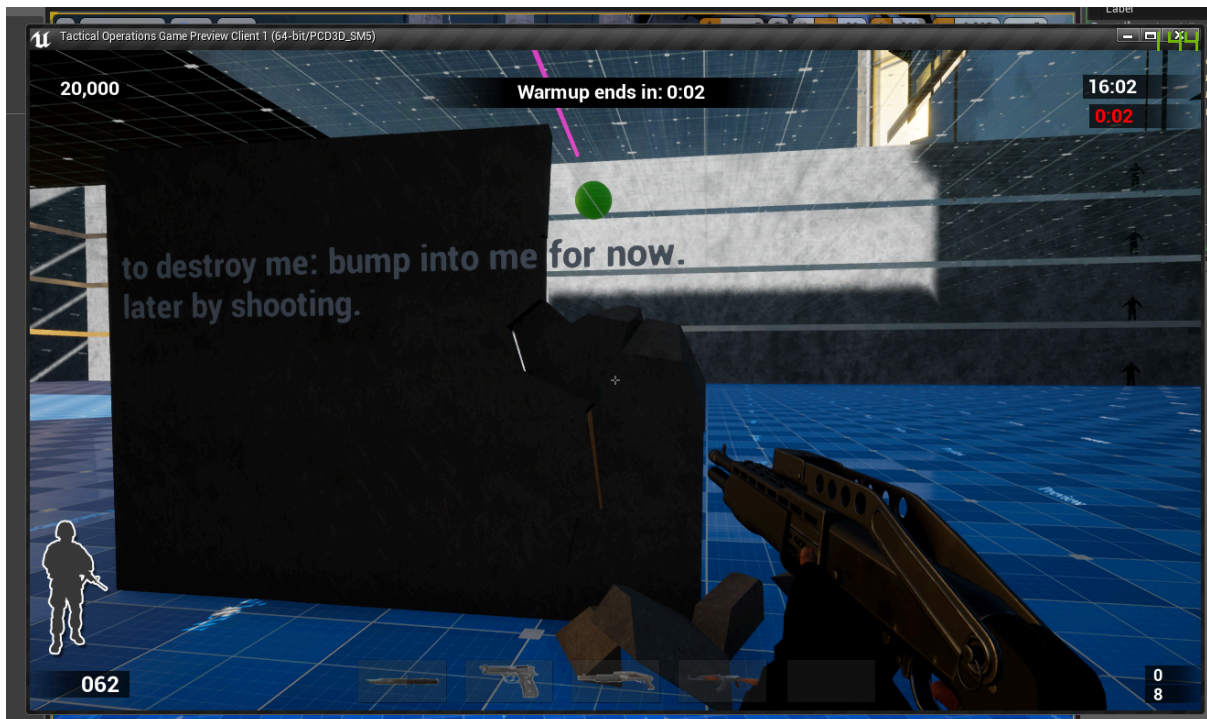
3) the whole map (blue ground floor) with spawn for terrorist. in the middle on the way to the plant will be added more geometry like buildings. the terrorists and enter the main hall via the front side thru the (to be done) buildings, or via entrances to the 2 sides of the main hall:



8.9.17 made a working prototype for the cover mechanism, here a video of it in action:

<https://youtu.be/ea0f6qc7Wbl>

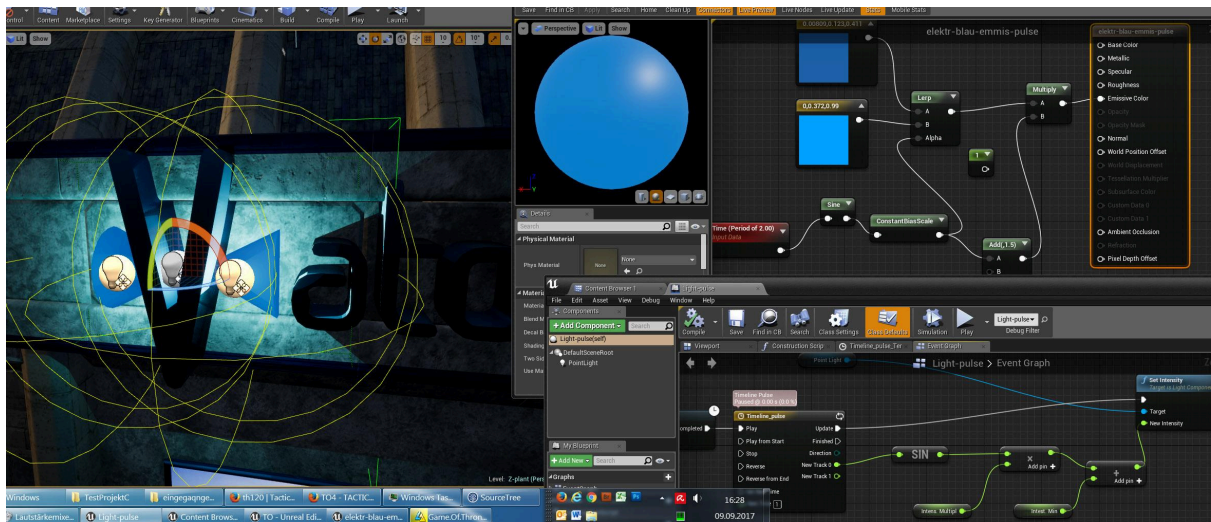
Also some hours working on destructible meshes for destroyable blockades, window-glass and so on.



Testing out different variations for the facade:



Creating and tuning Visual Effects with materials and blueprints:



10.9.2017 working on visual- and audio-effects for the SWAT chopper:
Here a videoclip of it in action:

<https://youtu.be/WQrbDu-gl-w>



12.9.2017 The 2d and 3d asset production has not started in the development team.
Therefore I have to use placeholder assets and replace them later (manually) with our own
assets. This is unnecessary double-work and I am disappointed.
In the meantime I am workin on game-mechanics, like here the triggerable damage trap, see
video:

<https://youtu.be/g56JZq99fHM>

Also some more VFX work:

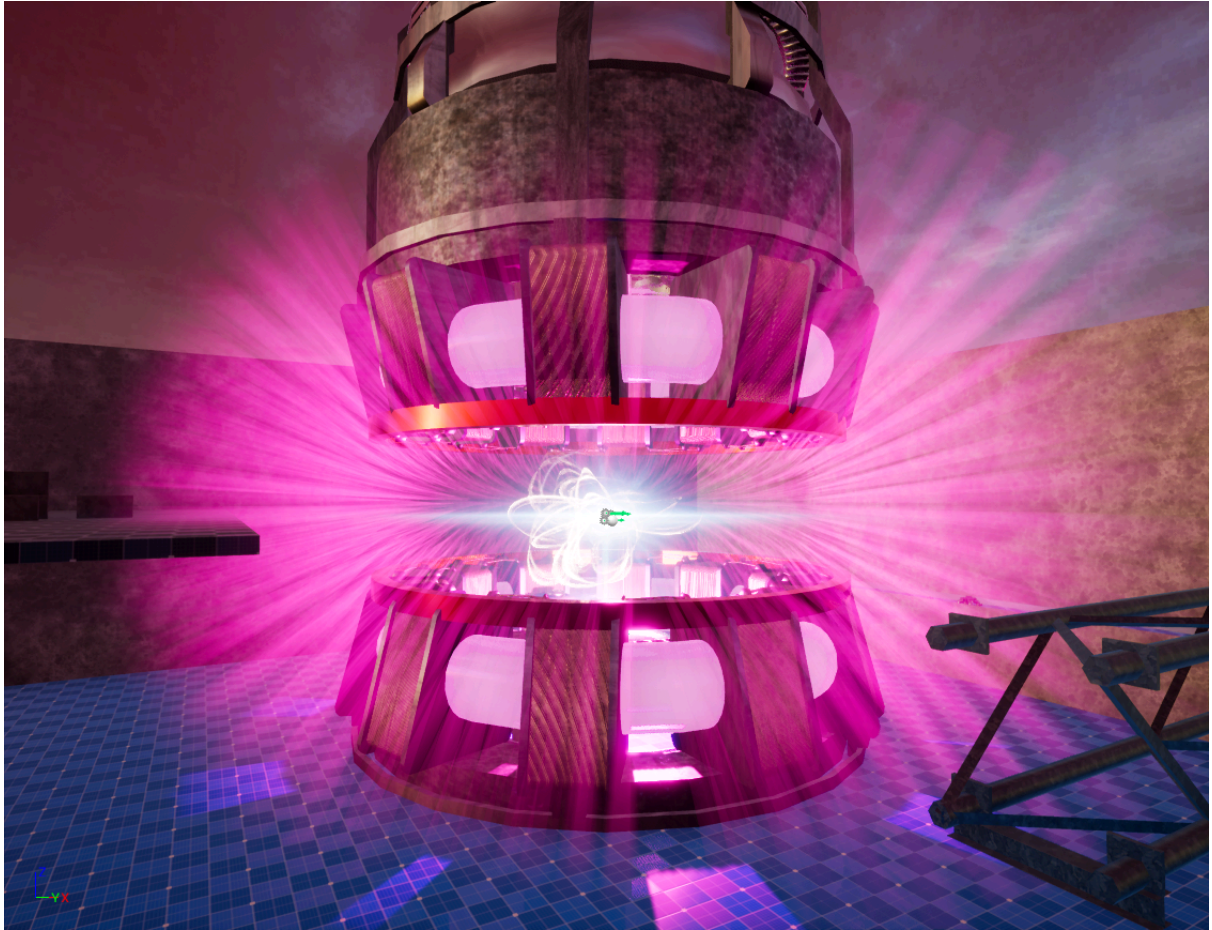


Laser scanners, interacting in real time with players / geometry in game:
video here...

<https://youtu.be/SmefpchZomo>

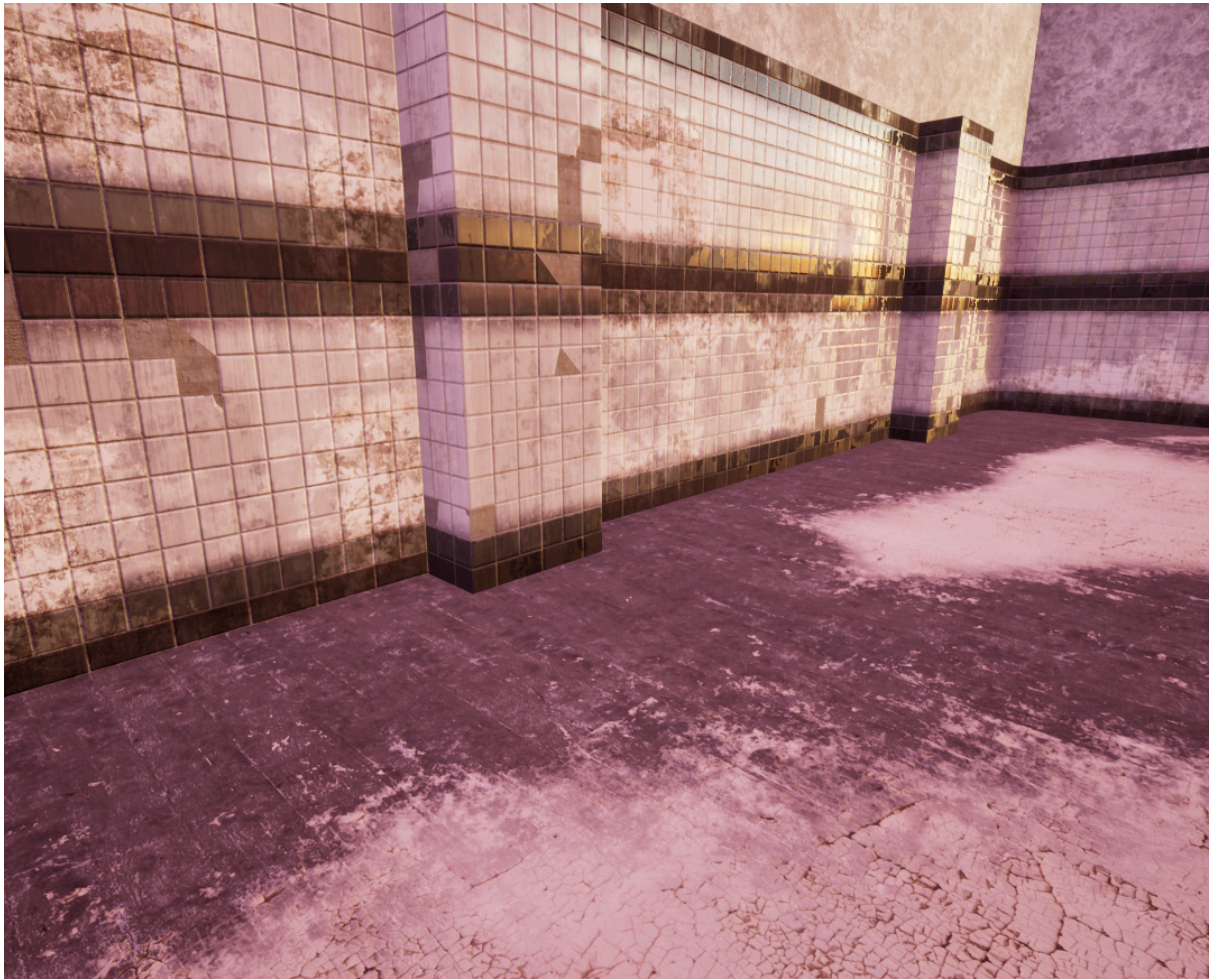
16.9.2017

Now this furnace from hell gets out of control:



17.9.2017

Storage area gets vertex painting materials to create a variety of different looking surfaces: dirt and broken tiles for the walls, stress/usage for the floor.



18.9.2017

Doing more interior design.

Going “shopping” for a nice flooring for the research/lab area. Here model “Largo” seems fitting and looks good:

The screenshot shows the 'Eclipse EC Rubber Flooring' website. The navigation bar includes 'ESD Floor Products', 'ESD Applications', 'ESD Knowledge Center', 'ESD Specials', 'Flooring & Footwear', 'Corporate', and a search icon. The main header is 'Eclipse EC Rubber Flooring'. Below it, there are tabs for 'Colors', 'Specs', 'Usage', 'Body Voltage', and 'Adhesives'. The 'Colors' tab is active, displaying 'EC Rubber Series Colors'. Three color swatches are shown: 'Cantata (Special order with large minimums)' in blue, 'Presto' in grey, and 'Largo' in beige. A disclaimer states: 'As colors cannot be assured to accurately appear on all computer monitors, please request a sample.' On the right, a sidebar contains links to 'ESD Rubber Seam Welding', 'Maintaining Rubber Tile and Sheet Flooring', 'Warranty for ESD Rubber Products', 'Groundwork Formula 20.20 SDS Sheet', 'How to Ground ESD Flooring for Static Control', and 'Request Samples'. A promotional banner at the bottom right says: 'Looking to reduce installation labor, install tile faster, get on the floor sooner and eliminate downtime and shutdowns? Learn About GroundTack® Adhesive Installation'. At the bottom left, a link says: 'Click here to Download full Eclipse GF and EC Brochure.'

Then I reduced the beige tint of the original to make it look more new and added some PBR parameters in UE4...et voilà, here it is in the game:



----- DEVELOPMENT PAUSED

Custom assets 2d and 3d are needed to further work on the map.
The proejct lead does not see the chance of buying assets or creating such in the team.
Therefore the work on the map is stopped untill this requirement is solved.

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Appendix A: suggestion phase

Map suggestion: “fusion plant”

-traditional hacking with a “catch”-

Story & Mission goals:

The terrorists try to destroy an atomic power-plant by shutting down the 3 cooling systems (main, backup, emergency). To achieve their mission goal, they have to hack 3 generators in the plant before reinforcements arrive (=round time is over).

The counter-terrorists (SWAT Team) learned of the attack in the last minute and have to defend the evacuated plant, till reinforcements arrive (round time) or kill all terrorists. To defend the plant successfully they have to prevent at least one generator from being hacked.

Setting:

The map is in the style of a modern industrial plant / factory / power/electricity complex (making use of the industrial props already in the repo and adding some from the Epic “intruder” map).

The terrorist team starts from outside the plant having different ways to intrude and approach.

The SWAT starts from within/the roof of the building and has different options to defend.

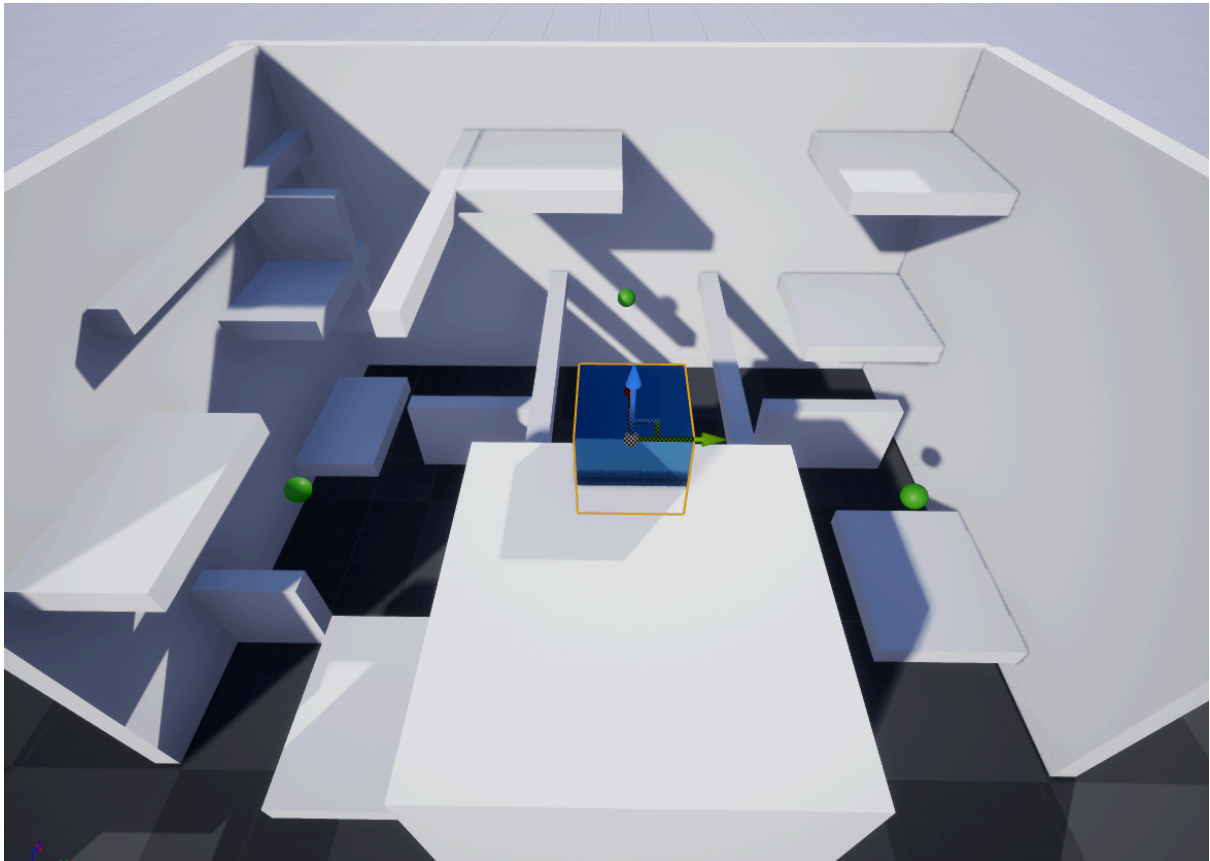
To achieve their goals, each team can play in the traditional style of hacking maps: attacking and defending the bomb-locations directly.

But there is also a additional feature that can add a strategic/teamplay element to the pure shooting: The plant has a control-room with a protection mechanism for one generator at a time. Only the SWAT teamplayers can use this mechanism from within the control room.

Layout of the core of the map:

The hack-sites (green spheres) are each on the 3 sides of a “U”, the control room (blue box) is in the middle of the U.

In this view the U is upside down, so you watch from above and behind the control room onto / in the U with the green balls representing the later generator locations.



Surrounded is everything by a lot of z-axis geometry, here indicated by the bars and platforms. This will add several layers of height dimension and more open spaces to the usual flat (2d-like) and tight (corridors) environments of traditional designs.

Remark: don't worry, here in the screenshot the different floors are just indicated by chaotic geometry, this will be structured in the final map like in a real plant. here it's just a sketch to give a impression.

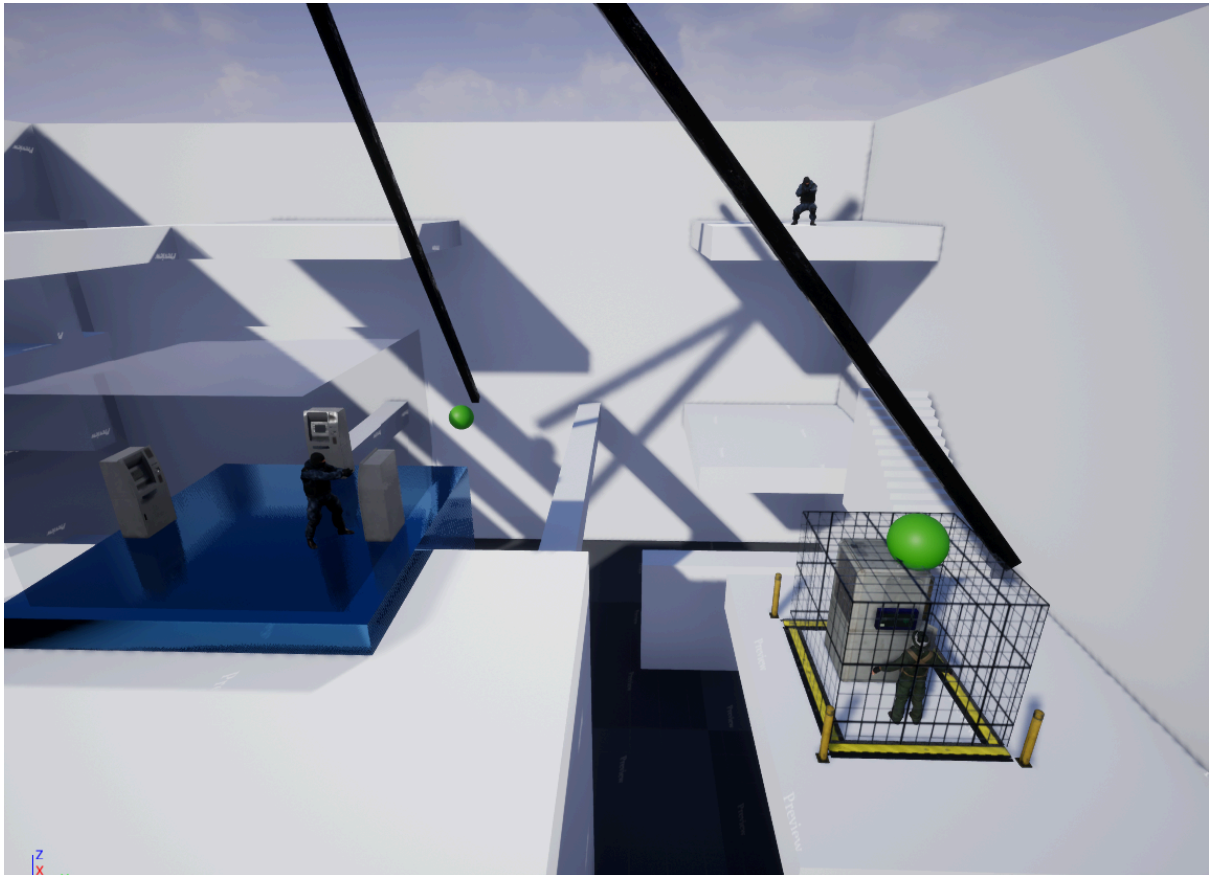
Gameplay mechanics of the defense mechanism:

In the control room only the SWAT teammembers can use the defence mechanism. It its something like a cover/hull/protection that goes over one of the generators (=hacking-sites). The cover can be switched from one generator to another. It protects the physical access TO

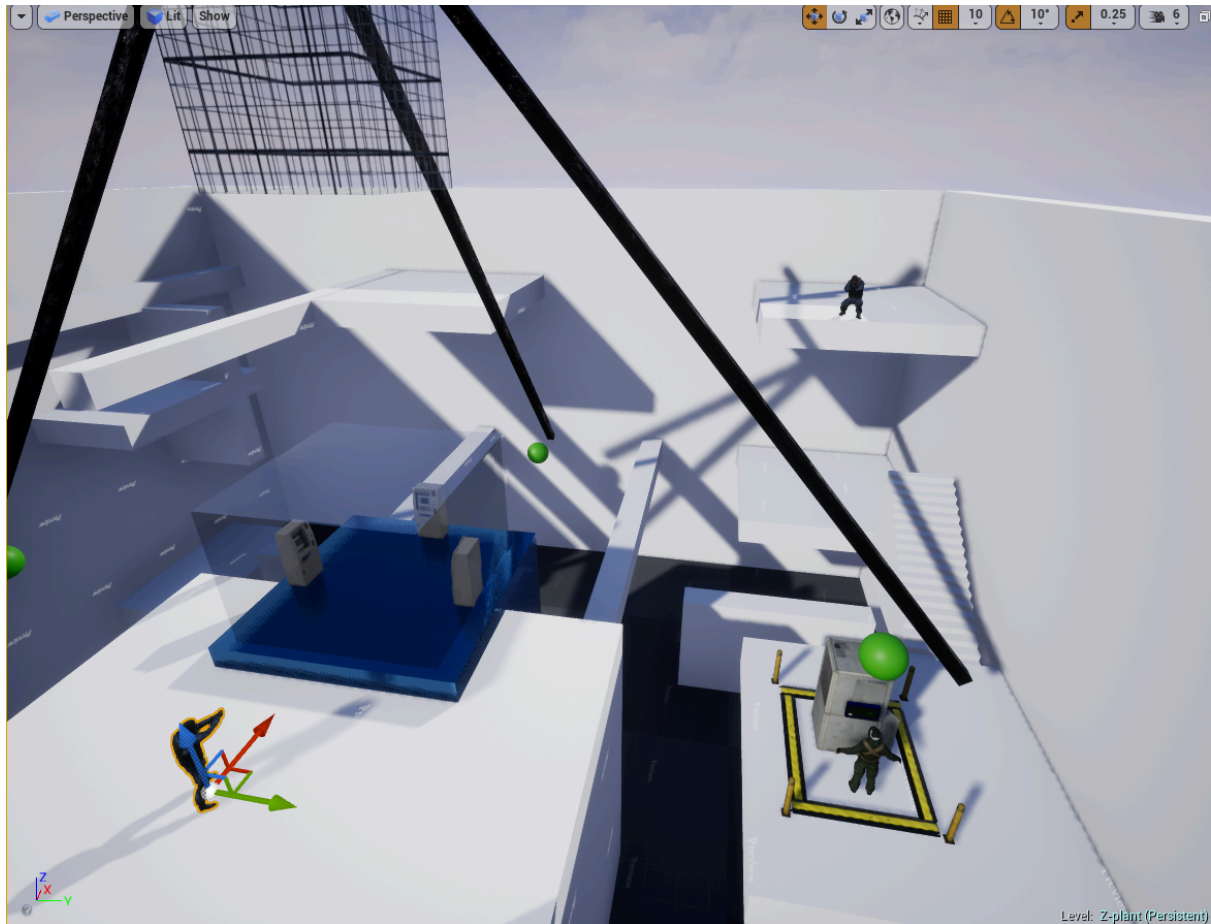
and FROM the covered hack-site. So not only can no player go to a hack-site when the cover is on it, but also not escape from it, should he be within.

Here in the screenshot the cover is indicated by a cage, but later it should be something like a structure for defending blasts, but with the same functionality.

Also one SWAT player at control-room, triggering the right cover on the according console there. The cover is now down on the generator/hacking-site with a terror trapped in it:



Here the SWAT have not yet triggered a console, so the cover is in “up” position:



Simple logic for the triggering and changing of the cover. maybe animations later, but for the beginning a location-lerp for the cover up or down on the generator would work.

There could be 3 overlap volumes in the control room, each to select one of the 3 covers to activate:



Balancing & strategy:

The defence mechanism gives both teams opportunities on the control room as well as for the generators:

1) control room

SWAT-side: one SWAT player can protect one generator by activating the cover but has to be in the control room for this, so is not able to take part in direct combat at this time. Also he is vulnerable in the control room for attacks by e.g. grenades.

The other SWAT teammembers might defend the control room and the player in it, but at the cost of less players at the hack-sites directly.

terror-side: the terrors might try to prevent the control room being manned by the SWAT at all, but at the cost of having less resources for hacking the generators.

They can hack the unprotected generators first, then it will be a fight against time and climax of the map if they have to clear the control room and hack the last generator against the end of mission time.

Balancing will be required here for e.g. mission time and speed of cover activation/change (to trap players).

2) generators:

SWAT-side: needs to hold at least one generator till the end of round, so can try different strategies, like defending all in the hope one will survive...or focus to protect just one, leaving the others unguarded

terror-side: can attack generators as team one-by-one or simultaneously. Teamwork will be required if last generator is protected...

Suggestion / Variation 1 to the defense mechanism:

There are 4 generators now instead of 3, but terrorists have still just to hacky 3 of them. This weakens the defense mechanism in general but also brings the fights more to the hack-sites.

Suggestion for different map-sizes:

There could be a smaller version of the map fitting best for 8 players 4 vs 4 or 10 players: teams start closer to the plant core, and maybe just 2 generators to hack.

In a larger version of the map, targeted for 20 players playing 10 vs 10 could be:

- teams start further from the core/plant.
- more paths/obstacles to and within the plant
- 3 or 4 generators (mission goals 3 out of 3 or 3 out of 4 respectively) separated by larger distances
- more (simple) level functionality, like walls/defenses that can be blown up, triggerable stuff...

Graphic design style:

In general a bright, even-light map with decent colours not to distract the players too much from enemies and missions goal. But also capturing the atmosphere of a living plant with sounds, VFX like steam, machines running, some moving stuff and so on.

If we're using Infiltrator assets, then maybe a bit like this. But not so futuristic, rather realistic, modern-day.

But in general there will be larger, open spaces and different height-level floors and platforms making use of the z-axis rather than 2d-like maps.



Maybe 4 height levels within the plant, with several ways combining them: stairs, lifts, ladders, jumping/falling and so on:

- 4) roof level
- 3) upper level 2
- 2) upper level 1
- 1) generator level) ground/basement level

About the ground/basement level, afaik we got night vision toggles in the game at least as code iirc, so maybe add a dark room. I would love stuff like that, cheers CHR