

[Game Design (Part I)]: 08/30/2023

Introduction

In order to design games, it is important to note what avenue of [game design] you wish to pursue, as there are multiple paths that can be taken (*and are required*), to [design a game]. Some of those avenues are:

```
=====
| application development | computer science | mathematics | physics | assets | graphics |
| content | design philosophy | gameplay mechanics | publication | marketing | distribution |
=====
```

In this particular study, we will be focusing on a study sample called [Quake III Arena], which was developed by [id Software] and released in [December 1999].

This game had [(cutting/bleeding) edge] graphics that pushed the limits of what computer games could do.

It required a special piece of PC hardware called a [graphics card], which in (1999), would utilize either a (PCI/peripheral component interconnect) slot, or an (AGP/accelerated graphics port) slot.

We won't be covering the history of [id Software], nor the number of games it has made that led to the creation of [Quake III Arena], however... as stated, the game pushed the limits of what computer games could do in many various ways.

It is worth mentioning that the game retains quite a lot of charm and character that has prevailed over the course of the last (24) years.

Objective

The objective of this document, is to cover the many things that go into creating a level for [Quake III Arena], as well as the necessary tools and skills to build a level with [replayability], and [competitiveness] to it.

First and foremost, I covered a lot of concepts related to [Quake III Arena] and [GtkRadiant], here.
[<https://github.com/mcc85s/FightingEntropy/tree/main/Video/GtkRadiant>]

[GtkRadiant] is the level editor for [Quake III Arena], though I will be covering additional level design concepts with an alternative that is based on [GtkRadiant], called [NetRadiant].

As for the link above, what I did NOT cover, was [HOW] gameplay mechanics are the reason why the game has retained its [charm] and [character] over the course of the last (24) years or so.

Unlike its predecessors [Doom I + II], and [Quake I + II], the game can be configured to utilize custom resolutions and high graphics settings that allow it to run in (HD/high definition) without modifying the game, or its content.

While there have been many games released by [id Software] since (1999) that have better:

```
=====
| graphics | lighting | shading | animations | et cetera |
=====
```

...every single one of them is based on a [very heavily modified version] of the [Q3A] engine, such as:

```
[+] [Return to Castle Wolfenstein, Enemy Territory, Wolfenstein, The New Order, The Old Blood, The New Colossus]
[+] [Doom III + Resurrection of Evil]
[+] [Rage I + II]
[+] [Doom 2016 + Eternal]
[+] [Quake IV + Champions]
```

Given its age, the game runs relatively well on older hardware, and still retains quite a lot of chess-like characteristics. Its' many modes of play range from:

```
=====
| Free-for-all/Deathmatch | Tournament/1v1 | Team Deathmatch/TDM | Capture the flag/CTF |
=====
```

There is plenty of debate on which mode is the [most popular] or the "best"...

...but make no mistake, its' [Tournament/1v1] mode cemented its position at a large number of yearly [QuakeCon] events, and is synonymous with [Quake Live]... since it is the [same exact game].

It also resurfaced as a staple of [Quake Champions] with the advent of [Overwatch], [Fortnite], and [Player Unknown Battlegrounds].

To narrow the objective even further, we'll be focusing on [Tournament/1v1] mode, as well as how to make a really (cool + fun) level for it, that focuses on aspects of the [mode] and the [game], in order to produce something that is *incredibly polished*.

In order to complete the [objective], we should first analyze a number of [tournament maps], and describe them all in a way where their [strengths] and [weaknesses] can evoke a sense of "common denominators" that will be key in [shaping], [designing], and [developing] the level, in the editor.

```
-----/
\ Analysis /-----/ Objective \
-----/
```

While the original [Quake III Arena] has a lot of tournament maps in it, [Quake III Team Arena] introduced a handful of maps that I think *really* illustrates [what to do], and [what NOT to do], in [designing levels] for the particular mode in question.

Date	Title	Name	Link	Record	Rating
08/26/2023	House of Decay	mptourney1	https://youtu.be/y-SgDVzWdGw	1m 19s	10/10
08/26/2023	Death Factory	mptourney2	https://youtu.be/7_Jh6HLvjBE	1m 45s	5/10
08/26/2023	Temple of Pain	mptourney3	https://youtu.be/g6W5opegQ3Y	1m 47s	7/10
08/26/2023	Evil Playground	mptourney4	https://youtu.be/HBde-PjqTF4	1m 09s	10/10

So, allow me to explain each levels [strengths] and [weaknesses], and at some point, I will talk about each map in further detail, by providing commentary in a video that focuses on the [layout] and [item placement].

```
=====
| House of Decay/mptourney1 |
=====
```

This map is without a doubt, [extremely well made]. It is small enough to have a strong focus on (3) different weapons, and provides a really strong emphasis on [aesthetics] and [geometry] to allow the [gameplay] to swing in either direction.

This map was remade for [Quake Live], and has other items added to it which take away from the charm of the original. It probably goes without saying... but this is one of my *favorite maps*, above ALL of the original [pro-q3dm/pro-q3tourney] maps. (...and that's saying something)

```
=====
| Death Factory/mptourney2 |
=====
```

Reminds me of (Base Siege/mpteam1), and feels like a recycled version of that map.

While that's not exactly a bad thing, as it is common for a [game developer] to recycle [assets] and attempt to reuse those [assets] with a slightly different twist... in this instance, there are a lot of shortcomings to this map that I don't particularly care for, given that it is a tournament map.

It is [too big] to be a tournament map. It has too many spawn points, and is better suited for [FFA/deathmatch]. If it were an [FFA] map...? This map would get about a (7-8) out of (10).

As it stands, the [middle tier] is disconnected from the [top tier].

This forces the players to have to use [jump pads] to traverse from [tier] to [tier], which [exposes] a player to be [quite vulnerable] when they use them... which can be seen in the video link above.

The [jump pads] is a serious sticking point, here... because this map would actually score a LOT higher as a [tournament] map if there were stairs on both sides to connect the [middle tier] to the [top tier], because at that point, the [multi-tiered combat] would be [far more cohesive] and a [lot less predictable].

This point alone, though incredibly small... can be the [difference] between whether it [makes] or [breaks] a level. Simply put, [the map isn't badly made at all], but considering that it is named "mptourney2"...

...it does not feel like a great [1v1] map.

I have to tank its score a lot, because it would've made [more sense] to add some stairs to connect the [middle] and [top tier], or instead, *use another map in the rotation*.

=====
| Temple of Pain/mptourney3 |
=====

I have *mixed feelings* about this map, because it has areas that feel very *claustrophobic*, and it has a rather simple [item placement] which does not promote a healthy [multi-tiered experience].

However, the map [looks really awesome]. Problem is, [looks aren't everything], because there's just some things about this map that don't make much *practical* sense in a [tournament map].

The [rocket launcher], [nailgun], and [shotgun] are all *very close to each other*, and the [railgun] is the *only weapon* on that side of the map. This would've been a much better map if it made *better use* of the [courtyard area], by adding some *stairs* and *ledges* and a [bridge] to where the [armor] is... in addition to providing other ways to get to either side of the map from that [higher tier], as this would've given the map a lot more [depth].

Eliminating the hallway to the [nailgun] ammunition, OR, providing an alternate way to (access/traverse from) the [railgun] tower (from/to) that hallway would've made *perfect sense*.

=====
| Evil Playground/mptourney4 |
=====

This map is without a doubt, [extremely well made]. It isn't as small as [House of Decay], but it has a really well thought out approach to [multi-tiered combat], which is a signature of extremely well made maps. The only thing that I do *not* like about this map, is the fact that it has [death pits], and they're pretty *annoying*.

However, that's just a *pet peeve* at this point, because I'm not going to tank its score based on that... The combat is [extremely fun], [challenging], and the [pendulum of fairness] can swing in either direction- which is an indication of an [extremely well made tournament map].

-----/ Analysis
Common Denominators /-----\

So, what ARE the [common denominators] in the levels I discussed...?

[+] [multi-tiered combat]
[+] [effective use of geometry]
[+] [effective use of texturing]
[+] [effective use of space]
[+] [effective use of lighting]
[+] [effective item placement]

What I will do, is talk about these concepts in great detail *BEFORE* coming up with a [design philosophy] to create a map... and then to *texture, shape, sculpt, modify, populate, light, and (compile/render)* the map.

If any of these things aren't up to snuff or are out of place...?
[It will adversely impact its' performance].

The [mapping process] takes a while to complete, and typically speaking, without a lot of *experience*, you won't be able to *create* a [really good map] in a single day. Even the map that I made in a single day in this particular video...

Date	Title	Name	Link
07/17/2023	07/17/2023 - Test Map	2023_0717-(testmap3)	https://youtu.be/cbdJ-rWJbVI

...*isn't finished*. Ever since I created that level, I've thought about changing things in it to make it more fun to play. As it stands, it has some issues that stem from [being incomplete]. I wouldn't expect it to get a (10/10) like [mptourney1] or [mptourney4].

However, there is an issue about that map which leads me to believe that no amount of changes will be able to make it a [viable competitive level]. And, the issue that leads me to believe as such, stems from...

...the [structure] of the map.

-----/

A man by the name of [Carl Sagan], a famed [science communicator] that won a [Pulitzer prize] for his books [The Dragons of Eden], and for [Cosmos: A Personal Voyage] once raised an analogy called...

[Flatland].

And in this [Flatland] analogy from his show [Cosmos: A Personal Voyage]...

Date	Title	Link
11/30/1980	Cosmos - The Edge of Forever	https://youtu.be/UnURElCzGc0

...the man talks about how inhabitants of [Flatland] are about as [flat] as can be.

They go about their [flat business].

They go in and out of their [flat houses].

Driving around in their [flat cars].

They take part in [flat parties] and [eat flat food], they [breathe flat air].

All of their friends are [flat], too.

[Everything they do, is about as flat, as flat could possibly even be].

Sounds pretty [flat], doesn't it...?

Yeah, well, [John Carmack] and [John Romero] probably grew up playing [Atari] for years, watching [Carl Sagan] in this show [Cosmos: A Personal Voyage], until they eventually said to each other...

=====
| (2) Johns |
=====

[Carmack] : Hey [John]...

[Romero] : What's up, [John]...?

[Carmack] : Ya know, I was thinking a lot about making a game.

[Romero] : Oh yeh...?

[Carmack] : Yeh.

[Romero] : Buddy, there's a LOT of games out there.

[Carmack] : Oh, I know, [John].

But- they all have (1) thing in common.

[Romero] : ...oh yeh...?

[Carmack] : Yeh.

[Romero] : Well, [John]...

Do tell.

What do they all have in common...?

[Carmack] : They're all pretty [flat].

[Romero] : ...I was thinking the same thing, dude...

[Carmack] : ...and I want to make a game that's NOT [flat].

[Romero] : ...really...?

[Carmack] : Yeh.

[Romero] : ...nobody has ever done that before.

[Carmack] : I know.

What if we made the [first game in existence], that wasn't [flat]...?

[Romero] : *long hard stare*

...dude...

[Carmack] : I could totally do it, bro.

[Romero] : Nobody's ever done it before, though.

[Carmack] : Oh, I know, [John].

I know.

But- I believe in myself, [John].

[Romero] : Well, buddy, I believe in you too, but-

[Carmack] : *long hard stare*

It'll change the entire way games are played, [John].

[Romero] : Yeh.

But, you would need to be a genius to pull that off...

[Carmack] : You sayin' I'm not a genius or somethin'...?

adjusts glasses, long hard stare

[Romero] : Nah, never said that.

Just sayin', you'd have your work cut out for you, [John].

[Carmack] : I was thinkin', [Wolfenstein 3D].

[Romero] : ...that'd be pretty cool.

[Carmack] : Yeh, escaping from the clutches of the nazi's.
[B.J. Blazkowicz].
[Romero] : That sounds intense.
Count me in.

And from that day forward, [(2) Johns] took an oath to embark on a journey to make a game that had [depth], as they went about changing the entire way that games were played by people all around the world.

(It's worth noting that there were ALSO [(2) Carmacks]...)

They actually did this with the games [Hovetank 3D] and [Catacombs 3D], but that wasn't enough...
They did this again with [Wolfenstein 3D], but that wasn't enough, either...
Then, they did it AGAIN, with [Doom].

[Doom] raised the bar to such an immensely high level, that the game actually had [horizontal + vertical depth].

But then, in (1996), with the release of a cool game called [Quake], they permanently impacted the world by making the first FPS that was truly [3D], and wasn't [flat].. (though [Descent] from (1995) officially holds that title, [Descent]'s gameplay was (fun, but) quite disorienting.)

Because in it, there were [rooms above and below other rooms], which [Doom] was *unable to do*.

In [Doom], and [Doom clones] like [Duke Nukem 3D], [Shadow Warrior], [Dark Forces], et cetera...
...there had been a limitation to where the z-buffer could not allow multiple rooms to be stacked *above or below* one another without some sort of [hacky view portal magic].

With [Quake], [hacky view portal magic] became a thing of the past.

=====
| Comparing to Flatland |
=====

In reference to [Flatland], the same sort of thing happened.

One day, a 3-dimensional creature represented by a sphere, decided to pass through [Flatland]...
...not unlike the idea that [John Carmack] had, to create the first 3-dimensional game...
...and that's when the 2-dimensional flatlanders saw slices of the 3-dimensional sphere...
...not unlike when [id Software] made multiple games that capitalized on more aspects of [depth]...

Now remember, [flatlanders] can't actually see the full, third dimension of [depth].
Not unless they remember each prior layer of the sphere.

Because, what [they] see, are *individual layers of that sphere*...
Not unlike when people saw each individual game that [id Software] made.

At first, the [circle] appeared as a *little dot*.
But after a while... the [circle] got *bigger and bigger*.
Not unlike how the games [id Software] kept making, got *bigger and bigger*...

A [sphere] appears out of thin [flat] air as a [circle], and grows to a *pretty large size*.
Not unlike how [id Software] grew into an *industry giant*...

At which point, the [flatlanders] who saw the [sphere] pass through their dimension, they began to question their [flat] sanity, asking each other:

[Flatlanders]: Just what the [flat] is goin' on around here...?

The answer, is that nobody in [Flatland] really knew what the hell was going on...
Because, they didn't understand [depth].

But in [Quake III Arena]...?
[That's what the game was designed to take advantage of].

-----/ The Edge of Forever
Mechanics /-----
/-----

In order to understand how to make the *best use* of the [space] in a particular map...

...well, a lot of [trial and error] is in order, before anyone has a great idea of how to do that, as well as how to *arrange* the [items] in that map.

For instance, in [House of Decay/mptourney1], there's a lot of *areas* and *choke points* that allow each weapon

```
[+] pretty useful if you have nothing better
[+] can be used for a grenade jump (not exactly easy)
[+] great for close quarters, but...
[-] they do splash damage, which can hurt you
[=] start with (10) grenades, (5) per [grenade] pickup
```

=====
| Rocket Launcher / Rockets |
=====

This is basically the main weapon in the game, and it is the staple of the [Quake] series.

This shoots a [rocket] which does either splash damage, or (100) direct damage if they hit an enemy.
This can be used mid-long range, but short range is risky.

- [+] mainstay of the game, staple of the series
- [+] great for mid-long range
- [+] can be used to [rocket jump], but...
- [-] does splash damage, which can hurt you
- [=] start with (10) rockets, (5) per [rocket] pickup

=====
| Lightning Gun / Lightning |
=====

This gun does a lot of damage in short-mid range, but is *completely useless* long range.
Does not do any splash damage, nor can it provide any movement advantage.

- [+] extremely useful in tight situations
- [+] *does a lot of damage fast*
- [-] uses a lot of ammo *fast*
- [=] start with (100) lightning, (60) per [lightning] pickup

=====
| Plasmagun / Plasma |
=====

This gun is *really useful for mid range*, though it can also be used effectively in short or long range, depending on whether the user can sufficiently track the movement of a target.

- [+] *does a lot of damage pretty fast*
- [+] really useful in all scenarios, but requires practice
- [=] start with (50) plasma, (30) per [plasma] pickup
- [-] does splash damage, which can hurt you
- [=] can be used to scale walls (*plasma climbing*)

=====
| BFG10K / BFG ammo |
=====

This gun is basically a *rapid-fire* version of the [rocket launcher].

It carries many of the same characteristics, but its rounds move faster than [rockets].
Typically, this would NOT be a good choice to include in a tournament level, as it makes the game quite unfair.

- [+] *does an extreme amount of damage*
- [-] does splash damage, which can hurt you
- [=] can be used to do the same thing as [rocket jumping]
- [=] start with (10) BFG ammo, (15) per [BFG ammo] pickup

=====
| Nailgun / Nails |
=====

The [nailgun] is only available in [Quake III Team Arena], but it is *pretty useful*.
Its' only application in any tournament level that I am aware of, is [Temple of Pain].

- [+] *does an extreme amount of damage if all nails hit the target*
- [+] best for close range, but...
- [-] not so much for mid-long range
- [=] start with (10) nails, (15) per [nails] pickup

=====
| Proximity Mine Launcher / Proximity Mines |
=====

The proximity mine launcher is only available in [Quake III Team Arena], and not applicable to a tournament level, so I won't talk about it in this document.

```
=====
| Chaingun / Rounds |
=====
```

The chaingun is only available in [Quake III Team Arena], and not exactly applicable to a tournament level, however- with custom maps this COULD be pretty useful in tournament mode.

Still, since that would drastically change the dynamics of [1v1], I won't cover that in this document.

```
/-----\
| End of [weapon mechanics], extended guide here: [https://strategywiki.org/wiki/Quake\_III\_Arena/Weapons] |
\-----/
```

```
//-----\\
\\      Item Mechanics : In [Quake III (Arena/Team Arena)], there are a number of items      //
\\-----\\
/-----\
|      Health | Armor | Usable | Powerups | Runes      |
\-----/
```

```
-----
| Note: <= means less than or equal to |
-----
```

```
=====
| Health |
=====
```

```
[+]    small health : adds  (5) <= (200)
[+]    medium health : adds  (25) <= (100)
[+]    large health  : adds  (50) <= (100)
[+]    megahealth   : adds (100) <= (200)
```

```
=====
| Armor |
=====
```

```
[+]    armor shard : adds  (5) <= (200)
[+]    yellow armor : adds (50) <= (200)
[+]    red armor    : adds (100) <= (200)
```

```
=====
| Usable |
=====
```

```
[+]    teleporter : activate to transport to a random spawn point
[+]    medkit     : raises health to (125)
[+]    *invulnerability : activate to freeze position + deflect all attacks for (10s)
[+]    *kamikaze   : can be detonated, or self detonates if killed but not gibbed
```

```
=====
| Powerups |
=====
```

```
[+]    battle suit : reduces direct damage, deflects splash damage
[+]    flight      : ignore gravity
[+]    haste       : move and shoot a lot faster
[+]    invisibility : become harder to see
[+]    quad damage  : increases all outgoing damage by (3x) (by default, not 4x)
[+]    regeneration : adds health for every second (25) <= (100), (5) <= (200)
```

```
=====
| Runes |
=====
```

```
[+]    scout : similar to haste, cannot pick up armor (possessed armor is removed)
[+]    doubler : increases all outgoing damage by (2x)
[+]    guard   : sets (health + armor) to (200), regenerates health to (200) if damaged
[+]    ammo-regen : regenerates ammunition and increases fire rate
```

-----/

There are a *number of strategies* that can be used in [Quake III (Arena/Team Arena)] that aren't *readily apparent*, and I will not go into *great depth* about them, because the *geometry* of any given map actually changes the *strategies* that can be used, in a variety of ways.

[Choke points] are *pretty good to use*, [bunny hopping + strafe jumping] are also good to use. [Rocket jumps] can be useful.

[Plasma wall boosting] can also be useful... but there are a lot of other strategies which just won't be *visually apparent*, unless the [shape] of the map provides a *distinct scenario*.

Now, I'm going to cover *some of the strategies* that I used, in the videos I already listed.

Date	Title	Name	Link
08/26/2023	Evil Playground	mptourney4	https://youtu.be/HBde-PjqTF4

...one of the *strategies* that I used is [mimicing the enemy's movements] to pelt [James] with a *barrage of machinegun bullets* in the beginning of the match. [This is a general strategy].

Another *strategy* that I used was [switching weapons to get combination hits], another [general strategy].

Another *strategy* that I used was [positioning myself in certain locations of the map], so that I could *hear* where [James] was *spawning*, another [general strategy].

Another *strategy* that I used was using the [railgun] and then [shooting predictive rockets] at an [item] I knew [James] was running to, another [general strategy].

These *strategies* wouldn't necessarily work against a [human opponent], but they'll work for a [bot] because *they typically run the same patterns*.

Date	Title	Name	Link
08/26/2023	House of Decay	mptourney1	https://youtu.be/y-SgDVzWdGw

Using the [combination weapon strategy] is *harder* to pull off because the [rocket launcher] is sorta slow, and the [lightning] and [plasmagun] do a somewhat equivalent rate of damage.

Using the [spawn location positioning strategy] is *harder* to pull off, because in certain positions, it is *impossible* to *hear* where [Fritzkrieg] is *spawning*.

Generally speaking, there is a *formula* to it, but it is STILL rather *random*, and depends on *where the player is on the map when they kill the bot*, as well as *where the bot is when they die*... and I think it *randomly* selects that location, depending on *where the player is at the time of respawn*.

However, using [choking strategies] is *far more effective* in this map, because of the *tight hallways*. This is able to be seen quite a lot in that video.

Date	Title	Name	Link
08/26/2023	Death Factory	mptourney2	https://youtu.be/7_Jh6HLvjBE

[Pi]'s movement is *incredibly predictable*, but her [spawning location] is completely *random*, and there are a LOT more [spawn points] in these (2) maps, than the (2) I just covered.

First off, if it is true that [Death Factory] has a lot of [spawn points], the best thing to do...
 ...is to *guard items*.

In all (4) of these levels, there is a *consistent amount of effort* going into [picking up health and armor].

That is a [general strategy], and it is a *core central focus* to this *game*, just like collecting [minerals] and [vespene gas] is, in [Starcraft]. [Health] and [armor] are basically [resources] in this game.

What is not *readily apparent*, is that [time] is ALSO a [resource] in this game.

With that said, having a [collection route] is pretty important.
 You *want* to be able to [guarantee] that you *control the items*, and that *the enemy does not*.

If you are able to do this, then you will always have an [advantage] over the [opponent], because they will have to *struggle* to keep up... but- if they are just a lot more accurate and deadly than you, then even [item control] may not necessarily guarantee a win.

In [Death Factory], [Pi] is constantly going up the *jump pads*, and sort of lingers around the same areas.

Using that as a known [fact], that allows me to collect the necessary weapons, and then guard certain areas... ..particularly the [rocket launcher] area.

Going for the [railgun] in this level is a bit of a chore.

So is going for the [shotgun], and even the [grenade launcher] if I'll be perfectly honest.

However, all it takes, is to collect the (2) [yellow armors] and the [rocket launcher], in order to be at a serious advantage. Then, depending on the approach, collect the [railgun], [shotgun] and [grenade launcher] in a syncopated rhythm, that way [Pi] will constantly be on the [backfoot].

The [backfoot], or [backpedaling] is a term for having to run away from a confrontation, rather than to engage in one. This can actually be a [very effective strategy] for [psychological manipulation] of an opponent that has [item control], though... a bot will NOT know how to do this to attain an advantage. Only a human will.

Despite all of this, even though [Death Factory] is NOT a favorite level of mine, I still know how to navigate the map in order to have some knowledge of where [Pi] will go, or won't go. Or, what situations I'll be at a disadvantage to put myself in.

One such disadvantage, is allowing [Pi] to collect the [railgun], because ALL bots on [nightmare] have an incredibly deadly level of accuracy with the [railgun].

Short of that, collecting items and then posting up in certain locations is an [incredibly useful strategy].

/----- ----- ----- -----\			
\ Date	Title	Name	Link
/ 08/26/2023	Temple of Pain	mptourney3	https://youtu.be/g6W5opegQ3Y
\----- ----- ----- -----/			

So, in [Temple of Pain], [Janet] is pretty predictable.

However, the [item placement] is really crowded on (1) side of the map, and pretty sparse on the other.

With [Death Factory], a couple of [stairwells] from the [middle tier] to the [top tier] would make all the difference in the world, to make it a far more competitive [tournament] level.

In [Temple of Pain], a lot more geometry should've been used, to make the level feel more [vertical].

[Multi-tiered] levels are a lot more enjoyable, because it gives the players more real estate to cover, in order to retain [item control].

In this particular map, [item control] is pretty easy to do...

...what is NOT so easy, is avoiding [railgun] shots from [Janet]...

...because she will occasionally spawn next to the [railgun], and there's only a [yellow armor] and some [armor shards] in the level, that give any player a way to protect themselves from up to (2) shots.

In this level, it is [EXTREMELY DIFFICULT] to avoid being railed twice in a row by a bot on [nightmare], if they happen to have the [railgun].

So, what that means, is that the entire focus of the level, is to prevent [Janet] from getting it.

Or, if she does get it... then, use the [geometry] of the level that is essentially only (1.5) tiers tall.

I would NOT call this a [multi-tiered] level at all, even though there clearly are (2) tiers.

The reason I would prefer not to call it a (2) tier level, is because the [first tier] is really short.

Whereas in [House of Decay], there are definitely (3) tiers... though, the [bottom tier] is limited to a pool of water, that's where the armor is.

Nobody will WANT to go there, if it is not there, because of how [VULNERABLE] they will be, in that position.

However, in [Temple of Pain], the only real vertical gameplay you get, is if you use the jump pads...

And on one side of the map, the vertical gameplay is limited to the room with the [railgun].

/----- ----- ----- -----/ Strategies	
Vertical Gameplay /	
/----- ----- ----- -----/	

I may have mentioned numerous times that [multi-tiered] levels are pretty *clutch*, and essential to a map having a [replayability] factor to it. When taking a *closer* look at the tournament levels from [Quake III Arena]...

\ Title	Name	Rating /
Powerstation 0218	q3tourney1	5/10
The Proving Grounds	q3tourney2	9/10
The Camping Grounds	q3dm6/pro-q3dm6	9/10
Hell's Gate	q3tourney3	6/10
Vertical Vengeance	q3tourney4/pro-q3tourney4	10/10
Lost World	q3dm13/pro-q3dm13	9/10
Fatal Instinct	q3tourney5	6/10
/ The Very End Of You	q3tourney6	4/10 \

=====
| Powerstation 0218/q3tourney1 |
=====

This map has NO *vertical gameplay*, and it would *really benefit from having some*.

Might even be pretty easy to implement a way for that to be a thing.

Otherwise, the level [LOOKS really nice], which goes a *long way* in receiving a mediocre score, but the general flow of the map feels *very, very [flat]*. That's because [the gameplay certainly is].

[Sarge] is not a *tough opponent*, even on [nightmare] difficulty.

=====
| The Proving Grounds/q3tourney2 |
=====

This map HAS *vertical gameplay*, especially in the [rocket launcher] area, but also the *stairwells*.

This map was part of [Q3Test], and left a *pretty deep impression on me* long before the full game was released. This map [looks great], [plays great], and is *pretty tough* against [Hunter].

There's really not a whole lot more to ask for, from a [competitive level].

=====
| The Camping Grounds/(q3dm6/pro-q3dm6) |
=====

The default [q3dm6] isn't even a tournament level, but it *definitely plays like one*. The [item placement] is different in [pro-q3dm6], which IS a tournament map.

It has a lot of *vertical gameplay*, and... *I would encourage people to take inspiration from this map*, how it's [made], how it [flows], and how it [plays]... if you want to build a *really great level*.

=====
| Hell's Gate/q3tourney3 |
=====

While [q3tourney3] DOES have a couple of tiers, it feels a lot like [Temple of Pain].

It has [death pits] which I don't particularly care for, and *isn't a very competitive tournament level*.

With some changes, it probably could be made to be more enjoyable, but I doubt anyone's going to give it a touch up after (24) years.

=====
| Vertical Vengeance/(q3tourney4/pro-q3tourney4) |
=====

This map, has *vertical* in the name of the map.

Both versions are geared for tournament play, and they differ to a *great degree* with the addition of the [teleporter] in the pro version, as well as [items] being placed in different locations.

This is, by far, [one of my favorite tournament levels]...

But- the *texturing* in this level hasn't aged well.

```
=====
| Lost World/(q3dm13/pro-q3dm13) |
=====
```

This map is really, really good.

It has a lot of *vertical gameplay* to it, it also boasts a slew of *alcoves, hallways*, and ways to navigate from one end to the other, without feeling like you HAVE to go a specific route to get from point A to B.

This was played a lot in [Quake Live], and it's a staple to the game.

```
=====
| Fatal Instinct/q3tourney5 |
=====
```

This level does have *multiple tiers*, but it feels a lot like [Dead Simple] from [Doom].

This [level design philosophy] with the *fog* preventing someone from being able to *see an opponent* that's too far away DOES give the map some *charming dynamics* that are rather unique. However, it's a bit of a *gimmick*, and it takes away from the enjoyment of the map as far as [professional tournament play] is concerned.

Also, [quad damage] should not be used in tournament levels.

```
=====
| The Very End Of You/q3tourney6 |
=====
```

This level is also rather *gimmicky*, has a [BFG] in it, and it's *pretty easy to fall off into the void*.

I would never think to play this on a *server*, against a *human player* in [tournament mode]... but it does look pretty cool, and it is pretty cool as a final boss level.

While it does have some *vertical gameplay*, it doesn't have the type of *vertical gameplay* that the other (4) space maps have...

/-----\	-----	-----\
\ Title	Name	Rating /
/-----\	-----	-----\
Bouncy Map	q3dm16	8/10
The Longest Yard	q3dm17	10/10
Space Chamber	q3dm18	8/10
/ Apocalypse Void	q3dm19	7/10 \
\-----/	-----	-----/

I'm not going to discuss these levels at great length, but they all have *plenty of vertical gameplay*.

[Multi-tiered combat] isn't everything, however.
[Item placement] is pretty important, but also...
So is the [bot behavior], or just *general all-around mechanics* going on in the map.

[Bouncy Map] is fun, but the *lighting* is pretty [flat].
[The Longest Yard] is fun, but the bots are *pretty tough* when they have the [railgun].
[Space Chamber] is fun, but it is *wicked annoying* because of how many ways you can *fall into the void*.
[Apocalypse Void] feels *really gimmicky*, and the platforms aren't much different than [jump pads].

While I really like [The Longest Yard], it is *not a very competitive tournament level* at all.
None of them really are.

However, [Space Station 1138] is a *pretty competitive space based tournament level* with *vertical gameplay*...
I don't think it ever received a *title* or *designation* to where people would play it.

Typically speaking, most community maps that are made for the game don't get a lot of credit or acclaim, and that's just how it's always been in the [Quake community]. Even really well made levels that got high ratings on [...] don't have a place where people flock to it, and play it in a *standard rotation*.

That's mainly because, in order to play custom levels, you have to fulfill a lot of *instructions*.
All things considered, I made that level when I was (15) years old for a mapping competition, and the limitations were like (100) brushes I think.

Whereas the tournament levels in [Quake III Arena] and [Quake III Team Arena], those were part of an official game released by [id Software], so they're not going to pull any punches in publishing them.

Now, in order to build any level that will be a total success...?
It relies on the [initial shape of the map]...
...which requires some [graph paper], and *drawing it out*.

-----/ Vertical Gameplay
Shape /-----
/-----

The [shaping] process can actually take *days*, but the *end result* will be something *highly polished*, and this can be seen in a number of levels that were made for [Quake Live], like... [Heavy Rain].

[Heavy Rain] is one of the *coolest maps I've ever played*, it has a [general shape].
There's also [Aerowalk], though I believe that is a take on a [Quakeworld] level... that has a [shape] too.
Then there's also [Blood Run], which is the *most official tournament level I can think of* that was never a part of the game itself. That too, has a [shape].

But- even if we take a look at [Quake II], and even [Quake I],
there are *plenty of examples of great maps* there, too.

Title	Name	Rating
The Edge	q2dm1	10/10
Tokays Towers	q2dm2	8/10
The Frag Pipe	q2dm4	8/10
The Sewers	q2dm7	7/10
The Warehouse	q2dm8	10/10

There are even more from [Quake I] that I cannot remember for the life of me...
...but [Tim Willits] really knew what the hell he was doin', because I think he was responsible for many of these maps, especially [q2dm1].

People still play [q2dm1] competitively, it's a great example of a map that works for tournament and free-for-all, but every adaptation to [Quake III Arena] has been less than exhilarating than the original.

It has a *lot of vertical gameplay* to it, [multiple tiers], a *pretty balanced layout*, and it has a really unique shape to it that I've never seen be reproduced in a manner to where I was *as impressed*, or *blown away*.

[q2dm1] is *by far*, [one of the best maps I've ever seen].
And, even the rest of the maps I just listed, they're *really good*.

Even [The Pits/q2dm5] is good... it's just that some of these maps really delve into being a bit of a breathing entity *itself*, with an *environment*.

But NOW, the question is, how does one go about [creating the shape] for these maps...?

Well, imagine if you would, that you could have a conversation with [Carl Sagan] himself, and ask him how to build a 4-dimensional tesseract, and then *build a level off of that*.

That's sort of the process involved in making a really good level like the ones I just described.

There are a *lot* of others that I haven't mentioned, but I can't remember all of the really well made levels I've played.

The bottom line, is that a good map has to have a [general flow] to it, where players can *traverse the map in multiple ways*, and further to that point, it has to be *really polished*, have a [good AMOUNT of flow to it], have the [items] placed in ways where it *makes perfect sense*, and is *advantageous to the players*... and then you have to top it all off with well executed *aesthetics*, *geometry*, and *lighting*.

All of these things are reasons why I really like [House of Decay], and [Evil Playground].
Cause *they tick every single box, repeatedly*.

Fact of the matter is, this process is *different* in its [chronological execution], as the map is being built. There's really no *one-size-fits-all* approach, as *every approach* is rather *unique* and changes from one idea to the next.

[Graph paper] is a pretty great way to start out, because then you can layer the [graph paper] with *additional shapes* and such, and *overlay them* in order to get a "*feel*" for how the map is going to flow.

[Tokays Towers] is a *great example* of a level that has *vertical gameplay down pat*, and... to this day, I sometimes think about how I would go from one end of the map to the other, top to bottom, et cetera.

The only thing I never liked about it is [swimming through the water].
[Swimming through water] is NOT a good design philosophy in ANY tournament level...
Using [jump pads] is NOT a *good design philosophy* all the time, but it does allow the level creator to make *better use of space*.

Using *little alcoves* from one end of a map to another, to tuck away ammo boxes doesn't make a lot of sense in many cases... UNLESS those boxes of ammo just so happen to be conveniently placed along a path between [armor], [health], and [specific weapons].

Lastly, before I talk about *applying all of these things in conjunction*, I can't stress this enough...
...but, even if a map is *shaped perfectly*, and it is *textured great*, the *aesthetics are awesome*, the *lighting is superb*, and the [item placement] seems to be *well executed*...

...a map can still suffer from [not being all that fun to play].

If people feel like the map is a *chore* to play...?
Then, [all of that hard work will have been for nothing].

As a *general rule of thumb for shaping the level*, think of really basic shapes like [squares], [rectangles], [beveled surfaces] and [curves], and *incorporate them* into the [bottom line structure of the map] BEFORE adding things like [trim], [edges], [light fixtures], [models], and things of that nature.

Because, a rough draft of a level doesn't even need to be *textured* or *lit all that well*, for a map to have some REALLY promising [gameplay] to it. The point being, creating the [structure] of the map AROUND the [item placement], and [item control]... is a really good idea.

Conclusion /

Shape

[To be continued...]

Conclusion

Michael C. Cook Sr.
Security Engineer
Secure Digits Plus LLC

