```
    ____    ____________________________________________________________________________________________________
   //¯¯\\__//¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯\\___
   \\__//¯¯¯ Quake III Arena - GtkRadiant [~] 07/10/2023                                                    ___//¯¯\\
    ¯¯¯\\__________________________________________________________________________________________________//¯¯\\__//
        ¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯    ¯¯¯¯
```

```
\______________________________________________________________________________________________________________________/
  Introduction /¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯\
/¯¯¯¯¯¯¯¯¯¯¯¯¯¯
```

In this particular lesson, I'm going to cover:
- [GtkRadiant]: A level editor that is used to make game levels for various [idTech] based games
- [<I3FG20K>'s Shopping Maul]: A mapping website that I used to manage on [PlanetQuake.com]

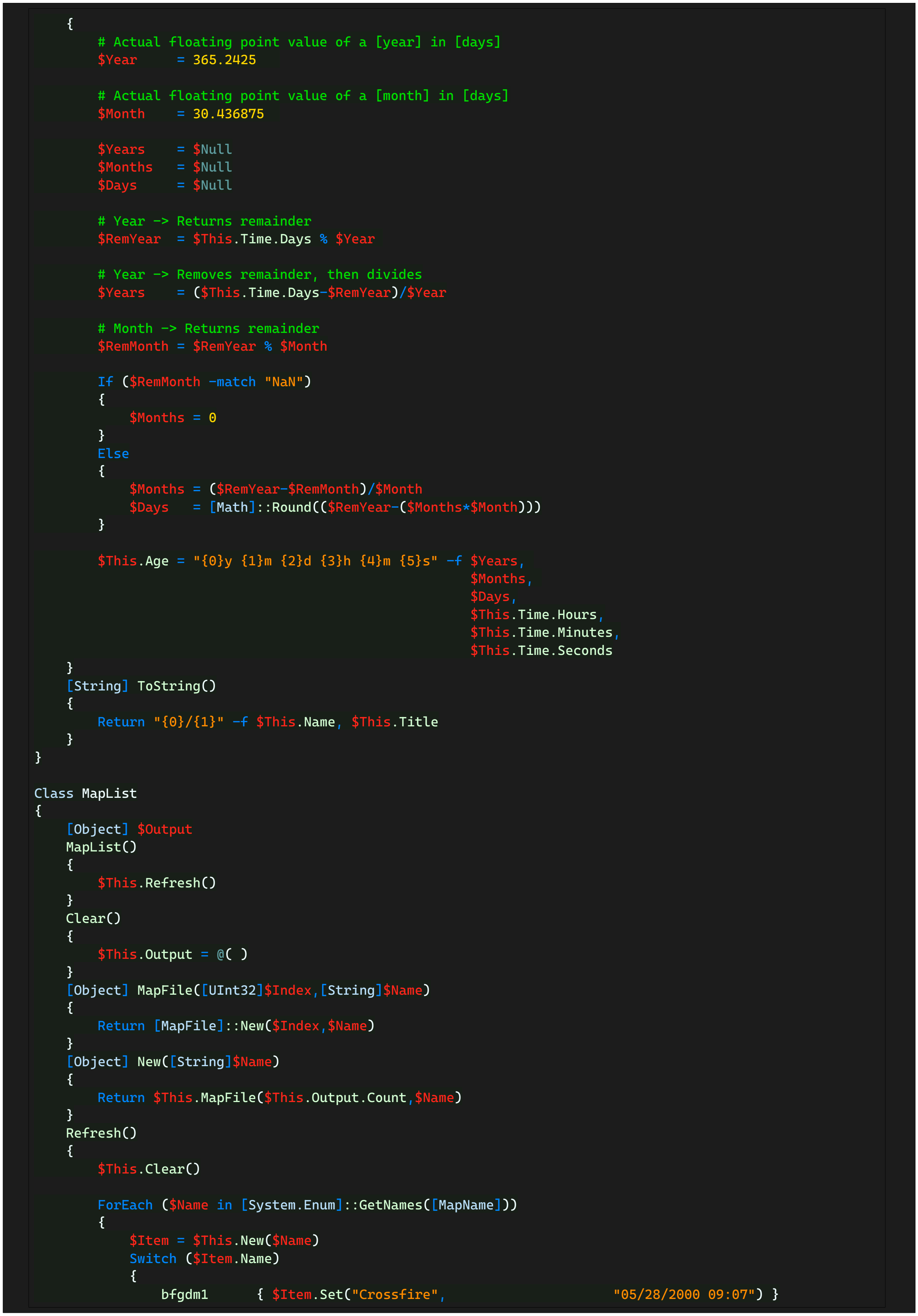
```
Index Name        Title                         Build           Age
----- ----        -----                         -----           ---
    0 bfgdm1      Crossfire                     05/28/2000 0907 23y 1m 12d 4h 23m 23s
    1 bfgdm2      Breakthru                     08/20/2000 1442 22y 10m 18d 22h 48m 23s
    2 bfgdm3      Space Station 1138 (Original) 04/06/2001 1801 22y 3m 2d 19h 29m 23s
    3 bfgdm4      Suspended Animation           05/04/2001 1837 22y 2m 5d 18h 53m 23s
    4 bfgdm3a     Space Station 1138 (Color)    05/05/2001 1543 22y 2m 4d 21h 47m 23s
    5 20kdm1      Tempered Graveyard            07/20/2001 2352 21y 11m 19d 13h 38m 23s
    6 hellra3map1 Dude, You Can Go To Hell      07/26/2001 1513 21y 11m 13d 22h 17m 23s
    7 20kdm2      Return to Castle: Quake       02/01/2002 2316 21y 5m 6d 14h 14m 23s
    8 20kctf1     Out of My Head                03/08/2003 0512 20y 4m 2d 8h 18m 23s
    9 20kdm3      Insane Products               09/09/2005 0017 17y 9m 30d 13h 13m 23s
```

```
                                                                                                         ______________/
\_______________________________________________________________________________________________________/ Introduction
  Script /¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯¯\
/¯¯¯¯¯¯¯¯
```

Here's the script for the information table up above.

```
Enum MapName
{
    _bfgdm1
    _bfgdm2
    _bfgdm3
    _bfgdm4
    _bfgdm3a
    _20kdm1
    _hellra3map1
    _20kdm2
    _20kctf1
    _20kdm3
}

Class MapFile
{
    [UInt32]         $Index
    [String]          $Name
    [String]         $Title
    Hidden [DateTime] $Date
    [String]         $Build
    [TimeSpan]        $Time
    [String]           $Age
    MapFile([UInt32]$Index,[String]$Name)
    {
        $This.Index = [UInt32][MapName]::$Name
        $This.Name  = $Name.TrimStart("_")
    }
    Set([String]$Title,[String]$Date)
    {
        $This.Title = $Title
        $This.Date  = $Date
        $This.Build = $This.Date.ToString("MM/dd/yyyy HHmm")
        $This.Time  = [TimeSpan]([DateTime]::Now-$This.Date)
        $This.GetAge()
    }
    GetAge()
```



```
    {
        # Actual floating point value of a [year] in [days]
        $Year     = 365.2425

        # Actual floating point value of a [month] in [days]
        $Month    = 30.436875

        $Years    = $Null
        $Months   = $Null
        $Days     = $Null

        # Year -> Returns remainder
        $RemYear  = $This.Time.Days % $Year

        # Year -> Removes remainder, then divides
        $Years    = ($This.Time.Days-$RemYear)/$Year

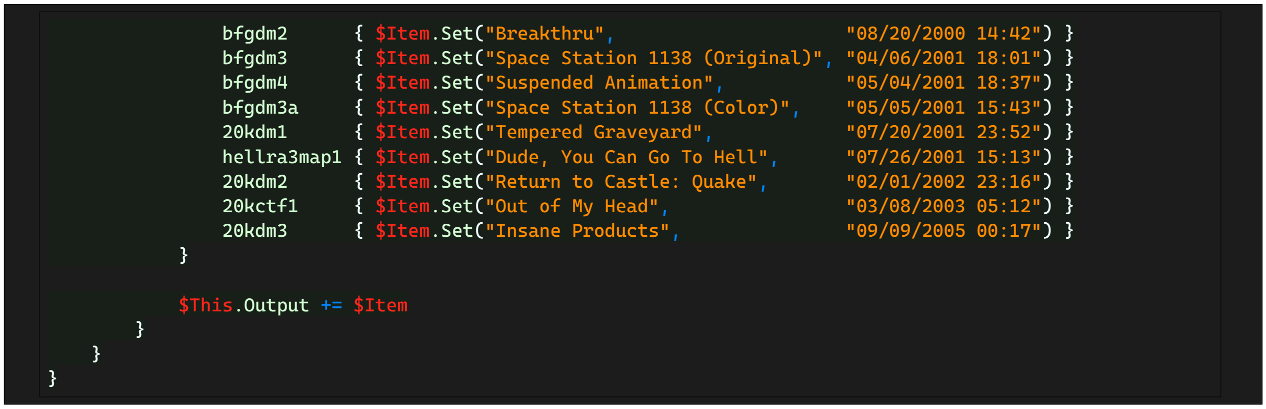
        # Month -> Returns remainder
        $RemMonth = $RemYear % $Month

        If ($RemMonth -match "NaN")
        {
            $Months = 0
        }
        Else
        {
            $Months = ($RemYear-$RemMonth)/$Month
            $Days   = [Math]::Round(($RemYear-($Months*$Month)))
        }

        $This.Age = "{0}y {1}m {2}d {3}h {4}m {5}s" -f $Years,
                                                       $Months,
                                                       $Days,
                                                       $This.Time.Hours,
                                                       $This.Time.Minutes,
                                                       $This.Time.Seconds
    }
    [String] ToString()
    {
        Return "{0}/{1}" -f $This.Name, $This.Title
    }
}

Class MapList
{
    [Object] $Output
    MapList()
    {
        $This.Refresh()
    }
    Clear()
    {
        $This.Output = @( )
    }
    [Object] MapFile([UInt32]$Index,[String]$Name)
    {
        Return [MapFile]::New($Index,$Name)
    }
    [Object] New([String]$Name)
    {
        Return $This.MapFile($This.Output.Count,$Name)
    }
    Refresh()
    {
        $This.Clear()

        ForEach ($Name in [System.Enum]::GetNames([MapName]))
        {
            $Item = $This.New($Name)
            Switch ($Item.Name)
            {
                bfgdm1      { $Item.Set("Crossfire",                     "05/28/2000 09:07") }
```



```
                bfgdm2      { $Item.Set("Breakthru",                     "08/20/2000 14:42") }
                bfgdm3      { $Item.Set("Space Station 1138 (Original)", "04/06/2001 18:01") }
                bfgdm4      { $Item.Set("Suspended Animation",           "05/04/2001 18:37") }
                bfgdm3a     { $Item.Set("Space Station 1138 (Color)",    "05/05/2001 15:43") }
                20kdm1      { $Item.Set("Tempered Graveyard",            "07/20/2001 23:52") }
                hellra3map1 { $Item.Set("Dude, You Can Go To Hell",      "07/26/2001 15:13") }
                20kdm2      { $Item.Set("Return to Castle: Quake",       "02/01/2002 23:16") }
                20kctf1     { $Item.Set("Out of My Head",                "03/08/2003 05:12") }
                20kdm3      { $Item.Set("Insane Products",               "09/09/2005 00:17") }
            }

            $This.Output += $Item
        }
    }
}
```

```
                                                                                                   ________/
\__________________________________________________________________________________________________/ Script
  GtkRadiant /‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾\
/‾‾‾‾‾‾‾‾‾‾‾‾
```

[GtkRadiant] can be found at this website: [https://icculus.org/gtkradiant/]
[GtkRadiant] is the level editor I used to make all of those maps at or about (20) years ago.

Prior to attending [Capital Region Career and Technical School] to study [Microsoft System Administration], and [Cisco Network Academy Program] under instructor [David J. Patzarian] in [September 2001], I made the first (7) maps there...

```
Index Name        Title                         Build           Age
----- ----        -----                         -----           ---
    0 bfgdm1      Crossfire                     05/28/2000 0907 23y 1m 12d 4h 23m 23s
    1 bfgdm2      Breakthru                     08/20/2000 1442 22y 10m 18d 22h 48m 23s
    2 bfgdm3      Space Station 1138 (Original) 04/06/2001 1801 22y 3m 2d 19h 29m 23s
    3 bfgdm4      Suspended Animation           05/04/2001 1837 22y 2m 5d 18h 53m 23s
    4 bfgdm3a     Space Station 1138 (Color)    05/05/2001 1543 22y 2m 4d 21h 47m 23s
    5 20kdm1      Tempered Graveyard            07/20/2001 2352 21y 11m 19d 13h 38m 23s
    6 hellra3map1 Dude, You Can Go To Hell      07/26/2001 1513 21y 11m 13d 22h 17m 23s
```

[GtkRadiant] had a bit of a learning curve to it, however I'm going to cover how to use it to make some of these maps which I will demonstrate in a multiple part series.

Many newer games have much more complex level editors, but the basics are generally the same.

The key is that you start with a void, where nothing exists...
...and then, you have to sculpt out the world or level using a variety of strategies and techniques,
in order for the level to compile and allow the hardware to generate lightmaps and things of that nature.

```
                                                                                               ____________/
\______________________________________________________________________________________________/ GtkRadiant
  Map Demonstration /‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾\
/‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
```

In order to understand how to make the levels, it is worth studying maps that are currently playable, and determining what maps work, and what maps don't.

Fact of the matter is, there are a LOT of really well built maps out there that probably took a lot of time to build, had a lot of thought put into them, and they may even LOOK really awesome.

But, even still, the end result is whether or not the map plays well.

Every single factor mentioned above, can all fall victim to whether or not the map flows and the [gameplay] allows the map to be:

```
_____________________________________________
| fun | balanced | competitive | replayable |
‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
```

[Replayability] requires a well thought out perspective on the [gameplay].

If the [gameplay] is not good...?
Then really, [all of the time invested] turns out to be a bit of a [waste].

That's important.
It's not unlike listening to stock investors saying "buy stocks in THIS, not THAT..."

Here's a few videos, sort of warming up to [Quake III Arena] again after a long time of inactivity...

Name	Date	Resource
2023_0708-(Q3A Practice)	07/08/2023	https://youtu.be/RCkI2OFtCB4
2023_0710-(Q3A Practice (Custom Maps))	07/10/2023	https://youtu.be/bQ46Pvp0tOo
2023_0710-(Q3A Practice (Custom Maps))	07/10/2023	https://youtu.be/_siuaph1_vc

Map Demonstration

[bfgdm1/Crossfire]

In [bfgdm1], the map is symmetrical in shape, but the items are laid out in a way where either side of the map a player spawns on, they are able to ascertain:

```
__________________________________
| weapon | ammo | health | armor |
----------------------------------
```

The [gameplay] does suffer from the [geometry] of the map. For instance, it is [really difficult] to deal [splash damage] from [rockets] on the floor in the central area.

Also, the bots tend to have difficulty dealing with [curved/beveled surfaces], so their navigation does suffer. Sometimes, a map has to be redesigned because bots have difficulty in navigating it, though that is not necessarily the case in this particular map.

Generally, on [Nightmare] difficulty in [Quake III Arena]... bots have [really good aim].
Typically, they have [strengths] with [certain weapons] over [others].

[Hunter] is incredibly nightmarish when using the [lightning gun], and it is extremely difficult for any human player to match or exceed her accuracy with it. She is also pretty good with [railgun], and [machine gun], and is generally proficient with all [other weapons].

As for the match in the video, [Hunter] maintained the lead for a while, but I was able to get an edge by using the [geometry] of the map to my advantage. This is a tactic that is generally required...
...especially if the opponent has an edge in [accuracy].

[Movement] is critical to [gameplay], and if the items are spaced out too much for a losing player, they may not be able to [regain the advantage], and thus, this is something that needs to be considered when placing items throughout the map, AKA [item placement].

[Timing] is also critical to [gameplay], because if an item is worth picking up, but it cannot be accounted for in a cycle, then it means that it COULD be risky to get that item.

As for this particular level, the [lighting] is rather lackluster.

Though, I was just turning (15) years old when I made it, and [YouTube] didn't exist.
I couldn't just do a quick [Google] search for lessons on how to build maps for [Q3A], or whatever, and find thousands of videos of people doing just that.

At the time, this map was pretty taxing on the system I was using. Though, the map runs pretty well today.

[bfgdm1/Crossfire]

[bfgdm2/Breakthru]

This is actually a map that I originally made for [Quakeworld/Quake].
That's right, this is a [Quake] map that I made, and converted to [Quake III Arena].

I cannot find [bfgdm2a], which is a remake of this map that has better lighting, and more space in it.
This is actually a pretty decent tournament (1v1) map.

The items are placed in such a way, that either player has a way
to retreat from a fight and stock up on items, such as:

```
_________________________________________
| weapons | ammunition | health | armor |
-----------------------------------------
```

It does suffer from feeling claustrophobic in many places, however that was worked out when I rebuilt this level multiple times afterward.

Note: [20kdm1] wound up being very large version of this map, but with a lot of additional rooms and stuff and is best suited for [Clan Arena].

The teleporters work in a [3-way] configuration. The surface allows players to look into the portal where they're going before they step into it. This can provide an edge over opponents and give them an opportunity to telefrag the opponent, or simply to watch what they're doing.

Bots tend to whiz through them, and they rarely (if ever) collect the [red armor].

Generally speaking, one thing to keep in mind is the idea of layering additional places for the players to go, where they can still be involved with the areas above, below, inside, or outside of the gameplay area.

[Team Arena/2000] did this a lot when it came out with this newer method for building outdoor terrain...

I won't expand on that concept right now, but the team at [ID Software] developed a way to make terrain using a wireframe approach, not unlike how curves work in [GtkRadiant]. By using that approach, it allowed the levels to feel more [expanse] and less claustrophobic.

This level provides a lot of tense moments.

```
                                                                                                   ____________________/
\_________________________________________________________________________________________________/ [bfgdm2/Breakthru]
  [bfgdm2/Space Station 1138] /----------------------------------------------------------------------------------------\
/----------------------------
```

This map uses less than (100) brushes, and was built for a competition. I didn't think to use the colored lighting like I did in [bfgdm3a], but in my opinion, the [gameplay] in this level is pretty top notch.

There are plenty of ways to stay ahead of the enemy if the player is in the lead and in control... as there are ways to catch back up if the player is losing.

Arrangement of the level is a lot more [vertical], and the jump pad allows a player to go from bottom-to-top as quickly as top-to-bottom. And, that's important because there are plenty of items stacked in this map.

[Railgun] is great for great concise shots, and can cause knockback into the void.
[Shotgun] is not the best weapon in this arena, though in close proximity it is better than a machinegun.
[Plasma gun] is able to cover a lot of ground, and it isn't as draconian as the [lightning gun] would be in the same position...
...and the [rocket launcher] is the perfect weapon to deal damage and throw people around if needed.

To this day, I think this map is underrated, as it plays better than it looks.

The tower allows a lot of items to be accessible.
I could've probably thrown in another one somewhere else...
PERHAPS, that may be a core focus with [GtkRadiant], to rebuild this particular map and make improvements.

The bots have a hard time making strategic movements throughout the map.

```
                                                                                          _____________________________/
\________________________________________________________________________________________/ [bfgdm2/Space Station 1138]
  [bfgdm2/Suspended Animation] /---------------------------------------------------------------------------------------\
/------------------------------
```

This map is basically a lot like [Dead Simple] from [Doom].

It's a square. The players can run around and collect the items, or run into the middle to take shortcuts to other items across the map. There's also a quad damage in the middle of the map that is only accessible with a well-placed rocket jump.

Despite the age and simplicity of this map, the [aesthetics] and [geometry] in this map are pretty slick, as it still feels rather fresh.

This isn't really great for tournament (1v1), but it isn't exactly off the table.

There are a lot of improvements that could be made, but all things considered, the [aesthetics], [lighting], [geometry], and [item placement] were all well-executed. Though, the lighting is a tad dark in some places.

Fighting bots on nightmare difficulty won't be an easy challenge, unless a player is using draconian spawn strategies where they're (aiming + prefiring) at potential enemy spawn points. This map is still a bit too big to cover all potential spawn points from any single perspective.

```
                                                                                         ______________________________/
\_______________________________________________________________________________________/ [bfgdm2/Suspended Animation]
  [20kdm1/Tempered Graveyard] /----------------------------------------------------------------------------------------\
/----------------------------
```

This map is pretty big, it is part of [hellra3map1] which I did not cover in the video, but it is effectively the fourth version of [bfgdm2/Breakthru].

It is better suited for [clan arena] and [free for all], much less [1v1].

Some of the key aspects of [1v1] maps are that they're typically [smaller], and can take a player anywhere from (10-20) seconds to get to any other point in the map, whereas a [larger] map may take (15-60).

If a map takes [longer] than a [minute] to get to any other point...?
That's probably a [Team Arena] map.

Anyway, this map has a large atrium area that acts as the central hub, not unlike [q3dm6/Campgrounds], though it is a bit bigger. The [aesthetics] and [geometry] are pretty slick, considering the evolution of the maps I had made since [bfgdm1]. The lighting is generally decent, but the very top of the map has too much brightness from the lightbox texture.

The lighting in [Quake III Arena] comes from (2) sources.
1) [light entities]
2) [textures/shaders]

[Light entities] are [entities] in the editor that aren't visible when the map compiles, though it's effects certainly are. [Textures/shaders] are basically scriptlets that contain properties that relate to lighting, animation, or opacity/transparency... but they're definitely not limited to just that.

In either case, the lighting is rather static and is rendered when the map is compiled.
However, in [Doom 3], the lighting was able to cast shadows and could move around, so it was far more dynamic. In some cases that actually worked against the enjoyment factor of the game, but I think it was STILL able to provide a strong [paradigm shift] in the way [lighting] was rendered within a game.

In [Q3A], the light entities have a luminosity property (*I believe*).
The textures that emit light ALSO have a luminosity property, but that is controlled by the shader.

When selecting textures in the [editor/GtkRadiant], it is impossible to know whether the [luminosity] of a particular texture is [too bright] or [too dark] without first compiling the map, and this requires having to compile the map for each iteration to figure that part out.

Newer games don't have this problem, as they can take advantage of hardware to instantly render lighting within the editor, and [Doom (2016)] is great case of that.

Still, we're talking (15) *full-cycle*, (365/366) *earth day*, [years] prior to [Doom (2016)], when I made this map. The system I used to build this map took a REALLY long time to compile it.

- [0.866 Ghz Pentium 3]
- [512MB memory]
- [NVidia GeForce 2 GTS]

Yeh, processor speed used to be measured in megahertz, not gigahertz.
Suffice to say, these metrics mean that I sorta had to mull over waiting another (1-2) days to try it again, or to submit it, and be done with it.

The map is better for [Clan Arena] than it is for deathmatch or et cetera.
That's why the item placement feels like it could've been more polished.

```
                                                                                   _____________________________/
\_________________________________________________________________________________/ [20kdm1/Tempered Graveyard]
  [20kdm2/Return to Castle: Quake] /----------------------------------------------------------------------------\
/---------------------------------
```

This is not a level that I selected in the beginning of the video, but that's ok.

I made this level after the release of [Return to Castle Wolfenstein] on [11/20/2001].

I wanted to utilize some of the brick-based castle textures to build something that felt modular and tight, without feeling claustrophobic, and this was the result of that.

This map is pretty good for [tournament] based play, and even [free-for-all].
If I were to rebuild this level today, there are many other ideas or improvements I would make.

The bots are able to navigate the map relatively well.
Exchanging and dodging rockets and railgun shots is pretty fun.

Some of the geometry forces the players to have to use it correctly, in order to reach certain items.

There is a missing texture in the map that can be fixed by downloading the [evil7] texture set which is described in the readme file.

```
                                                                              __________________________________/
\____________________________________________________________________________/ [20kdm2/Return to Castle: Quake]
  [20kctf1/Out Of My Head] /-----------------------------------------------------------------------------------\
/-------------------------
```

So, this map is a symmetrical map that has (3) separate areas in the middle of the map, that connect each side of each teams base.

This has a lot of standard textures in it, it also has the capability of being played in [free for all].

There's plenty of items scattered all throughout the map, and there's ways to trick jump certain spots to get from point to point. There's some fog in the map in the lower areas, and there's a bunch of jump pads that throw players around. There's a couple of teleporters that connect the farthest points of the (2) outside areas in the middle of the map, and the actual middle area in the center of the map is indoors, and has (2) tiers.

The bots seem to play this map pretty well, and that's about all that needs to be said in that regard.

The map itself, uses a style that I put together by playing a lot of [Threewave CTF] and [Team Arena].

```
                                                                                             _________________________/
\___________________________________________________________________________________________/ [20kctf1/Out Of My Head]
  [20kdm3/Insane Products] /-------------------------------------------------------------------------------------------\
/-------------------------
```

So, this map is really, really [ambitious]. It has a LOT of different routes to collect items, it also has basically [every weapon] in the game in it, it has a [secret area] with a powerup in it, it has a lot of [vertical gameplay], [jump pads], [stairwells], [geometry], [aesthetics], [textures], [shaders], [trick jumps], and overall [flow].

Though, all that said, it lacks main traffic trunks.

Meaning, I can expect that a player in [tournament mode] would go [path A] or [path B].
I don't really know if that's a bad thing necessarily, because the number of ways to get from one end of the map to the other are rather staggering.

That was the idea behind this map.
I also had a bit of an issue getting the poly count to remain low, and I had to make a lot of design changes in order to finish it.

[Some] of the ideas I implemented don't make a whole lot of sense...
Other ideas I implemented are rather [stylistic] and [well done].

All in all, I think that having other people play test the map would've yielded better results.

Bots don't particularly navigate the map all that well, and during development, I distinctly remember that the map would leak all the time, and sometimes that'll be because [GtkRadiant] can sometimes generate a bad brush. I think I lost the original map file, and then had to decompile it in order to rebuild it.

I may cover the concept of decompiling (_*.bsp/binary space partition_) files, to import in [GtkRadiant].

Aesthetically, this map is really pleasing.
The geometry is pretty good too. Lighting, also rather good.
Gameplay, isn't bad at all.

All that said, something about it feels unfinished and could benefit from more polish.

```
                                                                                             _________________________/
\___________________________________________________________________________________________/ [20kdm3/Insane Products]
  <I3FG20K>'s Shopping Maul /------------------------------------------------------------------------------------------\
/--------------------------
```

[<I3FG20K>'s Shopping Maul] is the website that I made that was hosted on PlanetQuake a very long time ago.
I can't remember when they actually shut down aspects of [PlanetQuake] and other "*Planet*" sites, or when they merged with [IGN].

What I can say, is that I'm lucky enough to still have some of the maps featured on [..::LvL], and I'm also lucky enough to have snapshots of the site on the [Wayback Machine]:

[http://web.archive.org/web/20010716191646/http://www.planetquake.com/bfg20k/]

There's a lot of snapshots of the site there.
To be honest, I used it as a blog of sorts long before [Facebook], [MySpace], or [YouTube] even existed.

The point of all of this, is to talk about [GtkRadiant], in order to talk about: [Game Design].

[Game Design] involves a lot of things, particularly:
- [computer science]

```
    - [mathematics]
    - [programming]
    - [performance]
    - [hardware]
    - [philosophy]
    - [instructional design]
    - [graphic design]
    - [many other things]

    So, how does this apply to the every day person out there in the world...?
    It might not, unless you play a GAME of some sort.

    A lot of people do this.
    They play [games], of some sort, on a [computer].
                                                                                           ___________________________/
\___________________________________________________________________________________________/ <I3FG20K>'s Shopping Maul
  [What is a computer] /----------------------------------------------------------------------------------------------\
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    Some people might laugh at me and say:

    [Guy]: YEH RIGHT DUDE, NOBODY PLAYS GAMES ON A COMPUTER~!
    [Me] : Oh, ok.
           Do you have an [Xbox]...?
    [Guy]: Uh, yeh.
    [Me] : Uh, that's a [computer].
    [Guy]: No it isn't, it's a [console].
    [Me] : A [console] is a [computer].
    [Guy]: No it isn't, it's a [console].
    [Me] : Trust me when I say, a [console] is a [computer], and you're absolutely wrong.
    [Guy]: Whatever.
    [Me] : Do you play games on a [smartphone] or a [tablet]...?
    [Guy]: Yeah, I do.
           So what...?
    [Me] : [Smartphones] and [tablets] are ALSO [computers].
    [Guy]: Yeh yeh yeh, whatever dude.
    [Me] : Do you have a TV that you use to stream movies from [YouTube], [Netflix], or whatever...?
    [Guy]: Yeah.
    [Me] : Your TV is a [computer], too.

    And, there you have it.
    When people go on [Facebook], [Reddit], [YouTube] or whatever, to [post], [read], or [watch] stuff...?

    They're using a [computer] to do it.

    They may think that their [smartphone] isn't a computer...
    ...but that's because they don't know that they're [wrong].

    Basically, the [Internet of Things] is the age that we currently live in, and understanding some
    of these concepts, will help little kids become smart and navigate the world with fewer problems
    because some smart dude decided to make a bunch of [Quake III Arena] maps way back in the day, and
    then he decided to tear apart the many different aspects of [game design], in order to interest
    them in the topics that I mentioned.

    Such as:
    - [computer science]
    - [mathematics]
    - [programming]
    - [performance]
    - [hardware]
    - [philosophy]
    - [instructional design]
    - [graphic design]
    - [many other things]
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\________________________________________________________________________________________________/ [What is a computer]
  Conclusion /--------------------------------------------------------------------------------------------------------\
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    [GtkRadiant] forced the design artist to be really creative with [geometry], [aesthetics], and [lighting],
    in order to create an [immersive experience] that could exist about (20)+ years before the [Apple Vision Pro],
    or the [Meta Oculus Rift].
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It's a daunting concept, really.
1) Draw stuff out on [graph paper]
2) Create brushes that align with the [graph paper]
3) Come up with a cool way to slap [textures] onto sides of [brushes]
4) Sculpt a realistic looking area using the wireframe approach
5) Do basically the same thing as [architects] and [engineers] that use [AutoCAD], [Maya], or [3DStudio Max]
6) Don't use (artificial intelligence/ChatGPT) when YOU have an idea of your own
7) Rinse, recycle, repeat...
8) Eventually, you can apply this to any current or modern game that uses 3d graphics
9) Develop this stuff called "*talent*" and "*skill*"

[To be continued]...

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\_________________________________________________________________________________________________________/ Conclusion
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|                                     Michael C. Cook Sr. |
|                                       Security Engineer |
|                                    Secure Digits Plus LLC |
|________________________________________________________|
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